

US Media Contact for Altium:

Emily Taylor
Weber Shandwick Worldwide
519 SW 3rd Avenue, Suite 600
Portland, OR 97204
United States
www.webershandwick.com
Telephone: 503-552-3733
Email: etaylor@webershandwick.com

Corporate Media Contact

Alan Smith
Altium Limited
Level 3, 12a Rodborough Road
Frenchs Forest, NSW 2086
Australia
www.altium.com
Telephone: +61 2 8986 4400
Fax: +61 2 8986 4440

Real-time, 3D PCB design gets faster still: Altium delivers new release of Altium Designer

40 new features & 230 enhancements expand next generation electronics design solution

SYDNEY, Australia – December 3, 2008 – Altium has launched the winter 09 release of its next generation electronics design solution Altium Designer. Altium has introduced a number of new design technologies and concepts to help electronics designers innovate, exploit advances in technology, and make the task of designing a product and getting it to market easier and faster.

Altium's real-time 3D PCB features have been extended with faster real-time 3D design performance. New capabilities help designers manage the release of their designs to manufacture. Altium is also introducing new concepts in Altium Designer to let designers explore future techniques and design possibilities, and help exploit the potential of programmable devices. A new Field Instrumentation dashboard will help designers overcome some of the challenges of testing or remotely monitoring designs inside FPGAs. And a new plug-and-play Software Platform Builder will help designers quickly 'snap' together systems and exploit a standard set of services within the 'soft' hardware environment created inside programmable devices.

Nick Martin, Altium's CEO, said, "This is the second release under our new twice yearly approach and we are pretty excited about what we are delivering. With this new approach to product delivery, we are moving away from making huge changes every couple of years towards smaller updates made more often. But, as this release shows, this doesn't mean we are holding back on taking significant new technologies to the market.

"The new Software Platform Builder and the Field Instrumentation dashboard included in the winter 09 release are examples of this. Both represent new frontiers for designing electronics systems and both should be viewed as platforms for moving the overall process of designing electronics forward.

"We expect these to rapidly develop and expand over the next few releases in much the same way that our 3D PCB system has developed over the last couple of releases.

"And all of these are examples of what a next generation of electronics design system should look like.

"The current difficult economic outlook is encouraging everyone to take a step back and examine what makes them, and the products they create, unique. Our job is to facilitate this process by creating the tools that help electronics designers make this happen.

"The many enhancements in the new winter 09 release of Altium Designer will give a significant boost to designer effectiveness. But it's the radical new systems, such as the Software Platform Builder and Field Instrumentation dashboard, that provide the foundations on which to lift the way electronics design is done in the future to new levels."

Performance upgrades to 3D PCB graphics engine - even more accuracy, faster

Altium's 3D PCB design environment, introduced in earlier releases, gives board designers realistic three dimensional views of what they are designing in real time. They can work more intuitively, and represent mechanical CAD information directly within the PCB design space. This helps designers make decisions about placement and clearance of components more accurate.

This new release of Altium Designer improves the memory and speed of the 3D PCB graphics system – by up to seven times.

Also faster is 2D drawing, by up three times; 2D transparency, over 11 times faster; highlighting and masking, over nine times faster; and 3D rotation, up to five times faster.

To help designers exploit the power of 3D PCB design and get the most from their software procurement budgets, the new release includes a list of benchmark results for commonly available PC graphics cards. This helps designers get the most from the computing hardware readily available today, at the investment that works best.

The optimization of the 3D PCB graphics engine is particularly important. It lowers the hardware requirements necessary to achieve stunning results, makes the whole system more responsive and 'feel' better, and removes distractions to design caused by lags in the GUI.

Enhanced PCB modeling - realistic surface finishes and other visualization enhancements

Altium has extended the real-time, dynamic 3D PCB design features with this new release. Altium Designer now supports texture mapping of 3D models, which lets designers add realistic surface finishes to components and boards.

Altium has also enhanced vias by allowing different sized pads to be used on different signal layers for each via. This so-called via layer stack-up supports higher trace densities, and designers can offset holes in component pads.

All of these enhancements add to the accuracy of PCB design, and provide new design options for board layout and visualization.

New interactive routing features - higher-speed 'walk around' and 'hugging' features

Altium has enhanced the interactive routing engine it introduced in May. Routing of differential pair signals and of buses (routing multiple, related traces in one action) now use all the capabilities of Altium's new routing engine. These include automatic 'walk around' of existing objects, 'hugging' new traces to existing traces, pushing aside of existing objects (including vias) and intelligent automatic completion of traces. The new modes also inherit the speed and smoothness of the new engine.

Designers can now intelligently swap pins on-the-fly with both differential pair and single-ended signals during interactive routing. This is particularly useful with FPGA devices, which often allow a particular signal to be brought out on a range of pins. Altium has improved the way the system

handles the dragging of existing traces by using the interactive routing engine to automatically deal with obstacles.

