Hoehenkirchen-Siegertsbrunn
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Open Source JTAG Switcher to improve multi-processor designs

Lauterbach, the world's leading supplier of debug tools, announced today the release of their JTAG Switcher VHDL source code. This is being released into the public domain under the MIT Open Source License (https://www.lauterbach.com/jtag_switcher.html).

In a modern multi-processing environment, a system may comprise of many disparate processors, each focusing on a particular processing task. Multi-processor JTAG works by chaining the devices' debug interfaces together. Often these have incompatible debug interfaces, for example they may have different voltage requirements. With modern processors capable of entering very low power modes, the debug interface of any processor may be powered down at any time and this breaks the chain and prevents debugging of any device attached to it. The JTAG Switcher is designed to overcome all of these issues. It can work with cores that use different voltages and can seamlessly adapt to changing chain lengths as cores go into and out of low power states.

Potential applications include the ability for developers to test combinations of multi-processors on a board as individual devices can be switched in and out of the JTAG chain on-the-fly. Several targets could be connected to a single debugger for regression tests. The VHDL switcher code could also be included into silicon designs where similar problems can occur within a chip. A standalone unit could be developed that allows the JTAG interfaces of multiple boards to be brought together under the control of a single debugger.

The VHDL source code for the JTAG Switcher is Open Source and freely available and includes pre-built examples for some Altera and Lattice FPGAs. The system can be configured once at startup and left to run, or can be dynamically configured at runtime to include or exclude various processors from the overall system. The API for this is open and available as part of the package. Once the system has been configured it is invisible to any JTAG tools using the interface.

Says Norbert Weiss, International Sales Manager for Lauterbach GmbH, "We have seen significant customer demand for a flexible system such as this and we are pleased to make this freely available to the embedded community. We hope that this technology is taken up and believe it offers unique opportunities for developers and silicon designers alike. Our TRACE32 tools, of course, already work with this and we encourage other tool vendors to offer support for this capability. This is why we decided to publish with an Open Source License."

About LAUTERBACH
Lauterbach is the leading manufacturer of complete, modular and upgradeable microprocessor development tools worldwide with experience in the field of embedded designs since 1979. It is an international, well-established company with blue chip customers in every corner of the globe and has a close working relationship with all semiconductor manufacturers. At the headquarters in Hoehenkirchen, near Munich, the engineering team develops and produces highly proficient

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and specialized Development Tools, which are utilized all over the world under the brand TRACE32®. Our branch offices exist in the United Kingdom, Italy, France, Tunisia, on the east and west coasts of the United States, Japan and China. Highly qualified sales and support engineers are also available in many other countries. For more information visit http://www.lauterbach.com/

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