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## **Altium makes it ‘real’ for all designers: industry-first real-time 3D PCB visualization and navigation**

### **Altium Designer 6.8 delivers 300 new features and enhancements**

**Sydney, Australia – November 27, 2007** – Altium Limited, the leading developer of unified electronic product design solutions, has added a breakthrough 3D PCB visualization engine to Altium Designer which makes board design a ‘realistic’ experience for all designers. The new 3D PCB visualization capability in Altium Designer 6.8 allows designers to see at any time exactly how the manufactured board will look, and makes it easier to share information with the rest of the design team.

This is one of 300 significant new features and enhancements delivered in Altium Designer 6.8 which continue the unification of board level design, programmable hardware and embedded software development into a single design environment. These features address the needs of each of these design disciplines in a single, unified architecture. They provide a single, coherent view of the design, share a single user interface and share a single data storage model.

The unified architecture of Altium Designer 6.8 continues to simplify the task of designing electronics systems, harnessing new technologies and integrating the electronics design processes with the rest of an organization. Across these unified features, higher levels of

design abstraction enhance design reuse, speed up the design process and extend the options for designers without having to acquire new skills.

### 3D visualization: board-level design need no longer be flat

The 3D visualization engine takes board level design into the future. With it, designers can rotate and flip their designs, navigate around components, zoom into the bare board down to the tracks and traces, and even dive beneath the surface of the board to explore the inner layers. All this is done in real-time with no special 3D models or set-up required by the designer.

The board is rendered in full hardware-accelerated 3D graphics, complete with textured surfaces, realistic colours, lighting and PCB surface finishes. And designers can examine the internal structure of the board by simply moving the cursor around the design.

Benefits include the ability to provide an early view of how the finished board will look when manufactured. It also provides a more natural view of the board during design. This makes it easier for less-experienced board designers, and those across the design chain – including management - to visualize the board design process and layer stack.

This lets designers extend their existing skills into new areas. Designers who are not PCB layout specialists can use Altium Designer's unified environment, and features such as 3D PCB visualization, to play a greater part in the overall design process without needing specialist knowledge.

Experienced PCB designers can use the new visualization features to verify connectivity on internal layers visually, and check for the correct positioning and legibility of silkscreen text. The real-time 3D view is also useful for capturing fabrication details quickly, to include with manufacturing instructions and to provide images for design and product documentation.

### More board-level features and enhancements

Other board-level additions in Altium Designer 6.8 include differential pair support for Altium Designer's interactive track length tuning feature. Designers can now adjust the

lengths of both traces of differential pairs simultaneously, of particular benefit when using the extensive differential signalling features available on most current FPGAs.

In Altium Designer 6.8, metafile data can now be pasted directly from the Windows clipboard directly into a PCB design, making it easy to include logos, tables or image data on PCB mechanical layers. The PCB editor has also been enhanced to support placement and alignment of inverted text, the direct creation and placement of barcodes, and the creation of board cutouts

Numerous GUI enhancements such as 'live' highlighting of components and nets on mouse hover, fast mouse-based zooming, and new grid options, let designers concentrate on their design tasks rather than struggling with basic navigation and interface functions.

#### Unifying schematic wires, buses and signal harnesses: radical connection simplification

Connections of wires, buses and signal harnesses at the schematic level have been unified and radically simplified with the introduction of Signal Harness objects. Designers can now assemble logical groupings of any signal type, greatly simplifying the wiring traffic, enhancing readability, and streamlining the structure of schematic designs. They can create and manipulate higher levels of abstraction between sub-circuits, allowing more complex designs to be represented with simpler drawings.

Signal Harness objects raise the level of design abstraction, which makes designing complex pieces of circuitry for reuse much easier. Being able to drop previously designed complex sub-circuits into a new schematic reduces design time and frees designers to focus on areas of greater value.

Nick Martin, CEO of Altium, commented, "For a version upgrade, the features we are introducing with Altium Designer 6.8 are significant and can provide fundamental benefits to all designers.

