

# Sun Java™ System Web Proxy Server

User experiences can be this fast



## Highlights

- Create a better Web viewing experience with Sun Java™ System Web Proxy Server running on Sun servers with CoolThreads™ technology and the Solaris™ 10 Operating System
- Boost network performance by taking advantage of the massive throughput capabilities of Sun servers and the intelligent caching capabilities of the proxy server
- Enhance security with fine-grained control that limits user access and encrypted communications
- Filter unwanted content and reduce exposure to external users
- Simplify management and handle multiple proxy server layers with ease
- Audit user activity and analyze server statistics to gain an understanding of how the system is performing and being used
- Deploy reverse or forward proxy servers to match enterprise access and security needs



As more enterprises use the Intranet and corporate intranet to conduct business, creating a positive user experience in the face of increased traffic becomes paramount. Traditionally, Web proxy servers help speed the flow on information across the network by working to reduce bottlenecks. Now, the combination of the Sun Java™ System Web Proxy Server and Sun servers with CoolThreads™ technology is raising performance to a new level. With sophisticated caching techniques and massive server throughput, the solution significantly improves response times while reducing datacenter footprints and energy requirements.

### Sun Java™ System Web Proxy Server

Part of the Solaris™ Enterprise System, the Sun Java System Web Proxy Server works as a traffic manager to deliver high network performance and a better user Web viewing experience. The efficient collection, caching, filtering, reformatting, management, and distribution of content help to reduce network traffic and user wait times. Because the software also provides a gateway for content distribution and acts as a control point for Internet traffic, communications are efficient and secure. Tight integration with network infrastructure, cross-platform support, and centralized management capabilities provide control over network resources without burdening end users or administrators.

### Boost network performance

Keeping performance high is essential to creating a positive Web viewing experience. Java System Web Proxy Server incorporates, and takes advantage of, several performance enhancing technologies and techniques that can help dramatically improve response.

### Sophisticated caching

Java System Web Proxy Server employs a highly efficient caching model that distributes data where users need it, thereby reducing the number of requests to remote content servers as well as network traffic. Intelligent on demand caching of frequently accessed documents, as well as on command caching for batch cache updates, helps to conserve network bandwidth and reduce response times.

Key caching capabilities include:

- Provides efficient, transparent caching on demand of Web documents, automatically routing requests to other Java System Web Proxy Server systems and returning current document from the cache
- Refreshes data in the cache at specified intervals to help ensure the data is current and available for periods of peak demand
- Lets administrators download documents or sites on a scheduled basis with batch updates and on command caching to minimize the impact to network performance
- Supports the Cache Array Routing Protocol (CARP) that uses a deterministic algorithm for dividing client requests among multiple proxies
- Permits proxy-chaining for building hierarchical caches that can help improve performance on internal networks
- Supports the Internet Cache Protocol (ICP) for dynamic querying of neighboring caches to determine document availability
- Minimizes network traffic resulting from HTTP-based push technologies

Support for proxy arrays enhances the scalability and reliability of caching efforts. This distributed caching mechanism enables multiple proxies to operate as a single logical cache for load balancing and failover. In addition, dynamic proxy routing lets Java System Web Proxy Server query other caches for document availability.

### Massive throughput without the operational expense

Fast access to Web pages is key to user satisfaction. Java System Web Proxy Server running on Sun servers with CoolThreads technology and the Solaris 10 Operating System provides a high-performance solution that helps reduce user wait times.

Java System Web Proxy Server is a highly multithreaded application that takes advantage of the Chip Multithreading (CMT) capabilities of Sun servers with UltraSPARC® T1 or T2 processors with CoolThreads technology. With up to eight cores and 64 simultaneous execution threads on a single processor, as well as high-speed networking interfaces, these servers are ideal for multithreaded Web tier workloads. Providing massive throughput gains and short response times, Java System Web Proxy Server and Sun servers can support more concurrent users compared to other Web proxy server solutions.

In addition to increasing throughput, Sun servers can help reduce energy consumption and datacenter footprints. Consuming less power and cooling than other servers, Sun servers with CoolThreads technology offer industry-leading performance per Watt, resulting in reduced power and cooling costs. With high compute power in a small footprint and industry-leading price/performance, Sun servers continue to set and reset standards for performance, reliability, and energy efficiency.

### Intelligent compression

Sending less traffic is one way to reduce bottlenecks and increase performance. Java System Web Proxy Server can send a compressed response if requested by a client, even if the response presented by the original server or cached response is not compressed, further reducing network traffic.

### Enhance security

Network security hinges on gateways that grant user access. Java System Web Proxy Server enhances network security by offering a control point for Internet traffic, screening for viruses, and logging transactions. Fine-grained controls limit document and site access based on individual users, groups, Internet protocol (IP) addresses, host names, and wildcard expressions.

