

Very Large Enterprise Network Deployment, 25,000+ Users

Websense software can be deployed in different configurations, depending on the size and characteristics of the network, and the organization's filtering needs. Filtering components can be installed on a single machine, or distributed across multiple machines. See the Websense Web Security and Websense Web Filter *Deployment Guide* for more information about the components.

This supplement provides system and deployment recommendations for a very large enterprise network (25,000+ users). On average, very large enterprise networks have greater than 1,250 requests per second (RPS).

Additional supplements discuss networks of other sizes:

- ◆ Small (1 – 500 users)
- ◆ Medium (500 – 2,500 users)
- ◆ Large (2,500 – 10,000 users)
- ◆ Enterprise (10,000 – 25,000 users)

These network ranges are intended as general guidelines, given that the optimum deployment depends on the operating systems used, the size of the network, and the volume of Internet requests.

Because of the size and distribution of the network, multiple instances of certain components may be needed.

- ◆ In environments with a large number of filtered machines, it may be appropriate to install multiple instances of Filtering Service for load balancing.
Some load balancing configurations permit the same user to be filtered by different Filtering Service instances, depending on the current load.
- ◆ Multiple Network Agent instances may be needed to monitor Internet requests from all the machines in the network.
- ◆ You can also install multiple instances of other components, such as the transparent identification agents.

The system recommendations described here maximize Websense component performance. You can also improve performance by using more powerful machines for resource intensive components, such as reporting.

Some components may be able to run with smaller processors or less RAM, depending on the number of users, volume of Internet requests (RPS), and network topology.



Note

Network Agent can be deployed with other filtering components or on a separate machine for improved performance. Network Agent should **not** be deployed on the same machine as response-critical components or a firewall. See *Deploying Network Agent* in the Websense Web Security and Websense Web Filter *Deployment Guide*.

The recommendations in this supplement are general guidelines. Contact Websense Sales Engineering for assistance in deploying Websense software in your very large enterprise network.

See the *Deploying in a Distributed Environment* supplement for more information about deploying and optimizing Websense software in a distributed, enterprise environment.

Very large enterprise network overview

Websense components should be distributed over 3 dedicated machines. Processor and RAM requirements for each machine match the requirements for a large network deployment. Unlike smaller networks, Network Agent and Filtering Service are installed on separate machines.



Note

Websense, Inc., recommends using dedicated machines for some Websense components. Only the Websense components and required supporting applications are installed on the machine.

The tables in this section list possible configurations.

Windows deployment recommendations

In a very large enterprise Windows network, 3 dedicated machines are recommended to run Websense software.

- ◆ [Table 1](#) provides deployment recommendations.
- ◆ [Figure 1, page 6](#), shows a Windows deployment in a large enterprise network.

See *System Recommendations* in the Websense Web Security and Websense Web Filter *Deployment Guide* for a complete list of supported operating systems and other component requirements.

Table 1 Windows deployment (very large enterprise network)

Machine	Software	Hardware Recommendations
Dedicated Machine #1	<ul style="list-style-type: none"> • Policy Server • Policy Broker • Filtering Service <ul style="list-style-type: none"> – Websense Master Database • Transparent ID Agent:¹ <ul style="list-style-type: none"> – DC Agent – eDirectory Agent – Logon Agent – RADIUS Agent • User Service • Usage Monitor 	<p>Windows</p> <ul style="list-style-type: none"> • Quad-Core Intel Xeon processor, 3.20 GHz or greater • 4 GB RAM • 10 GB of free disk space Free space must comprise at least 20% of the total disk space.

