

# Logical Domains (LDoms)

Increase agility and utilization



Organizations today are struggling with server sprawl. Too many servers in the datacenter run single applications, leading to space, power, cooling, and management resource limitations—and increased complexity. The result is an inflexible IT environment that cannot accommodate unexpected spikes in workloads, growing applications, or changing business strategies. That’s why IT groups are using virtualization to simplify their existing infrastructure while increasing utilization and flexibility.

## Seize the datacenter

Sun offers a comprehensive approach to virtualization, with a set of technologies, programs, and tools that leverage the Solaris™ 10 Operating System—the industry’s first and most secure OS for virtualization—running on Sun servers with CoolThreads™ technology. As the world’s most eco-responsible servers, the Sun CoolThreads servers combine with the new Logical Domains (LDoms) technology to deliver comprehensive virtualization capabilities right in the system.

## Cool, powerful benefits

LDoms is a new, powerful server virtualization and partitioning technology from Sun for CoolThreads systems. By deeply integrating the industry-leading multithreading capabilities of the UltraSPARC® T1 and T2 processors and the Solaris 10 OS, LDoms enables organizations to run multiple operating systems simultaneously, and can help reduce server footprint, improve server utilization, and increase datacenter efficiencies and Return On Investment (ROI). Up to 64 LDoms can be supported on a single CoolThreads server, and each one can run as an independent OS instance. LDoms can be resized dynamically without rebooting, enabling higher levels of agility and uptime.

Sun virtualization products are an ideal solution to help organizations consolidate their business and Web-tier infrastructures, optimize their datacenter and reduce Total Cost of Ownership (TCO). Organizations can already use Solaris Containers to virtualize a single instance of the Solaris 10 OS and run multiple, independent applications while managing a single OS image. LDoms builds upon this approach by virtualizing the underlying hardware to create multiple

isolated OS instances for those applications requiring even greater levels of separation.

LDoms is free, and is the most open virtualization technology available. It runs on the free and open source Solaris OS, which has the largest installed base of any other commercial UNIX® or Linux distribution on the planet. Unlike proprietary virtualization technologies, LDoms can save organizations nearly \$10,000 per server, with greater savings and benefits as more systems are virtualized.

## Latest functionality

LDoms is at the core of Sun’s virtualization strategy for Sun SPARC® CMT and Solaris platforms. New capabilities have been added to improve reliability, security, and management.

- **Reliability differentiator for SPARC CMT virtualization** – With LDoms 1.0.1, any domain, including both guest and primary domains, is an independent virtual machine that can be configured, started, or stopped independently without requiring a power-cycle of machine.
- **UltraSPARC T2 platforms** – LDoms 1.0.1 supports all the current UltraSPARC T1 and T2 platforms.
- **LDoms MIB** – The Logical Domains Management Information Base (MIB) is delivered as an extension module to the System Management Agent of the Solaris 10 OS running in the control domain. The LDoms MIB enables third-party system management applications to perform remote monitoring, and starting and stopping logical domains using the Simple Network Management Protocol (SNMP).

## Highlights

- Free, and the most open virtualization technology available
- Couple open and low-cost virtualization technology with the most energy- and space-efficient servers to drive up utilization while saving millions of dollars in operating costs
- Optimize your IT infrastructure so that your business can respond quickly to accommodate changing strategies and requirements
- Use technology as a strategic weapon to increase the bottom line
- Gain flexibility and agility for faster time to market
- Stay in regulatory compliance and ensure mission-critical applications are not running on end-of-service-life systems

- **Domain minimization** – Support for minimized or reduced Solaris OS installations, for stronger security and easier maintenance.