"Unified electronics design is about letting all designers extend their design skills into new areas. With Altium Designer, we make it easy for every designer to exploit the potential of today's programmable hardware to create more intelligent products in a faster, more scalable and secure way. The move to soft system functionality, incorporating both

software and hardware elements, is the key to managing increasing product design complexity. It will allow companies to create real and sustainable product differentiation and foster long-term innovation.”

Ted Villaruel, CEO of Circuit Design Solutions, Inc, said, “Altium Designer 6.8 is a truly feature rich product that makes a designer’s task more streamlined and defined. The 3D Visualization and Net Highlighting features allow us to make light work of assessing high density, multi-layer boards. Altium’s focus on 3D technology demonstrates that Altium Designer 6.8 is at the forefront of electronics design.”

#### Unifying board-level design with embedded intelligence and programmable hardware

Many board-level designers are moving towards programmable devices such as FPGAs. Altium Designer 6.8 lets designers exploit these devices at both the board and system level. The new OpenBus graphical editor provides an intuitive and high-level mechanism for creating the system structure. System components include processors, bus arbiters, peripheral driver hardware and memory interfaces. OpenBus abstracts the complexity of creating such Wishbone systems by simply dragging and dropping components from a palette and connecting them using a single line.

#### C-to-hardware compilation without HDL

Altium Designer 6.8 offers unified hardware-software compilation, extending the existing compiler, taking standard C code input and producing a combination of compiled object code and FPGA-targeted RTL output. Developers simply choose the particular C functions and variables they wish to implement in hardware before compilation, and designers don’t need to be skilled in using HDL.

Design reuse – at the core of Altium Designer’s unified architecture - has also been enhanced with the introduction of reusable Device Sheets, in which whole schematic sheets can be stored and reused between design projects. Designers can create and store verified circuitry that is easily reusable. Proven design elements can then be incorporated into multiple design projects. And the management of this process is simplified with a new Board Level Annotation function that labels and synchronizes logical components.

### Protecting investment with easy migration from point tools

Enhanced migration tools in Altium Designer 6.8 make it easier for more companies and designers to upgrade to Altium Designer and the benefits of unified design. A new DxDesigner translator joins existing translators for OrCAD Capture, OrCAD Layout, and Mentor Graphics' PADS.

### Altium Designer 6.8 price and availability

Altium Designer 6.8 is now available for purchase, and free download for existing Altium Designer 6 customers. For a full list of features and enhancements in Altium Designer 6.8 go to What's New in Altium Designer 6.8 at:

<http://www.altium.com/evaluate/democenter/whatsnewinaltiumdesigner/>.

Pricing is available from Altium's sales team, details can be found at:

<http://www.altium.com/Contacts/>.

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### **About Altium**

Altium Limited (ASX:ALU) is the leading developer of electronic product development solutions that unify the different design disciplines involved in electronics product development. Altium products let all electronics, developers, and their organizations take maximum advantage of emerging design technologies, and bring smarter products to market faster and easier. Founded in 1985, Altium has headquarters in Sydney, Australia, sales offices in the United States, Europe, Japan, China, and resellers in all other major markets. For more information, please visit [www.altium.com](http://www.altium.com).

### **About Altium Designer**

Altium Designer is the electronics design industry's only unified electronics product development system. Altium Designer replaces the traditional, disparate design flows, and the challenges of integrating these, by bringing the design of the board, the programmable hardware and the embedded software into a single, unified design environment. Designers can harness the potential of the latest electronics technologies, and move to a 'soft' design methodology without the need to acquire specialist programmable device expertise. This provides companies with increased design flexibility, reduced production costs, and better protection of intellectual property, and quickens time to market. Altium Designer delivers the freedom to move between any programmable device, from any vendor, at any time. It lowers total cost of ownership by eliminating the need to integrate extra devices at extra cost. For more information, please visit <http://www.altium.com/Products/AltiumDesigner/>.

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