Multiple WAN

Document Scope

This feature module describes the Multiple WAN feature. This document also includes a description of the new user-configurable data and corresponding GUI for how to use them with Multiple WAN.

This document contains the following sections:

Feature Overview

This section provides an introduction to the Multiple WAN (mwan) feature. This section contains the following subsections:

Benefits

The Multiple WAN Feature allows the administrator to configure more than four WANs in the Network Interfaces section for routing. It also supports up to four WANs for WAN Failover and Load Balancing (LB). All four WANs can be probed using the SNWL Global Responder host.

Platforms

Multiple WAN is a feature for SonicOS 5.5 Enhanced.

Using Multiple WAN

This section contains the following subsections:

WAN Failover and LB

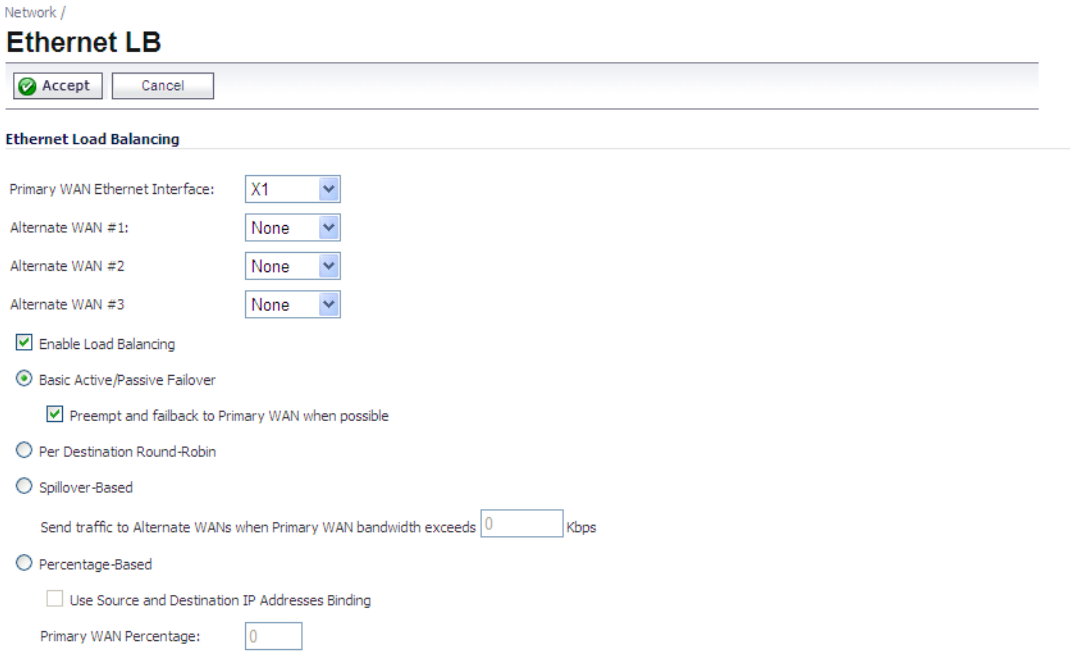
This section contains the following subsections:

For the purpose of WAN Failover & LB, the mwan supports up to four WAN members:

- Primary WAN Ethernet Interface
- Alternate WAN #1
- Alternate WAN #2
- Alternate WAN #3