Table 1 Windows deployment (very large enterprise network)

Machine	Software	Hardware Recommendations
Dedicated Machine #2	<ul style="list-style-type: none"> • Websense Manager <ul style="list-style-type: none"> – Requires Internet Explorer 7 or Firefox 2 or 3 and Adobe Flash Player 8 or later • Log Server 	<p>Windows</p> <ul style="list-style-type: none"> • Quad-Core Intel Xeon processor, 3.20 GHz or greater • 8 GB RAM • 100 GB of free disk space utilizing a disk array
Dedicated Machines (<i>additional</i>)	<ul style="list-style-type: none"> • Network Agent² 	<p>An additional machine or machines running Network Agent may be needed, depending on the volume of Internet requests.</p> <p>Windows</p> <ul style="list-style-type: none"> • Quad-Core Intel Xeon processor, 3.20 GHz or greater • 4 GB RAM
Database Server ³	<ul style="list-style-type: none"> • Log Database • Microsoft SQL Server 2005/2000 	<p>Windows</p> <ul style="list-style-type: none"> • Quad-Core Intel Xeon processor, 3.20 GHz or greater • 16 GB RAM⁴ • 500 GB of free disk space utilizing a disk array⁵ • High-speed disk access
<p>Filtering Service, the transparent identification agents, and Network Agent can be installed on multiple machines to improve processing. These additional installations do not require dedicated machines.</p>		
Additional Dedicated Machines	<ul style="list-style-type: none"> • Filtering Service <ul style="list-style-type: none"> – Websense Master Database 	<p>Additional machines running Filtering Service are needed. The number of machines needed depends on the volume of internet requests.</p> <p>Windows</p> <ul style="list-style-type: none"> • Quad-Core Intel Xeon processor, 3.20 GHz or greater • 4 GB RAM • 10 GB of free disk space Free space must comprise at least 20% of the total disk space.

Table 1 Windows deployment (very large enterprise network)

Machine	Software	Hardware Recommendations
Additional Machine (<i>optional</i>)	<ul style="list-style-type: none"> • Network Agent 	Windows <ul style="list-style-type: none"> • Quad-Core Intel Xeon processor, 3.20 GHz or greater • 4 GB RAM
Additional Machine (<i>optional</i>)	<ul style="list-style-type: none"> • Transparent ID Agent¹ <ul style="list-style-type: none"> – DC Agent – eDirectory Agent – Logon Agent – RADIUS Agent 	Windows <ul style="list-style-type: none"> • Quad-Core Intel Xeon processor, 3.20 GHz or greater • 4 GB RAM

1. Transparent identification agents can be deployed alone or in certain combinations. For more information, see *General Deployment Recommendations* in the *Websense Web Security and Websense Web Filter Deployment Guide*.
2. Each Network Agent instance should be installed on a separate machine in the network segments it is configured to monitor. For more information, see *Deploying Network Agent* in the *Websense Web Security and Websense Web Filter Deployment Guide*.

If you install Network Agent on a machine also running Filtering Service, increase the RAM to 4 GB, with a Quad-Core Intel Xeon processor.
3. The Log Database can also be created on an existing database server.
4. The amount of required RAM depends on the total number of requests being stored and the number of requests per second being processed. To optimize RAM usage, install the Log Database on a Windows 2003 Server Enterprise Edition machine, and use the Enterprise Edition of Microsoft SQL Server.
5. The Log Database needs a disk array, running RAID level 10, to increase I/O reliability and performance.

Figure 1 shows a possible distribution of the Websense components in a very large Windows enterprise network. This drawing is not a required configuration; the components may be deployed differently or on multiple segments.

