

# ConnectControl

## PRODUCT FEATURES:

- Load balance incoming traffic among multiple servers using flexible, pre-defined algorithms
- Scale server infrastructures to meeting increasing traffic demands
- Maintain consistent HTTP sessions with intelligent traffic redirection
- Support more than 150 Internet services and applications

## PRODUCT BENEFITS:

- Improve server response times for network users
- Leverage existing hardware investments to enhance server infrastructures
- Optimize connectivity with geographically dispersed network resources
- Integrate traffic load balancing with enterprise-wide security policies



Intelligent Security

## YOUR CHALLENGE

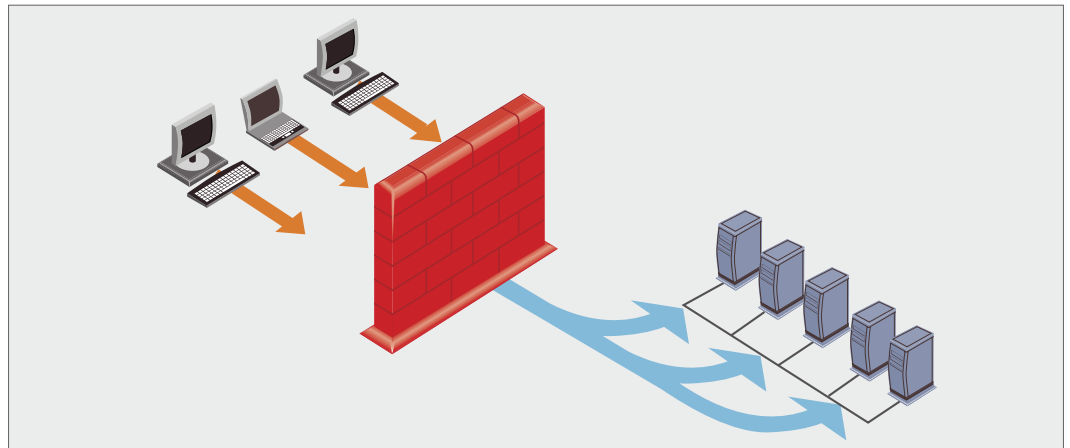
Increasing dependence on the Internet to deliver important information resources requires server infrastructures that can reliably support a burgeoning volume of traffic and an ever-increasing number of client connections.

For many network environments, reliance on a single server results in poor response times, or even connection timeouts. Unreliable connectivity with potential or existing customers can mean decreased revenues and lost business opportunities.

## OUR SOLUTION

Check Point FireWall-1® includes the optional ConnectControl™ module, which incorporates load balancing functionality to ensure the highest degree of network connectivity and optimal server response times. With ConnectControl, a single server providing Web, or any other service, can be replaced with a logical pool of servers sharing a common IP address. Connection requests are balanced among multiple servers.

Network users experience noticeably improved response times and are unaware of any ConnectControl intervention. At the same time, corporations are relieved of the need to continually upgrade to more expensive servers in order to meet the increasing demand for service. Instead, existing hardware can be fully utilized to deliver a completely scalable traffic management solution.



*Server Load Balancing: ConnectControl balances incoming connection requests among servers in a logical pool based on a user-selected load balancing algorithm*

## FLEXIBLE SERVER LOAD BALANCING

ConnectControl supports more than 150 pre-defined applications and an unlimited number of gateway interfaces. Each connection request is directed to a specific server based on one of ConnectControl's five pre-defined load balancing algorithms.

## Server Load

The server load algorithm prevents any server from handling a disproportionately high volume of traffic. Each incoming connection request is directed to the server experiencing the lightest load.



A load measuring agent is installed on each server and automatically reports the current system load to the ConnectControl module. This system information is used to direct incoming connections to the server with the lightest load. Server load is measured at user-defined intervals for maximum flexibility. There is no additional latency or system overhead introduced by the ConnectControl load measuring agent.

#### Domain Name

Because all users do not typically reside in a single Internet domain, ConnectControl allows organizations to disperse their servers throughout their enterprise network and utilize load balancing to optimize response times. This algorithm automatically directs connection requests to the closest server based on domain name.

#### Round Trip Delay

The round trip delay algorithm directs connection requests to the server with the shortest round trip delay. PING commands are used to determine the round trip delay between each server and ConnectControl. The algorithm ensures that incoming requests are handled by the server with the fastest response time.

#### Round Robin

The round robin algorithm assumes that all servers are equally capable of servicing connection requests regardless of location or server loading. Requests are directed to servers in sequential order (i.e. round robin fashion). ConnectControl continuously checks the availability of each server. If a server fails, or is unreachable, ConnectControl will cease directing connections to that server until it is available.

#### Random

When all other network variables are deemed equal ConnectControl will direct connection requests to servers on a random basis.

#### MAINTAINING HTTP CLIENT/SERVER SESSIONS

ConnectControl provides a redirection mechanism ensuring that all connections comprising an HTTP session are directed to a single server. This is vital for many Web applications, such as those using HTTP-based forms, which require that a single server process all user data.

The HTTP redirection mechanism works in conjunction with ConnectControl's load balancing algorithms. The initial HTTP connection is directed to the proper Web server based on the chosen algorithm. ConnectControl then notifies the client that subsequent connections should be directed to the IP address of the selected server rather than the IP address of the logical server pool. The remainder of the session is conducted without ConnectControl intervention. All operations are transparent to end-users.

The redirection mechanism maintains server connectivity to efficiently balance incoming Web requests without service interruption or loss of information.

ConnectControl addresses the need to deliver optimal server response times using existing hardware. Organizations can provide enhanced network connectivity while maintaining the integrity of their enterprise security policy.

#### SYSTEM REQUIREMENTS

ConnectControl is an optional Check Point VPN-1 module. System specifications are identical to those of VPN-1.