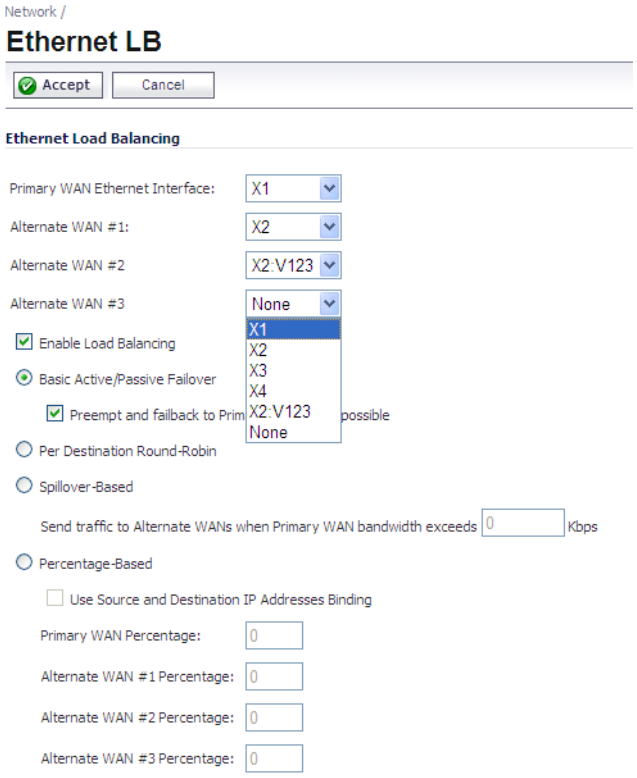
The **Primary WAN Ethernet Interface** has the same meaning as the previous firmware's concept of "Primary WAN." It is the highest ranked WAN interface in the WLB group. The **Alternate WAN #1** corresponds to "Secondary WAN," it has a lower rank than the Primary WAN but has a higher rank than the next two alternates. The others, **Alternate WAN #2** and **Alternate WAN #3**, are new, with Alternate WAN #3 being the lowest ranked among the four WAN members of the WLB group.

By default, the Primary WAN is set to "X1," or some interface internally designated by the firmware, while the Alternate WANs would be set to "None."



Traffic Flow Distribution Methods

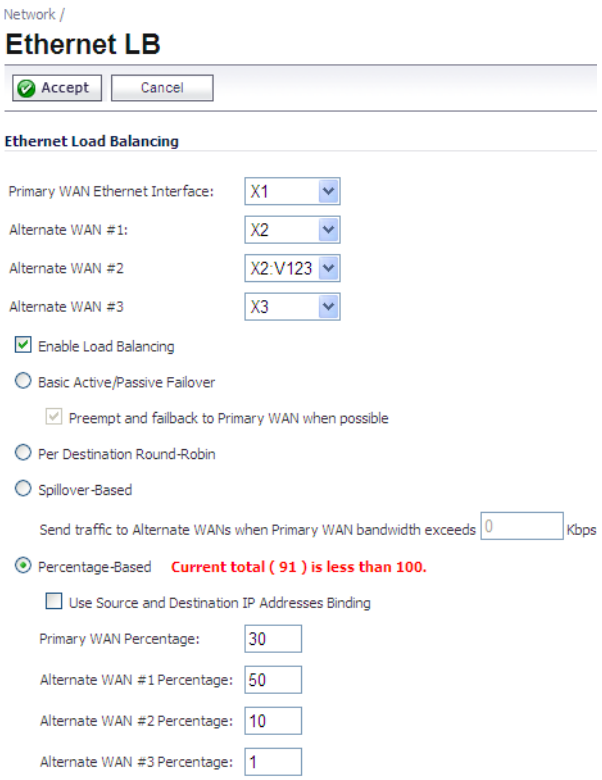
Because the WLB group can now have up to four members, the traffic distribution methods have been slightly modified from the previous version.



The configurable fields for traffic flow distribution include the following:

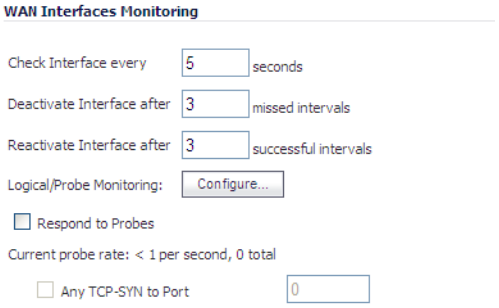
- **Basic Active/Passive Failover**—The four WAN interfaces use 'rank' to determine the order of preemption when the **Preempt** checkbox has been enabled. Only a higher-ranked interface can preempt an Active WAN interface.
- **Round Robin**—This option now allows the user to re-order the WAN interfaces for Round Robin selection. The order is as follows: Primary WAN, Alternate WAN #1, Alternate WAN #2, and Alternate WAN #3; the Round Robin will then repeat back to the Primary WAN and continue the order.
- **Spillover**—The bandwidth threshold applies to the Primary WAN. Once the threshold is exceeded, new traffic flows are allocated to the Alternates in a Round Robin manner. Once the Primary WAN bandwidth goes below the configured threshold, Round Robin stops, and outbound new flows will again be sent out only through the Primary WAN. Note that existing flows will remain associated with the Alternates (since they are already cached) until they timeout normally.