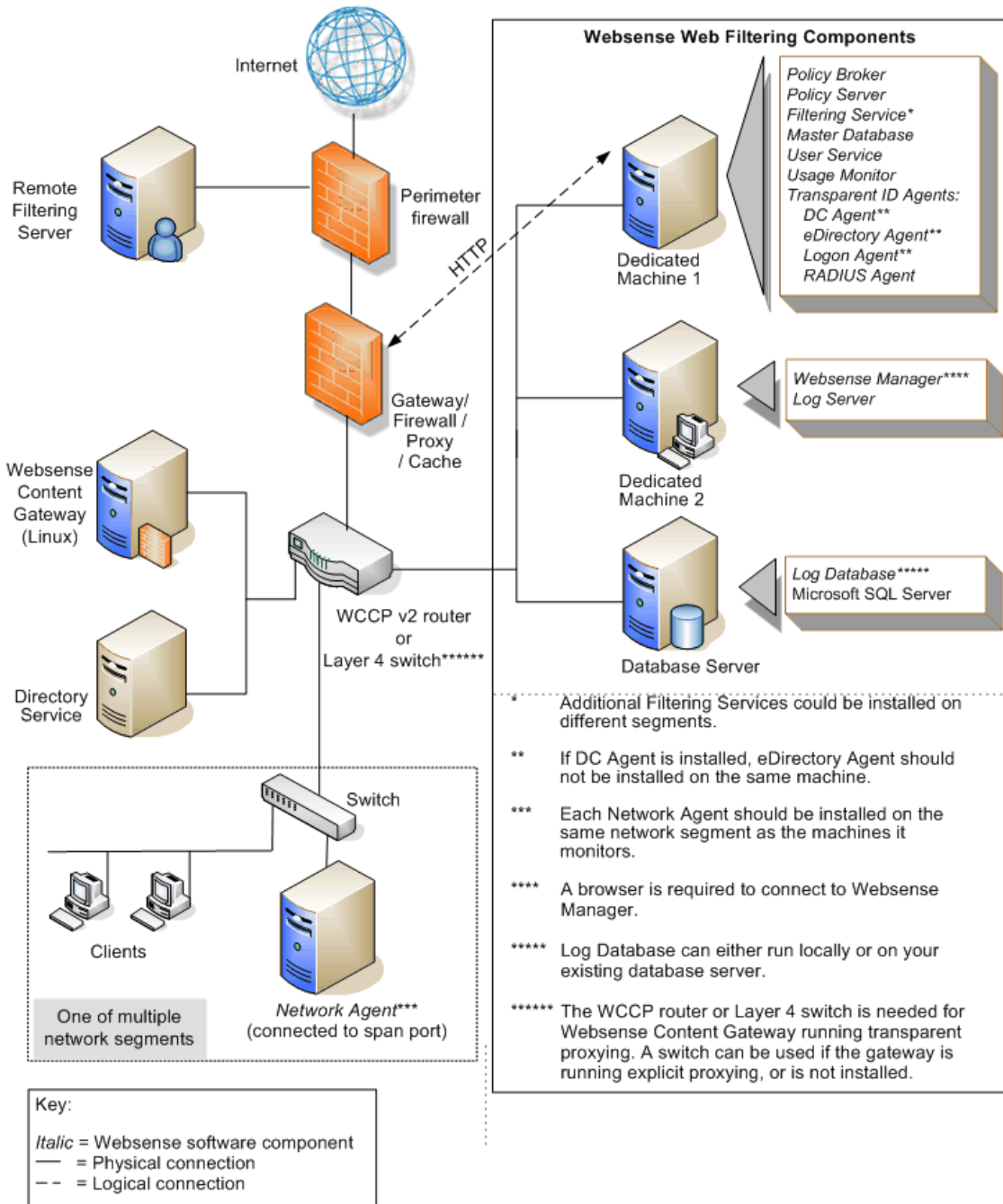


Figure 1 Overview of Windows deployment (very large enterprise network)

Linux deployment recommendations

Most Websense components can run on either Windows or Linux machines. At least 1 Windows machine is required for full access to all reporting features in Websense Manager.

- ◆ [Table 2](#) provides deployment recommendations.
- ◆ [Figure 2, page 10](#), shows a Linux deployment for a large enterprise network.

See *System Recommendations* in the Websense Web Security and Websense Web Filter *Deployment Guide* for a complete list of supported operating systems and other component requirements.

Table 2 Linux deployment (very large enterprise network)

