

# Sun Java™ System Web Proxy Server

Distributing information efficiently for increased performance and lower costs.



## Key feature highlights

- Enables caching on demand and on command
- Supports proxy routing for hierarchical caching, including dynamic proxy routing for automatic content discovery via the Internet Cache Protocol (ICP)
- Distributes caching via proxy arrays for automatic load balancing and failover
- Provides access controls and filtering of URLs, content, content types, and outgoing headers
- Features advanced logging and reporting
- Provides generic protocol support for firewall traversal via SOCKSv5
- Supports LDAP for centralized authentication management

The Sun Java™ System Web Proxy Server (formerly SunONE Web Proxy Server) is a powerful system for caching and filtering Web content as well as boosting network performance. It distributes and manages information efficiently so that network traffic and user wait times are reduced.

The Java System Web Proxy Server helps organizations ensure that users can access network resources safely and productively. Through tight integration with the entire network infrastructure, cross-platform support, and centralized management capabilities, the Java System Web Proxy Server helps lower the cost of ownership over time.

### Boosts Network Performance

The Java System Web Proxy Server employs a highly efficient caching model that distributes data where users need it, thus reducing both requests to remote content servers and network traffic. With its proxy routing capabilities, organizations have the ability to deploy Java System Web Proxy Server systems at branch offices and other network bottlenecks and benefit from caching on their intranets.

Caching on demand intelligently caches documents based on user requests. Batch updates also enable caching on command, so administrators can download documents or sites on a scheduled basis. The Java System Web Proxy Server enhances the scalability and reliability of caching by supporting proxy arrays. This distributed caching mechanism enables multiple proxies to operate as a single logical cache for load balancing and failover. Through dynamic proxy routing, the Java System Web Proxy Server can query other caches for document availability.

### Enhances Security and Productivity

Networks are only as secure as their gateway. The Java System Web Proxy Server enhances network security by providing a control point for Internet traffic as well as by logging all transactions. It provides fine-grained controls to limit access to documents or sites based on individual users, groups, IP addresses, host names, or wildcard expressions. The Java System Web Proxy Server also provides filtering of objectionable URLs.

The Java System Web Proxy Server facilitates user access through the firewall. Organizations can tunnel protocols supported by the Web proxy or use SOCKSv5 to traverse the firewall for virtually any protocol or application. Reverse proxying enables the Java System Web Proxy Server to act as a Web server stand-in. In this role, it can accept encrypted traffic on behalf of a Web server that is protected behind a firewall.

The Java System Web Proxy Server provides a secure gateway for content distribution and acts as a control point for Internet traffic, making communications managed by the product efficient *and* secure.

### Simplifies Management

The Java System Web Proxy Server makes it easier for administrators to manage intelligent networks of proxy servers.

- Native Lightweight Directory Access Protocol (LDAP) support allows for centralized user name and password management via the Java System Directory Server (formerly Sun ONE Directory Server).
- Clustered management capabilities enable administrators to configure and maintain multiple proxies.
- The Proxy Automatic Configuration (PAC) feature of most Internet browsers permits modifications to the proxy infrastructure without touching client software on individual desktops.

The Java System Web Proxy Server also supports SNMP for monitoring server status.

### Scalable and Flexible Caching

- Provides efficient, transparent caching on demand of Web documents, automatically routing requests to other Java System Web Proxy Server systems and returning current documents from the cache
- Enables batch updates for caching on command to download documents or entire sites on a scheduled basis
- Refreshes data in the cache at specified intervals to ensure that the data is current and available for periods of heavy use

- Supports the Cache Array Routing Protocol, which uses a deterministic algorithm for dividing client requests among multiple proxies
- Allows proxy-chaining for building hierarchical caches that improve performance on internal networks
- Supports ICP for dynamic querying of neighboring caches to determine document availability
- Minimizes network traffic resulting from HTTP-based “push” technologies