## Sun Java System Web Proxy Server provides a secure gateway for content distribution and acts as a control point for Internet traffic, making communications it manages efficient and secure.

Fine-grained filtering capabilities include:

- Provides filtering based on requested URLs, content, and content types
- Supports third-party plug-ins with categorized lists of sites to be blocked
- Blocks outgoing headers to support privacy

Java System Web Proxy Server provides security and controlled user access through firewalls, and facilitates encrypted communications. Organizations can tunnel Secure Sockets Layer (SSL) based protocols or use the SOCKET5 (SOCKS) 5 Internet protocol, a standard that supports streaming protocols and other applications.

### Simplify management

Native support for the Lightweight Directory Access Protocol (LDAP) fosters easy access control based on a centralized enterprise credential store. Support for Sun's identity suite of servers provides further fine-grained control over access rights to trusted and untrusted intranet and extranet content.

In addition, support for the Proxy Automatic Configuration (PAC) features used in many Web browsers permits modifications to be made to the proxy infrastructure without modifying the client software on individual desktops, laptops, or mobile devices. Furthermore, clustered management capabilities let administrators configure and maintain multiple proxies with ease.

Java System Web Proxy Server provides a consistent, cross-platform, easy-to-use administration environment with HTML forms. Administrators can fine-tune configurations without major planning efforts or high risk implementations. Rollback capabilities enable administrators to go back to a previous stable configuration, if needed.

Support for the Simple Network Management Protocol (SNMP) provides standards-based remote server monitoring and management. In addition, Java System Web Proxy Server encrypts communication using the SSL protocol for protected remote administration.

Because Java System Web Proxy Server logs client transactions, administrators can audit user activity. Analysis tools also are provided to help summarize server statistics and facilitate system diagnosis and track usage patterns.

### Deploy as a reverse or forward proxy server

Typically, Web proxy servers are deployed in the network where bottlenecks often occur. Such choke points are often created by slow connections at the network gateways. As enterprises grow and network infrastructures evolve to support more users, managing bandwidth at these locations becomes paramount. To help this effort, Java System Web Proxy Server can be configured to handle to both reverse and forward proxy deployments.

### Reverse proxy deployment

Reverse proxy support enables Java System Web Proxy Server to act as a Web server stand-in. In this role, the software can serve as an intermediary for an unlimited number of clients connecting to one or more Web servers. It acts as a Web site accelerator by caching frequently requested content and reducing the load on application servers. In a reverse proxy configuration, Java System Web Proxy Server functions like a Web server from the client perspective. The proxy server is placed outside the enterprise firewall and acts as a content server to external clients (Figure 1). Multiple reverse proxy servers can be used to balance the load on Web servers experiencing exceptional demand.

When a site URL is accessed by an external client, the client is routed to the proxy server. Replicated content is delivered from the proxy cache to the external client. As a result, an additional layer of security is provided to Web infrastructures. Selected content can be accessed by external users, without exposing back-end Web servers that host original content or other elements of the private enterprise network to outside forces.

Key benefits of reverse proxy deployment include:

- Keep Web servers secure behind the enterprise firewall
- Use the Web server as a protected Web site and stage documents and sites for testing before external publication
- Publish selected content to the reverse proxy server cache for external access

### Forward proxy deployment

Forward proxy support enables Java System Web Proxy Server to mediate activity between internal enterprise users using a corporate gateway and an unlimited number of sites on the open Internet. Placing one or more proxy servers at the Internet gateway is typical, enabling the Java System Web Proxy Server to provide gateway services at the application level, as well as at the circuit level through the SOCKS protocol. With a forward proxy configuration, Internet access is enhanced and Web content content caching reduces response times and speeds the flow of information to enterprise users.