Machine	Software	Hardware Recommendations
Dedicated Machine #1	<ul style="list-style-type: none"> ◆ Policy Broker ◆ Policy Server ◆ Filtering Service <ul style="list-style-type: none"> – Websense Master Database ◆ Transparent ID Agent:¹ <ul style="list-style-type: none"> – eDirectory Agent – Logon Agent – RADIUS Agent¹ ◆ User Service ◆ Usage Monitor 	<p>Linux</p> <ul style="list-style-type: none"> ◆ Quad-Core Intel Xeon processor, 3.20 GHz or greater ◆ 4 GB RAM ◆ 10 GB of free disk space Free space must comprise at least 20% of the total disk space.
Dedicated Machine #2 (<i>Windows option</i>)	<ul style="list-style-type: none"> ◆ Websense Manager <ul style="list-style-type: none"> – Requires Internet Explorer 7 or Firefox 2 or 3 and Adobe Flash Player 8 or later ◆ Log Server ◆ Log Database² 	<p>Windows</p> <ul style="list-style-type: none"> ◆ Quad-Core Intel Xeon processor, 2.5 GHz or greater ◆ 4 GB RAM or more ◆ 200 GB of free disk space utilizing a disk array³ ◆ High-speed disk access
Dedicated Machine #2 ⁴ (<i>Linux option</i>)	<ul style="list-style-type: none"> ◆ Websense Explorer for Linux <ul style="list-style-type: none"> – Requires Apache Web server ◆ Log Database² ◆ Log Server for Linux 	<p>Linux</p> <ul style="list-style-type: none"> ◆ Quad-Core Intel Xeon processor, 2.5 GHz or greater ◆ 4 GB RAM or more ◆ 200 GB of free disk space utilizing a disk array³ ◆ High-speed disk access

Table 2 Linux deployment (very large enterprise network)

Machine	Software	Hardware Recommendations
Dedicated Machine #3	<ul style="list-style-type: none"> • Log Database • Microsoft SQL Server 2005/2000 (Windows) or MySQL 5.0 (Linux) 	<p>Windows</p> <ul style="list-style-type: none"> • Quad-Core Intel Xeon processor, 3.20 GHz or greater • 8 – 16 GB RAM⁵ • 500 GB of free disk space utilizing a disk array.³ • High-speed disk access
Dedicated Machines (<i>additional</i>)	<ul style="list-style-type: none"> • Network Agent⁶ 	<p>Linux or Windows</p> <ul style="list-style-type: none"> • Quad-Core Intel Xeon processor, 3.20 GHz or greater • 4 GB RAM
<p>Filtering Service, the transparent identification agents, and Network Agent can be installed on multiple machines to improve processing. These additional installations do not require dedicated machines.</p>		
Additional Dedicated Machines	<ul style="list-style-type: none"> • Filtering Service <ul style="list-style-type: none"> – Websense Master Database 	<p>Additional machines running Filtering Service are needed. The number of machines depends on the volume of internet requests.</p> <p>Linux or Windows</p> <ul style="list-style-type: none"> • Quad-Core Intel Xeon processor, 3.20 GHz or greater • 4 GB RAM • 10 GB of free disk space Free space must comprise at least 20% of the total disk space.
Additional Machine (<i>optional</i>)	<ul style="list-style-type: none"> • Transparent ID Agent¹ <ul style="list-style-type: none"> – DC Agent (Windows only) – eDirectory Agent – Logon Agent – RADIUS Agent 	<p>Linux or Windows</p> <ul style="list-style-type: none"> • Quad-Core Intel Xeon processor, 3.20 GHz or greater • 4 GB RAM

1. Transparent identification agents can be deployed alone or in certain combinations. DC Agent is deployed on a separate Windows machine only if transparent identification is needed for Windows clients via a domain controller. For more information, see *General Deployment Recommendations* in the Websense Web Security and Websense Web Filter *Deployment Guide*.

2. The Log Database can also be created on an existing database server.

3. The Log Database needs a disk array, running RAID level 10, to increase I/O reliability and performance.
4. Linux-based reporting is available using Websense Explorer for Linux. This component requires Log Server for Linux and a MySQL database (a licensed install of v4.0x or v4.1). The Linux and Windows reporting components are not cross-platform compatible.
5. The amount of required RAM depends on the total number of requests being stored and the number of requests per second being processed. To optimize RAM usage, install the Log Database on a Windows 2003 Server Enterprise Edition machine, and use the Enterprise Edition of Microsoft SQL Server.
6. Network Agent can run on either a Linux machine or a Windows machine (but not the machine running the reporting components). Each Network Agent instance should be installed on a separate machine in the network segments it is configured to monitor. For more information, see *Deploying Network Agent* in the Websense Web Security and Websense Web Filter *Deployment Guide*.

If you install Network Agent on a machine also running Filtering Service, increase the RAM to 4 GB, with a Quad-Core Intel Xeon processor.