### Fine-Grained Filtering

- Controls access to network resources by granting or denying access based on:
  - user name and password
  - named groups
  - IP DNS and host-based wildcard expressions
- Allows filtering based on requested URLs
- Supports third-party plug-ins with categorized lists of sites that may be blocked by the Java System Web Proxy Server
- Allows outgoing headers to be blocked to ensure privacy
- Enables and controls user access through firewalls with SOCKSv5, a standard that supports streaming protocols such as RealAudio
- Tunnels HTTPS, SNEWS, and other Secure Sockets Layer (SSL)-based protocols to facilitate encrypted communication through the firewall

- Logs all client transactions to enable auditing of user activity, and provides analysis tools for summarizing server statistics
- Serves as a reverse proxy — an intermediary for all clients connecting to a protected Web server (reverse proxying provides an additional barrier for Web servers and applications behind firewalls by accepting an SSL session from the client and creating a new SSL session with the server)

### Enterprise Management

- Supports LDAP-based user/group/password management for proxy authentication
- Provides clustered configuration and management of multiple proxy servers
- Makes the proxy configuration transparent to end users with the PAC feature of Netscape™ Communicator
- Provides a consistent, cross-platform, easy-to-use administration environment through HTML forms
- Encrypts communication — using SSL — for protected remote administration
- Supports the Simple Network Management Protocol (SNMP) for standards-based remote monitoring and management
- Enables administrators to fine-tune configurations without major planning efforts or high-risk implementations
- Offers rollback availability to the previous stable configuration

### Determining Where to Deploy the Servers

The most common place to deploy a proxy server is at a network bottleneck. Bottlenecks are often created by slow connections at network gateways. As your business grows and network traffic continues to increase, managing bandwidth at these locations is imperative. The Internet gateway and the branch office connection are two likely bottleneck locations, and are therefore prime candidates for a proxy server deployment.

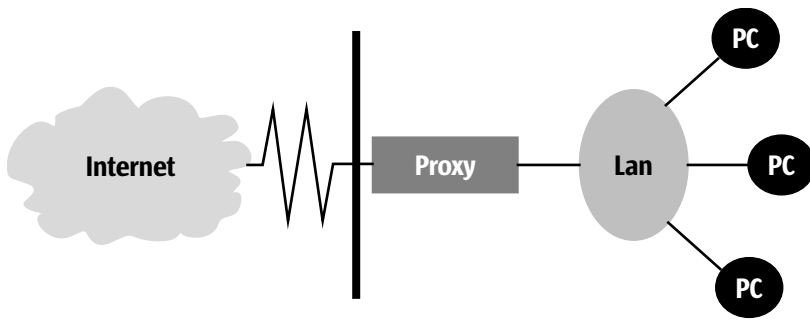


Figure 1: Forward proxy server deployed at the Internet gateway, inside the firewall.

*The Internet Gateway — Forward Proxy*

Placing one or more proxy servers at the Internet gateway is the most common deployment scenario for an enterprise. In this location, the Java System Web Proxy Server provides gateway services at the application level with a Web proxy as well as at the circuit level through SOCKS.

The benefit of this type of deployment is enhanced Internet access. Web content caching reduces response times, facilitates bandwidth conservation, and helps reduce overall communications expense. In addition, content filtering and access control enable you to manage the material on your intranet.

*The Branch Office — Forward Proxy*

Corporations are deploying proxy servers in increasing numbers on their intranets, both in remote locations and on major subnetworks. Proxy servers deployed at major subnetwork connections can drastically reduce the traffic on the corporate backbone.

At remote offices, which are often connected via slow links to the corporate network, proxy servers can deliver a quick mechanism for replicating content, providing better company integration, and increasing network performance — all of which can be achieved without large capital and communications expense. Outside the United States, proxy servers offer even more savings potential because of the great expense of communications bandwidth overseas.

Many organizations are seeing the value of deploying proxy servers throughout their intranet. Deployments that use multiple servers can take advantage of the proxy routing capabilities of the Java System Web Proxy Server. Proxy routing enables you to chain proxies together to create a hierarchical caching system that can better serve the various organizations within your enterprise.