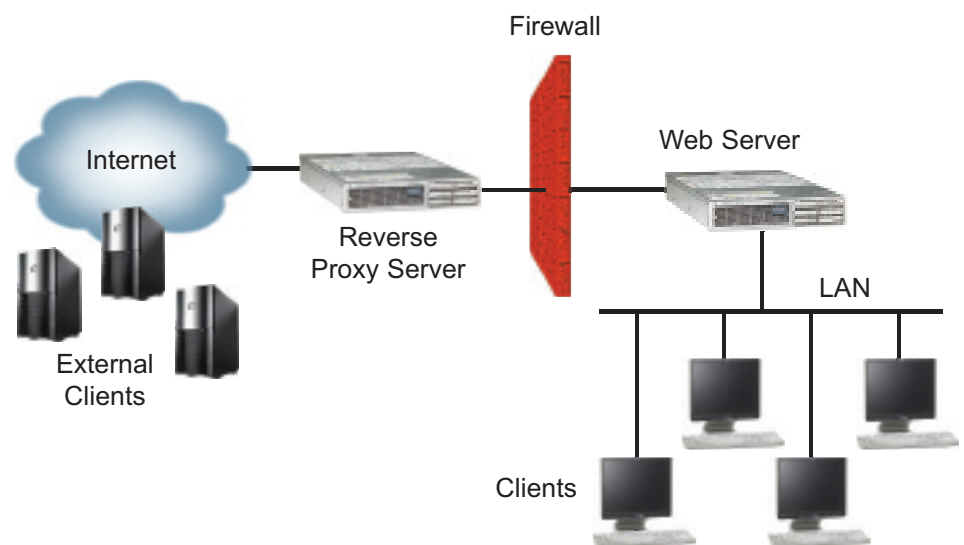


Figure 1. A reverse proxy server deployment, with the proxy server deployed at the Internet gateway, outside the enterprise firewall.

Many organizations are recognizing the value of deploying proxy servers throughout the intranet. Such deployments can take advantage of the proxy routing capabilities of Java System Web Proxy Server, and chain proxies together to create a hierarchical caching system that can better serve various entities within the enterprise (Figure 2).

For example, enterprises can deploy Java System Web Proxy Server systems at branch offices, remote locations, or on major subnetworks in order to reduce the traffic on the corporate backbone. Typically, remote sites are connected to the corporate network via a slow transmission link. By deploying multiple proxy servers, enterprises can take advantage of a quick mechanism for replicating content. Java System Web Server systems cache content locally and set up a hierarchy of servers for client access. This managed network of proxy servers is transparent to users. The result — increased network performance and improved company integration, without large capital and communications expense.

In many implementations, smaller local proxy servers can be situated near end user communities, with larger proxy servers residing near the firewall and external connections. While two levels of proxy servers is sufficient for many enterprise deployments, some businesses can benefit from additional levels, depending on the size of the organization and the location of common network bottlenecks.

### Heterogenous support

While Java System Web Proxy Server can take advantage of the unique capabilities of Sun servers, support for other hardware platforms and operating systems is provided. For example, Java System Web Proxy Server also is available on the Red Hat Enterprise Linux 2.1 and 3.0, Windows 2000 Server, and Windows 2000 Advanced Server, 2003 Enterprise Edition environments.

### Sun's commitment to high-performance network infrastructures

With 20 years of experience in developing industry-leading hardware, software, and storage technologies, Sun delivers solutions that make enterprise networks run fast.

#### Learn More

For more information on this solution, visit [sun.com/proxy](http://sun.com/proxy). For information on all that Sun offers for Web infrastructures, visit [sun.com/newheights](http://sun.com/newheights) or contact your local sales representative.

With innovative processor and server enhancements, and intelligent operating system and Java System Web Proxy Server software, Sun provides solutions that enterprises can use to create faster and safer access to content as well as a better Web viewing experience for users.

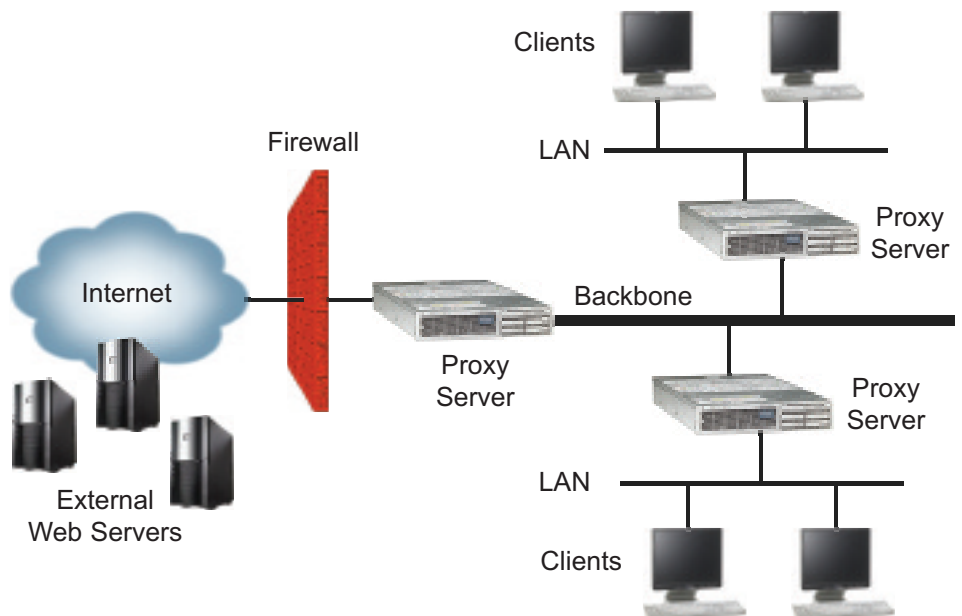


Figure 2. A forward proxy deployment, with the proxy server deployed at the Internet gateway and at a remote location.