Figure 2 shows a possible distribution of the Websense components in a very large Linux enterprise network. This drawing is not a required configuration; the components may be deployed differently or on multiple segments.

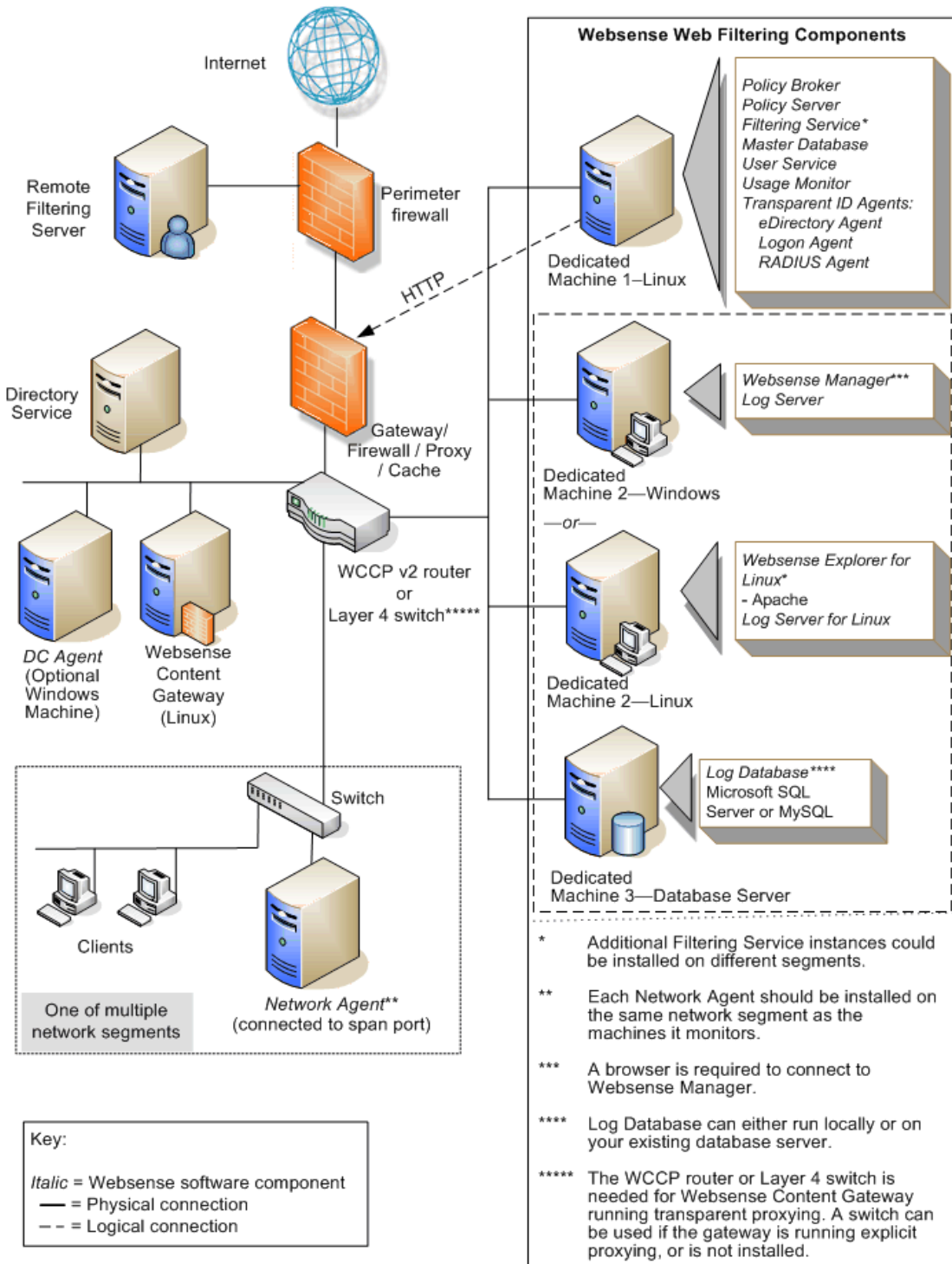


Figure 2 Overview of Linux deployment (very large enterprise network)