



## Port Spanning in Network Switches for Websense Express

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Websense Express must be able to see all the Internet traffic it is expected to filter. In a switched network environment, that requires the use of *span ports*. By default, each port on a network switch sees only the traffic designated for that port. To share this data with other processes in the network, the switch must be configured to *span* or *mirror* certain ports. Port spanning or mirroring takes data entering the switch from one or all ports and duplicates that data on a single port designated as a span or mirror port. This feature allows you to monitor an entire network segment.

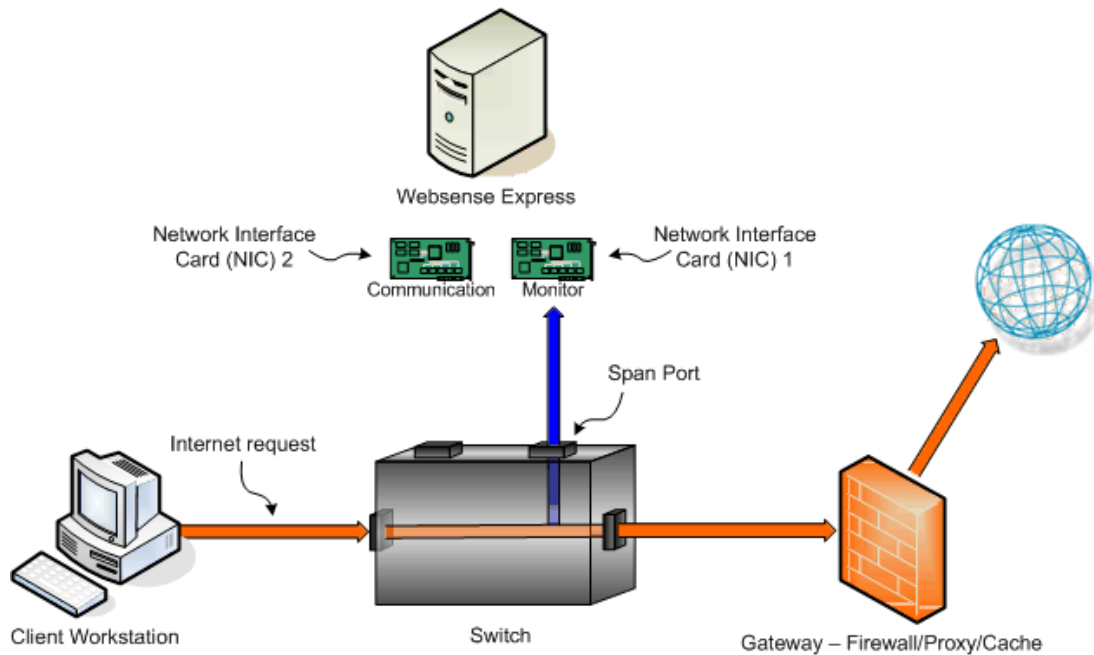
Websense Express requires two-way communication to manage Internet traffic. Websense Express must be able to monitor Internet requests and issue block pages to requesting workstations according to the filtering policy. Websense Express can be configured to use a single network interface card (NIC) to accomplish this, but the switch must support the flow of bi-directional data through the span port. This allows the single NIC to monitor requests and issue block pages through the same span port. If the switch does not support bi-directional port spanning, then Websense Express must be configured to use dual NICs, one for monitoring Internet traffic through the span port and the other NIC for sending block pages through a normal port.