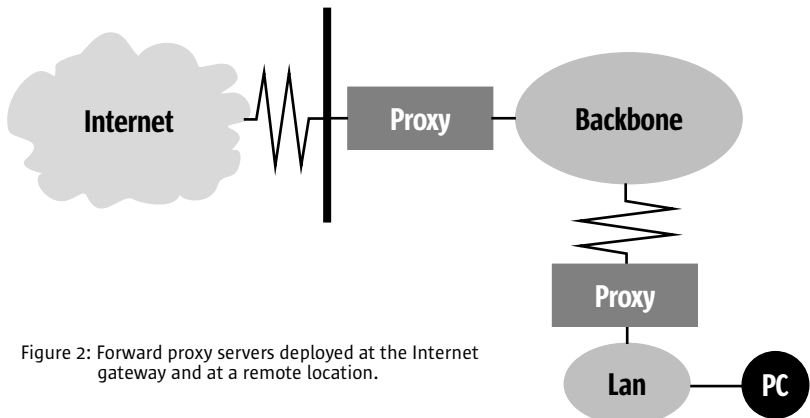


Figure 2: Forward proxy servers deployed at the Internet gateway and at a remote location.

# Sun Java™ System Web Proxy Server

Java System Web Proxy Server systems cache content locally, setting up a hierarchy of servers for client access. The result is a managed network of proxy servers that is completely transparent to the user. In a typical implementation, smaller local proxies might be situated near end-user communities, with larger proxies near the firewall and external connections. For most installations, two levels of hierarchy is optimum, but you may benefit from adding more levels (depending on the size of your organization and where the bottlenecks occur on your network).

### The Internet Gateway — Reverse Proxy

Reverse proxying is a special deployment case in which a proxy server is placed outside the firewall to represent a content server to external clients. This type of deployment allows you to expose selected content without exposing the Web servers that host it or other elements of your private network.

In reverse proxy mode, the proxy server functions more like a Web server with respect to the clients it services. Unlike internal clients, external clients are not reconfigured to access the proxy server. Instead, the site URL routes the client to the proxy as if it were a Web server. Replicated content is delivered from the proxy cache to the external client without exposing the origin server or the private network residing safely behind the firewall. Multiple reverse proxy servers can be used to balance the load on an over-taxed Web server in much the same way.

Reverse proxy servers are commonly used for secure Web publishing. Having a proxy server accepting and filling outside requests allows you to keep your Web server behind the firewall. You can then use the Web server as a protected Web site, staging documents for testing before they are published externally. When you are ready, you can publish selected content to the reverse proxy server's cache.

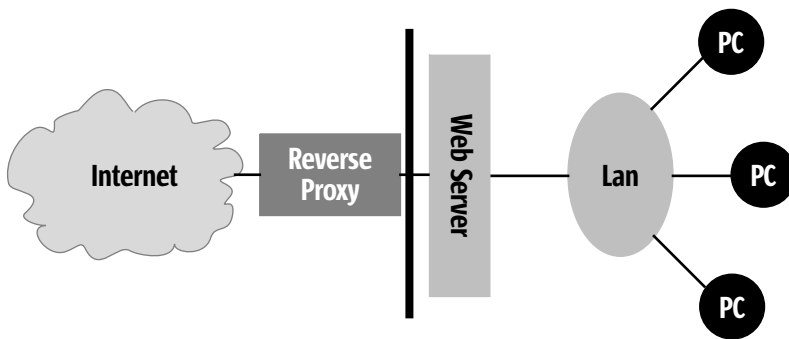


Figure 3: Reverse proxy server deployed at the Internet gateway, outside the firewall

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Since its inception in 1982, customers have continually turned to Sun to help them grow their business, lower their costs, and gain competitive advantage. Sun is a leading provider of industrial-strength hardware, software, services, and technologies that make the Net work.

### Platforms and Requirements

#### Operating Systems and Platforms

Sun Solaris™ 9, 8, and 2.6 Operating Systems (SPARC® Platform Edition) and Trusted Solaris™ 8 Operating System (SPARC Platform Edition)

Hewlett-Packard HP-UX 11.0

IBM AIX 4.3.3

Windows NT 4 Service Pack 6

Windows 2000 Server Service Pack 1

Windows 2000 Advanced Server

#### System Requirements

Memory: 32 MB minimum; 64 MB recommended

Disk Space: 20 MB minimum for installations; 200 MB recommended for cache