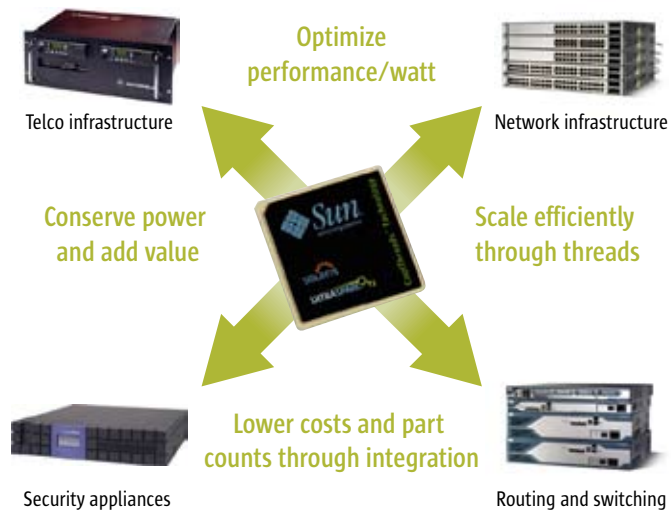


# Sun Microelectronics

Multicore, multithread technology  
for embedded systems designs



## Highlights

- Industry leader in multicore/multithread processing
- Only processor with all key systems functions on a single chip
- Highly efficient solution for multithreaded applications
- Flexible engagement model
- Aggressive roadmap for chip multithreading (CMT) technology
- Access to a growing CMT development community
- Access to industry-standard development environment



Now global system designers and embedded application developers can take advantage of Sun's industry-leading chip multithreading processors. The Sun Microelectronics Group, which designs Scalable Processor Architecture (SPARC®) technologies for integration in Sun's award-winning server line, now offers solutions that help system designers and embedded application developers meet shorter time-to-market goals and lower cost targets. Leveraging Sun's unique CMT processors, you can rapidly design and deliver innovative solutions that boost the performance of devices for network and telco infrastructure, routing, switching, and network security.

## Solutions for emerging equipment and applications

As the industry leader in multicore/multithread processor design, Sun Microelectronics provides the best solutions for today's demanding network equipment and applications. While other processor developers struggle to add more cores and threads to their products, Sun outpaces them all with processors offering superior thread density and performance. Now you can leverage the industry's most powerful processors for the development of exciting new network systems and embedded applications.

Sun's CMT processors offer a powerful solution for integrating advanced technologies — including 10 Gigabit Ethernet (GbE) networking, crypto, and PCI Express — on a single, compact platform. Moreover, the Sun solution addresses the lower power and higher availability and security requirements of emerging multithreaded applications and network devices.

### Generations of innovation

The Sun Microelectronics Group builds on Sun's 20-year track record developing breakthrough technologies, including the first eight-core 32-thread CMT processor, the UltraSPARC® T1 processor. Today, Sun Microelectronics continues the tradition with the eight-core, 64-thread UltraSPARC T2 processor, the world's first system integrating all the key functions of a server on a single chip.

### Unique CMT architecture

Based on Sun's unique CMT technology, UltraSPARC T2 processors provide the ultimate foundation for developing a new breed of network device. General-purpose processors and dedicated network processors, respectively, lack the network throughput and computing power necessary to manage today's complex network demands. Only Sun Microelectronics offers solutions that provide both the compute power and throughput to rapidly process tasks such as deep packet inspection, XML processing, content-oriented routing, pattern-matching security, and multilevel quality of service (QoS) enforcement. Utilizing UltraSPARC T2 processors, you can build applications and devices that perform faster and manage compute-intensive applications more efficiently, while consuming less power and cooling resources.

### A commitment to the future

Sun Microelectronics has spent more than \$1 billion developing new ultraperforming CMT processors and will continue to invest more time and resources in the technology. All new Sun processors will be based on CMT technology.

### Complete integrated solution

The unique design of the UltraSPARC T2 processor integrates a host of advanced features for building high-performance devices and embedded applications. No other solution provides this level of feature integration in a single processor. The UltraSPARC T2 processor incorporates:

- Four to eight cores, with 32 to 64 threads (eight per core) — offering exceptional scalability and efficiency through threading
- One SPU per core — helping ensure secure operation without the performance penalty associated with in-software encryption
- Dual 10 GbE — eliminating network I/O bottlenecks
- One FPU per core for floating-point performance
- PCIe integrated on chip for improved I/O performance

### Flexible engagement model

Sun Microelectronics' flexible engagement model is designed to make the development process easier. Systems designers can choose the elements they need: from a complete processor to modular IP — to specific, licensable IP. How you integrate Sun innovations is up to you and the requirements of your designs. If you want to integrate more functionality into your products, you can also leverage Sun's proven IP stack.

### Learn More

For more information about the Sun Microelectronics Group, visit [sun.com/microelectronics](http://sun.com/microelectronics).

### Forging a powerful coalition

Sun is actively partnering with key application vendors and OS developers to build a complete CMT development ecosystem, including support for the Linux operating system and its associated development toolchains. Sun Microelectronics is committed to delivering the broadest range of CMT processors to meet the requirements of its customers and the emerging, connected world.