### Example

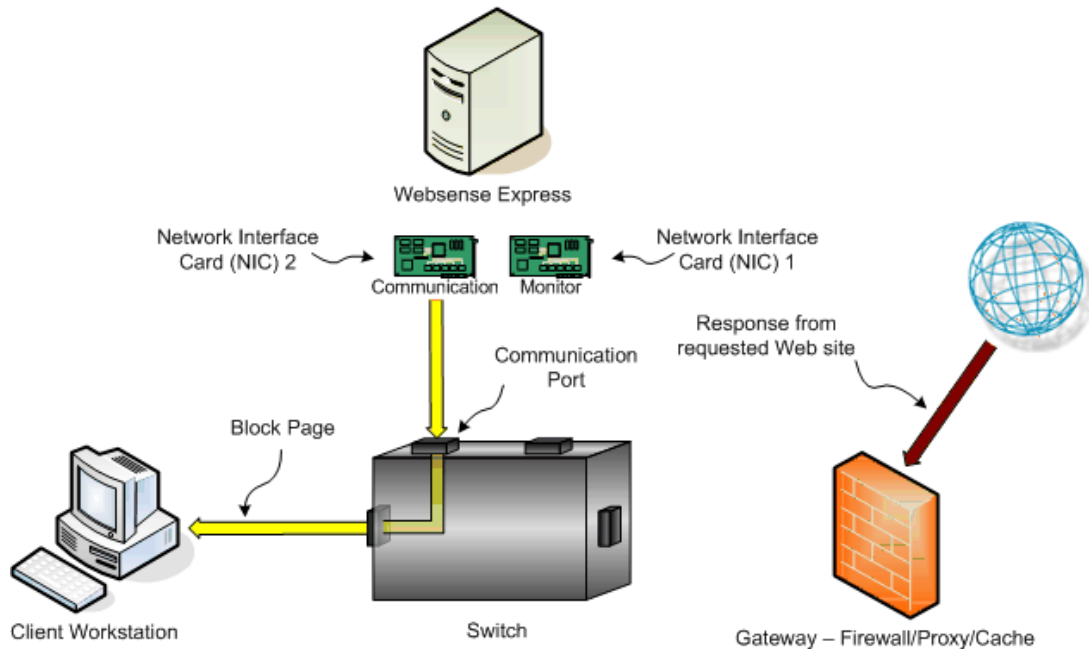
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The following example shows a Websense Express machine communicating through a switch that does not support bi-directional port spanning.

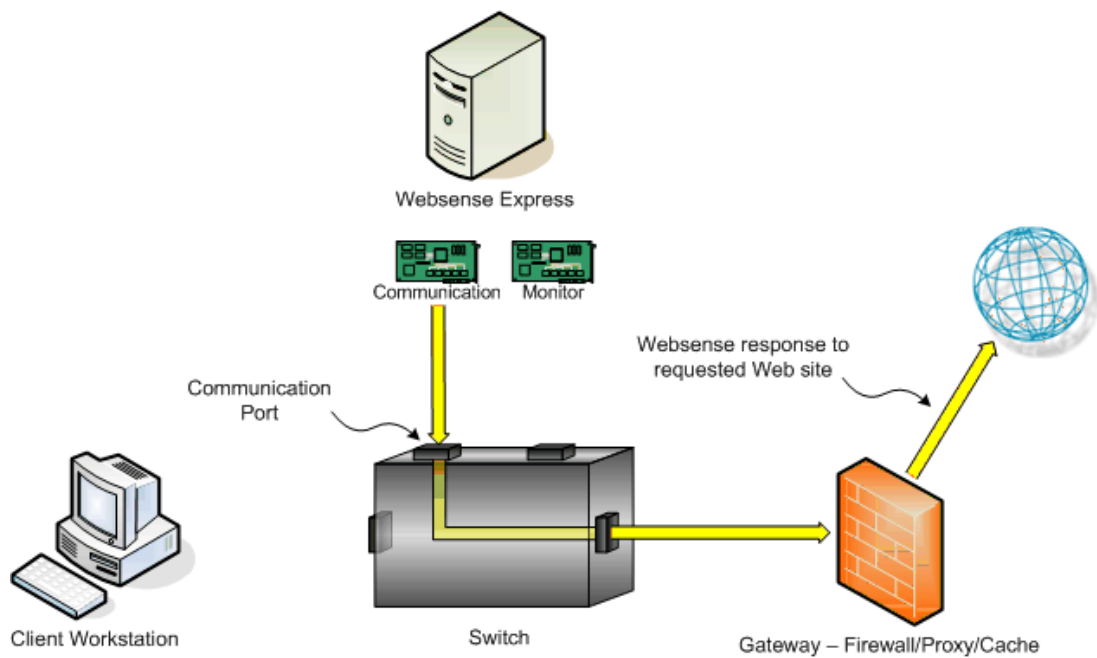
When a client makes an Internet request in a switched environment, a data packet passes through the switch to the network *gateway*, which may be a firewall, proxy server, or caching appliance. When port spanning is configured, this packet is also sent through the span port to the monitoring NIC (1) of the Websense Express machine. Websense Express analyzes the packet and determines how to handle the request.



If Websense Express determines that the requested site must be blocked for that client, a block page is sent to the client from the communications NIC (2) through a normal port in the switch. For blocking to occur, the block page must reach the client machine before the requested Web site is returned from the remote Web server.



Websense Express then sends a reply through the communication port in the switch to the remote Web server, requesting that no more data be sent.



## Terminology

Following are other terms you may see associated with port spanning:

- ◆ Port mirroring
- ◆ SPAN port—Cisco switches
- ◆ Roving Analysis Port (RAP) —3Com switches

