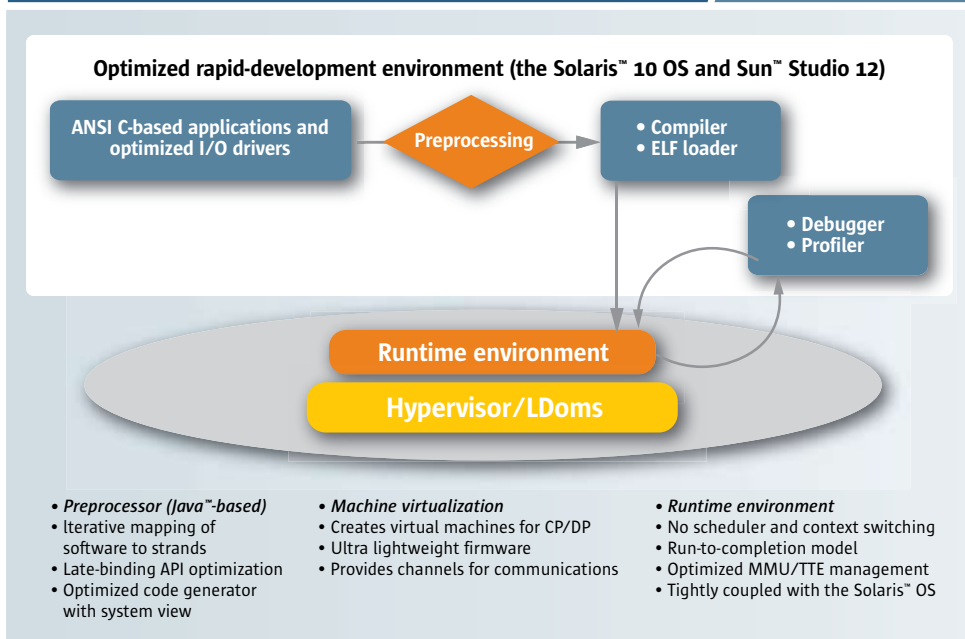


# Sun Netra™ Data Plane Software Suite

## Changing the economics of telecom systems



### Highlights

- 10 GbE line-rate performance, by exploiting the chip multithreading (CMT) architecture of UltraSPARC® T1 and T2 processors
- Radical consolidation through machine virtualization technology
- Accelerated development and reduced R&D costs from a unified development platform that supports open ANSI C programming
- Economical and viable business model that leverages released system-level product



The Sun Netra Data Plane Software Suite exploits UltraSPARC T1 and T2 processor architectures to deliver carrier-grade, line-rate, packet-processing performance and better economics through consolidation and rapid development. As shown in the illustration, the Sun Netra Data Plane Software Suite offers a complete telecom solution comprising a unified development environment, a lightweight runtime environment, and virtualization based on hypervisor firmware and Logical Domains (LDoms).

### Unified development environment

The unified development environment can help accelerate development and reduce R&D and sustaining costs by leveraging mainstream development tools. It offers a complete and open ANSI C programming environment that includes a compiler, optimizer, debugger, and profiler. This environment can dramatically reduce program risks and costs, as compared to offerings from niche NPUs that use exotic microcoding or ad hoc development tools commonly provided by chip-only suppliers.

A complement of reference applications are available, such as RLP, UDP, IPSec, and IPv4, that accelerate application development and proxy-lead applications such as CDMA2000

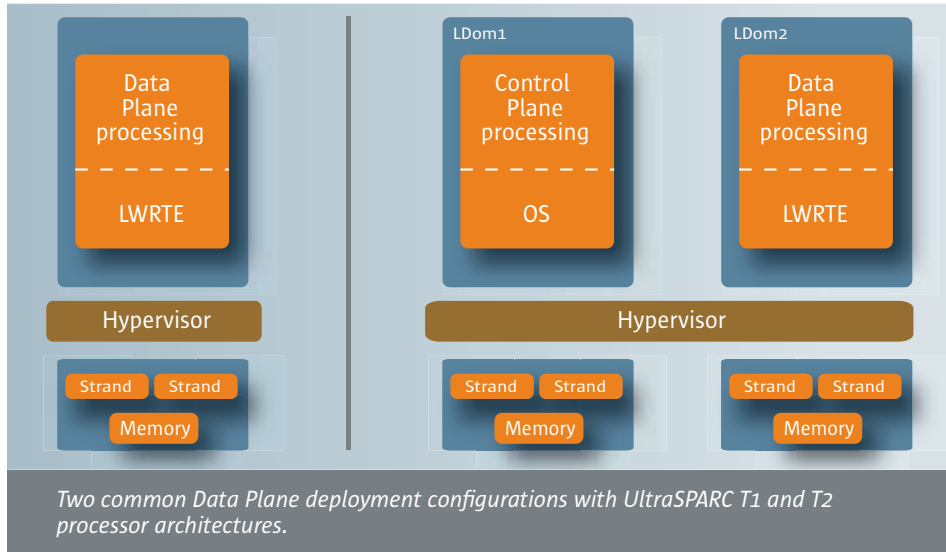
EV-DO or security gateway network elements. These reference applications might also be useful to accelerate application development efforts. Sun intends to bring to market a community of third-party application developers that can provide packet-processing solutions for vertical-application market segments.

### Lightweight runtime environment

The lightweight runtime environment has no scheduler or interrupt handler and performs no context switching. Every thread runs to completion without time slicing, making parallel execution extremely scalable. This enables line-rate performance and linear scaling with the UltraSPARC T1 and T2 processor CMT architectures.

### Virtualization using hypervisor firmware and LDomS

The UltraSPARC T1 and T2 processors' hypervisor firmware supports the ability to subdivide hardware CPU, memory, and I/O resources to create virtual machines — LDomS. LDomS help enable horizontal scaling of Data and Control Plane domains, allowing radical capex/opex consolidation and a Sun Unified Network Platform for packet processing.



### Supported platforms

The Sun Netra Data Plane Software Suite is supported on all UltraSPARC T1 and T2 processor-based OEM server platforms, enabling a complete time-to-market system solution. Sun's approach leverages a system-ready and volume general-purpose processor that changes the economics for carrier-grade packet processing. Alternative solutions using niche NPU's can increase R&D costs, risks, and time to market.

### Architecture features

#### Unified development environment

- Complete ANSI C environment
- Compiler
- Optimizer
- Debugger
- Profiler

### Lightweight runtime environment

- Run to completion — no scheduler, interrupt handler, or context switching
- Fast execution of parallel threads, with no time slicing
- Linear scaling with UltraSPARC T1 and T2 processors' CMT architectures
- Standard IPC Control Plane interface support
- Virtualization support with UltraSPARC T1 and T2 processor hypervisor firmware and LDomS
- Proven line-rate performance

### Reference applications

- RLP
- UDP
- IPSec
- IPv4

Contact Sun Microsystems for other reference applications under development

### Operating systems, tools support

- The Solaris 10 OS
- CoolTools for UltraSPARC T1 and T2 processors; trace, tuning, optimization, etc.

### Learn More

For more details about Sun Netra products, go to [sun.com/netra](http://sun.com/netra) or talk to your local Sun representative.

### Supported platforms

#### Sun™ SPARC® Enterprise T5x20 server



#### Sun Netra T2000 server



#### Sun Netra CP3060 ATCA blade server



#### Sun Netra CP3260 ATCA blade server