Harry Selfridge, engineer at US-based engineering consultancy Encore Engineering, said, "The new board design and layout capabilities in this new release of Altium Designer really save time, especially where there are many multi-pin connectors that have to be routed, such as in automatic test equipment boards. The enhanced routing capabilities have given us improvements of between 10% and 15% at least, in the time required to interactively route a board. Alongside the routing improvements offered in the summer 08 release of Altium Designer, this saves us between \$60 and \$100 per day."

Introducing new design concept - managing links to manufacturing

Altium has also introduced new technologies that help designers manage the process of getting a product from design through to manufacture.

When designers prepare a design to go to manufacture, they produce a large number of files in various formats for different groups of people in the manufacturing chain. Typically, the information comes from a variety of sources: schematic documents, PCB files, bills of materials, component data, FPGA and software source and object files, reports from the design process, and so on. Some people need printouts, while others require PDFs of the same documents.

Generating the correct documents is a time consuming process in itself. Mistakes, or changes not carried through this process, can be costly in both time and money.

With this new release, Altium has strengthened support for version control of all design files. New technology has been introduced to create and track document histories within the design environment. Altium Designer now centralizes the definition and generation of output files to allow simpler processing of outputs. And documents can be created in a variety of formats, most notably as smart PDFs and in online formats.

These features also link to Altium's 3D PCB design environment, which aids the path to manufacture by letting designers visually check their designs before they generate the manufacturing files.

A new Design Release Manager provides a Wizard-style interface for managing the entire process of releasing a design to people beyond the design team. It provides a central control panel for creating all the various output files in the various formats, and distributing them to the people that need them. The Design Release Manager can also take a 'snapshot' of designs so that designers can retrieve, modify and re-release the design, complete with the correct file dependencies. Multiple releases can be created for a design, providing a complete and traceable release history for the project.

New manufacturing rules have been added at the PCB layout stage in Altium Designer that help prevent common manufacturing issues becoming design problems. A range of constraints can now be checked in real-time during the design process and before the fabrication of files, helping avoid unnecessary design re-spins and getting to market faster.

New field dashboard for FPGA-based instruments - a new, stand-alone way to test FPGAs

Altium has introduced a stand-alone instrument dashboard for FPGAs which helps overcome some of the challenges of testing or remotely monitoring designs inside programmable devices.

Altium's LiveDesign protocol now provides the opportunity for designers to create, build and explore instruments inside FPGAs as part of the application. The new instrument dashboard lets designers stimulate and probe their design live inside the device.

The new instrument dashboard can be downloaded and installed on any PC, without having to run a full license of Altium Designer. The remote dashboard interacts with the instruments programmed inside the FPGA by the designer, so that users can now test or service the device, or look to add advanced services to the product once it's in the field.

New Plug-n-Play Software Platform Builder - a new concept to create basic software platforms in the soft domain

Altium is also introducing the concept of a Plug-n-Play Software Platform Builder in this new release of Altium Designer.

Together with Altium's NanoBoard reconfigurable hardware development platform, designers can more easily 'snap' together the basic software platforms needed to run on the hardware. This covers the design elements common to many electronic designs: the peripherals, the communications, and the associated protocols and drivers needed to make these basic design elements work (which come with the NanoBoard). This essentially reduces the task of creating these basic, but necessary, software blocks to one of dragging and dropping preconfigured software blocks into a design, freeing the designer to focus on creating the application (the 'smarts' of the product) itself. This new feature supports the drivers and software protocols for the peripherals on its NanoBoard development platform.

Andreas Stöckli, engineer at Astrol Electronic AG, said, "Most of the time I am a hardware designer and I don't really like the task of searching for and integrating drivers for components. With the new software plug and play platform provided in Altium Designer, I can start my software applications very quickly and easily. I've already created a new software project including all drivers around my hardware in less than one afternoon. This is a huge improvement - my first attempt took me more than three days."

Availability

The new winter 09 release of Altium Designer is now available.

View the videos at www.altium.com/winter09.

Visit Altium's new user community Wiki at <http://wiki.altium.com>.

Go www.altium.com to book a web demo, or to contact your nearest Altium sales center.

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About Altium

Altium Limited (ASX:ALU) provides next-generation electronics design solutions that break down the barriers to innovation. Altium's solutions are unique because they unify the separate processes of electronics design, all within a single electronics design environment, working off a single data model, linking all aspects of electronics product design into one process. This unified design environment helps electronics designers easily harness the latest devices and technologies, manage their projects across broad design 'ecosystems', and create connected, intelligent designs easily.

Founded in 1985, Altium has headquarters in Sydney, sales offices in the United States, Europe, Japan, China, and resellers in all other major markets. For more information, visit www.altium.com