# imperas

**Application: Software Testing**

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**Industry: Networking**

TangoTec

## Customer Challenge

TangoTec embarked on a new SoC development project for home and office networking, with very aggressive time–to-market and quality goals. This all-new SoC demanded architectural modeling for the multi-core hardware, as well as embedded software development, and testing.

## Imperas Solution

Time to market was crucial, so a high-level simulation environment was of critical importance to get started pre-silicon. The key application was to accelerate software development prior to silicon, for early delivery while ensuring software quality. Imperas M*SDK and OVP Fast Processor Models delivered the high-level, high- performance simulations vital to engineering schedule constraints. Multiple SoCs were represented in the Imperas virtual platform, which was used to boot the Linux runtime OS, to run Ethernet application software, and as an application software development environment.

## Benefits

Imperas virtual platform tools helped TangoTec cut their schedules and raise quality through the power of virtual platforms. Setup was simple. With fast modeling, ease of use, and the extensive Imperas model library. Hardware/software simulations executed rapidly, with high-performance Imperas simulation tools. And, the Imperas platform delivered unprecedented access for analysis / debug.

The bottom line: TangoTec was able to accelerate their time-to-market significantly, shaving months off their SoC and software delivery schedule.

### Business Challenges
- Aggressive schedule for new SoC
- Pre-silicon software development
- Quality

### Design Challenges
- Multi-core design
- Complex networking protocols
- Architectural exploration
- Embedded system software, Linux OS, and Ethernet
- Software development, debug and test

### Results
- Cut schedules significantly
- Fast start-up with extensive Imperas model library
- Quality via exceptional performance and debug

"The stringent test requirements around TangoTec's software applications drove the employment of an simulation-based development environment. The performance, usability, and model availability of the Imperas environment made it the clear choice and it has proven invaluable for the pre-silicon software development of our networking protocols, shaving months off our engineering schedule."

**Ari Todtfeld, Software Group Manager, TangoTec**