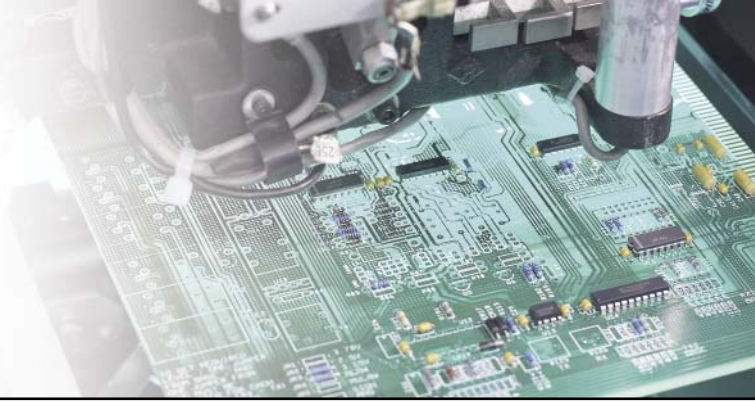


MKS**TUNDRA®**

CASE STUDY:

Tundra Semiconductor



Company Profile

Tundra Semiconductor Corporation delivers standards-based System Interconnect for use by the leading vendors of wireless infrastructure, networking, storage and embedded computing systems. Tundra System Interconnect allows customers to link critical system components using standard silicon products to compress development time, to reduce dependencies on custom solutions while maximizing performance. With over a decade of investment and expertise in open industry standards, Tundra supports ATCA®, PCI/X, PCI Express®, RapidIO® and VME. Tundra headquarters are in Ottawa, Ontario, Canada with a design center in South Portland, Maine, and sales offices throughout Europe, across the U.S. and in Asia-Pacific. Since 1996, Tundra has been on the leading edge of System Interconnect.

The Challenge

Tundra's design and development teams were seeking to protect intellectual property and maintain a single and secure source code location, while at the same time reusing large portions of code. This environment would allow for Tundra to leverage code and IP reuse, where as a single IP module or sub-modules are reused within many Tundra Products with only slight variations. And, a single source code location supporting code reuse allows change to be deployed effectively to all product instances.

To bring this vision to life, the team first needed to replace its existing out of date revision control tool with a more sophisticated application lifecycle management tool better able to support code reuse and parallel development. The replacement solution would also need to span all of Tundra's computing platforms, including Sun Solaris, Linux and Windows, and carry a minimum maintenance and administration burden, as the team's aggressive schedules allow for minimum system downtime. Ideally the solution would also provide support for geographically distributed development, linking Tundra's various remote design centers under a common management framework.

"We needed an ALM solution coupled with process expertise to streamline our design processes and raise the overall quality of our product development," says Benny Chang, vice president engineering at Tundra Semiconductor."

The Solution

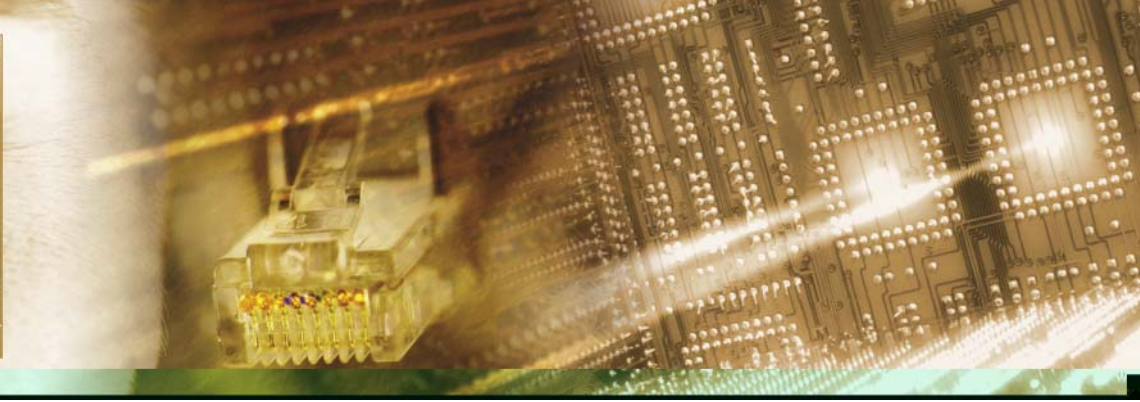
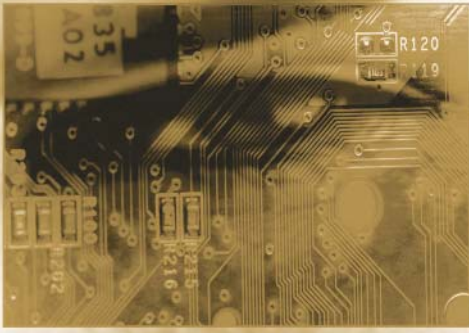
After a thorough examination of the market, Tundra chose MKS's solution for application lifecycle management, called MKS Integrity. The MKS solution would allow Tundra to centralize and improve change and configuration management visibility and control over all embedded

development activity; and the solution's strong support for code reuse would give Tundra's design and development team the ability to create a library of components that can be commonly used across multiple projects and teams to quickly accommodate customer requested modifications.

"The MKS offering was distinctive from all others in two significant ways. First, it offered very effective support for our remote development teams through its Federated Server Architecture, and second, it offered the unique concept of change packages, allowing us to directly tie together a development issue with all related artifacts, including source code," says Chang.

The Results

Since implementing MKS's ALM solution Tundra Semiconductor has realized improved development consistency through automated process and real-time, geographically dispersed team communication and collaboration, plus greater accuracy and reproducibility of design configurations. Teams now have complete workflow to track defects from discovery to resolution. Coupled with MKS's change package capability, there is a complete audit trail of the design and test configurations where the defect originated and the



configurations offering a subsequent resolution.

MKS's ability to support multiple and parallel workflows means that process can be tailored to the pre or post silicon production stages. For instance, a defect discovered within silicon can be triaged and resolved independently of the tracking and resolution of the same defect within a pre-silicon part.

Finally, communication and collaboration across teams has also been enhanced by the MKS solution. Through automated process a defect can be traced and reported to program owners who may have the same IP instances in other products, allowing them to independently take action to resolve the defect as appropriate within their product's life cycle.

"MKS's management framework allows us to implement advanced engineering concepts, which in turn makes us more competitive in our key markets," says Benny Chang. With software change and configuration management from MKS now fully implemented to the company's 80+ development team, Tundra is now investigating extending its MKS solution coverage to incorporate integrated requirements management capabilities.

Corporate Headquarters

410 Albert Street
Waterloo, ON N2L 3V3
tel:519 8840 2510

Worldwide Offices

Oakbrook Terrace, IL
tel: 630 827 4900

Fairfax, VA
tel: 703 803 3343

Germany

tel: +49 1 633 75 0 () +49 180 8 (t) 6 (el: A4 (0) 1483 733490) +1 800 800 8000 Canada

United Kingdom