### The Sun difference

Sun has more than 20 years of enterprise expertise and a long history of pioneering, advancing, and delivering virtualization technologies with Solaris 10—the industry’s first and most secure OS for virtualization. Sun is expanding its virtualization offerings and solutions by taking an innovative, comprehensive approach to simplifying the business- and Web-tier infrastructures. This makes it easy for

“At DigiTar, using LDoms and the Solaris 10 OS opens up new possibilities for consolidating mission-critical systems. While Solaris 10 Containers continue to be a pervasive element of DigiTar’s infrastructure and planning, we run certain database applications that cannot risk an operating system fault taking down two or more of these systems simultaneously. Because Logical Domains do not share operating system instances, we can further leverage power-saving Niagara-platforms to consolidate diverse database applications, without the risk of a single operating system flaw disrupting our 24x7 operations. Only Solaris 10 offers us the flexibility to alternate between lightweight and regimented virtualization technologies as our needs dictate.”

**Jason Williams**  
COO and CTO of DigiTar

organizations to optimize their IT infrastructure and see cost savings in space, power, and cooling while accelerating time to market and enhancing flexibility.

Sun takes a comprehensive approach to virtualization by leveraging the Solaris 10 OS, industry-standard technologies, and key partnerships. Sun’s virtualization solutions are a combination of the Solaris 10 OS, Sun servers, storage, and professional services that can reduce IT costs by as much as \$2 million a year<sup>1</sup>, achieve 99.99 percent availability, improve utilization by 80 percent, and simplify infrastructure management.

Sun is also offering a number of new and enhanced services, methodologies, and tools to make datacenter virtualization easier. For example, the Sun Solution Customer Workshop lets customers engage with Sun consultants in a two-day collaborative session designed to assess current customer business requirements, match these requirements to available technology, provide a high-level TCO analysis and long-term savings estimate, and determine actionable next steps. For a limited time, organizations can receive this service, worth an estimated \$10,000, at no cost. We also offer Lifecycle Services for Virtualization, Online Virtualization Learning Center, Upgrade Allowance Programs, and Virtualization Resources.

In addition, through the Sun Try and Buy Program, organizations can order new Sun CoolThreads systems to evaluate and test for up to 60 days at no charge. If you’re not totally satisfied, just send them back at our expense and owe us nothing.

By giving organizations all the innovation needed to truly optimize their datacenters, Sun’s comprehensive virtualization approach lets businesses reap cost savings today and more easily take advantage of opportunities tomorrow. Continued innovation will ensure that Sun remains on the cutting edge of virtualization advancements well into the future.

### Learn More.

To learn more about Logical Domains (LDoms), visit [sun.com/ldoms](http://sun.com/ldoms). See what CoolThreads technology can do for you. Sign up for a risk free 60-day trial today, visit [sun.com/tryandbuy](http://sun.com/tryandbuy)

All CoolThreads servers support LDoms, which will be an integrated feature of all future Chip Multithreading (CMT) SPARC processors developed by Sun. LDoms 1.0.1 supports all UltraSPARC T1 and T2 based systems including:

- Sun SPARC Enterprise T5120 Server
- Sun SPARC Enterprise T5220 Server
- Sun SPARC Enterprise T1000 Server
- Sun SPARC Enterprise T2000 Server
- Sun Fire™ T1000 Server
- Sun Fire T2000 Server
- Sun Blade™ T6300 Server Module
- Sun Blade T6320 Server Module
- Netra™ T2000 Server
- Netra CP3060 ATCA Blade
- Netra CP3260 ATCA Blade

With LDoms, organizations can run multiple operating systems simultaneously on Sun servers with CoolThreads technology while reducing server footprint and increasing server utilization for higher return on investments. And keeping with Sun’s open source philosophy, LDoms is free to use, though organizations may choose to purchase a service contract for ongoing support. Leverage LDoms to improve server utilization and consolidation, increase IT flexibility, and save money today.

<sup>1</sup> Based on average savings over an 18-24 month period of Sun consolidation customers, after they deployed their consolidation and virtualization solution. Customers calculated savings based on energy, space, licensing, services contract costs, increased utilization, and reduction of management of systems.