



## OpenBus – streamlining FPGA-based system design

### Summary

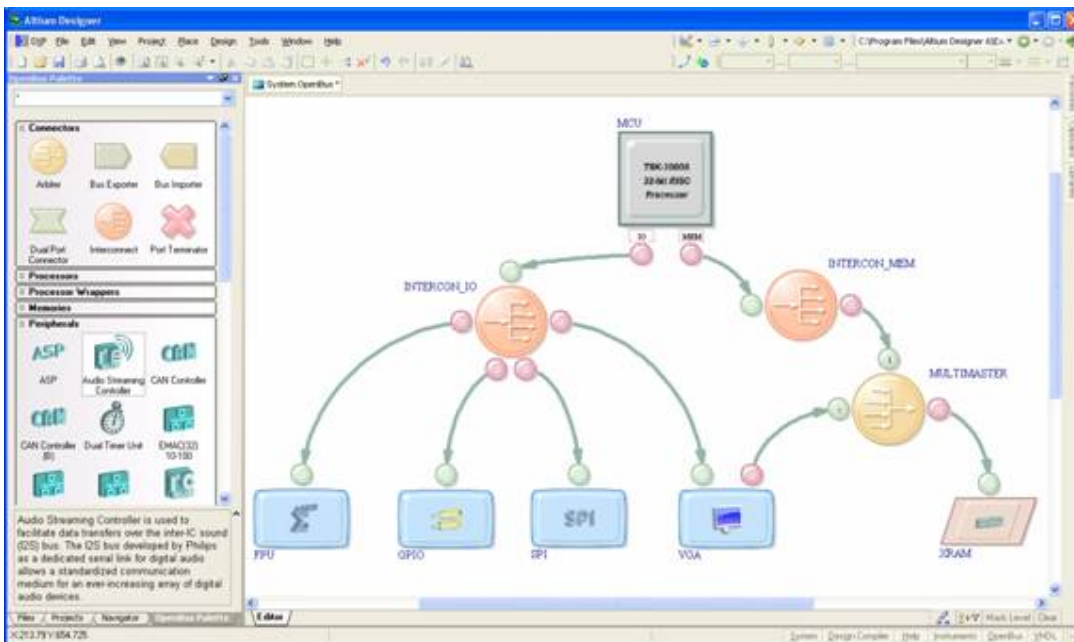
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Author: Rob Evans

The OpenBus system makes FPGA-based design even simpler by raising design abstraction to the next level. Read how the system represents the processor-peripheral interconnections of a 'soft' design in a new and efficient way.

One of Altium Designer's most productive features is that it allows you to create processor-based systems by simply 'wiring' together ready-to-use FPGA-based components at a block level within the system's schematic editor. This is a more streamlined and abstract way to rapidly capture system functionality for implementation in an FPGA, but larger designs can become quite complex in terms of readability, and more importantly, from a wiring and configuration perspective.

Altium Designer 6.8 delivers a new visualization and design tool called the OpenBus system, which makes FPGA-based design even simpler by raising design abstraction to the next level. The fundamental purpose of the new OpenBus system is to represent the processor-peripheral interconnections of a 'soft' design in a much more abstract way.

OpenBus achieves this by providing a design capture environment that is more intuitive and streamlined, but less likely to let errors slip through. For example, much of the configuration required for getting a Wishbone system up and running is no longer needed as the OpenBus System abstracts the complexity of a bus from a bunch of signals into a single connection.



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The new system is based on an OpenBus document that is created and managed by the OpenBus Editor. This has the familiar look and feel of Altium Designer's Schematic editor, but has its own set of resources that apply to creating an OpenBus design. The resources are available from a new OpenBus Palette, which offers all the components needed to build your system (grouped as connectors, processors, memories, and peripherals) and define the connected relationships within that design – these are all 'wired' together with OpenBus links.

With Altium Designer's OpenBus System, the design can be built quickly and efficiently. The top-level schematic becomes much more manageable and the main processor system is neatly packaged 'below' in an abstract document – which is both easy to build and easy to read.

From that point, the design process runs as normal for a processor-based design. The embedded software project is linked in the same familiar way. The processing of the design through the Devices view is the same. The OpenBus System document gets synthesized and expanded into the same form as a schematic-only based design. At the end of the process the difference is you have an intuitively-understandable design document, and time has been saved in both building and configuring the system.

Find out more and see the video at <http://www.altium.com/DEMOcenter/AD68/13>