

Trust in FPGAs

Assurance in Your Supply Chain

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Developing Trust in the global, high tech PLD industry is a complicated challenge that the government has been pursuing for many years. Silicon, Software and IP development occurs world-wide and solutions used for other technologies, like the Trusted Foundry, are limited in their effectiveness and outdated in their technology. This session will review the processes that build assurance in Xilinx All Programmable devices in the context of openly discussed threats. When talking Trust people have a tendency to assume the only path to Trust is via the Trusted Foundry model. From the DMEA definition of Trust this is true. However, it also assumes that commercial products have no controls to prevent malicious insertion of logic. This presentation aims to give an overview of commercial processes (the entire life cycle) in the context of the DMEA Trust triangle (confidentiality, integrity, and availability) and what controls are in place that make the insertion of malicious logic at the silicon level a highly improbable (not impossible) task.

Presentations on Trusted Foundry programs typically focus on the control of the material and of the people handling that material. This presentation aims to increase the awareness of the development processes of commercial products and why the myth that they are “easily” subverted is simply not true.

This presentation only touches on items at a high level but it really intends to dispel the growing myth that FPGAs cannot be used for any space program simply because it was not manufactured at a Trusted Foundry.