- **Ratio**—There are now four fields so that percentages can be set for each WAN in the WLB group. To avoid problems associated with configuration errors, please ensure that the percentage correctly corresponds to the WAN interface it indicates.



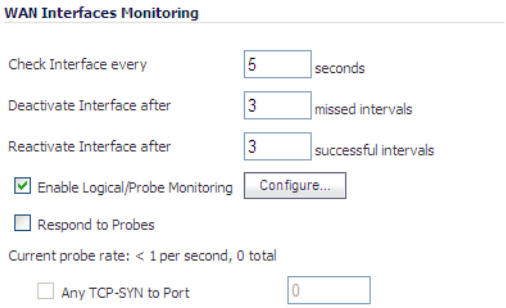
WLB Logical/Probe Monitoring

When Logical probing is enabled, test packets can be set to remote probe targets to verify WAN path availability. A new option has been provided to allow probing through the additional WAN interfaces: Alternate WAN #2 and Alternate WAN #3.



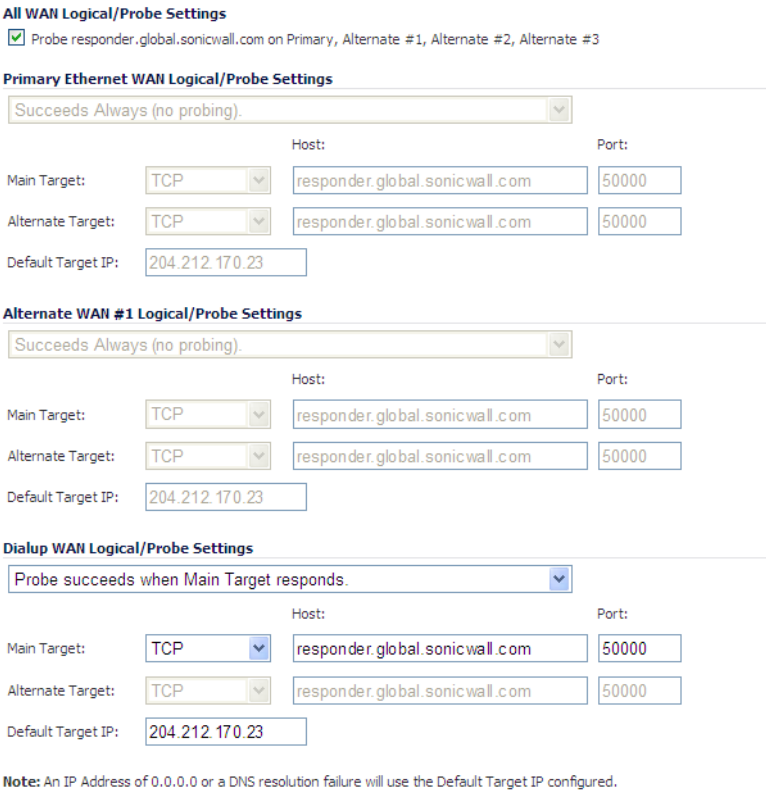
Note VLANs for alternate WANs do not support QoS or VPN termination.

The new option is called **Probe responder.global.sonicwall.com on Primary, Alternate#1, Alternate #2, Alternate #3**. When enabled, this sends TCP probe packets to the global SNWL host that responds to SNWL TCP packets, responder.global.sonicwall.com, using a target probe destination address of 204.212.170.23:50000. If disabled, only a physical link check is performed on Alternate WAN #2 and Alternate WAN #3.



The new option is a checkbox that is disabled by default. Once selected, the rest of the probe configuration will automatically enable built-in settings. The same probe will be applied to all four WAN Ethernet interfaces.

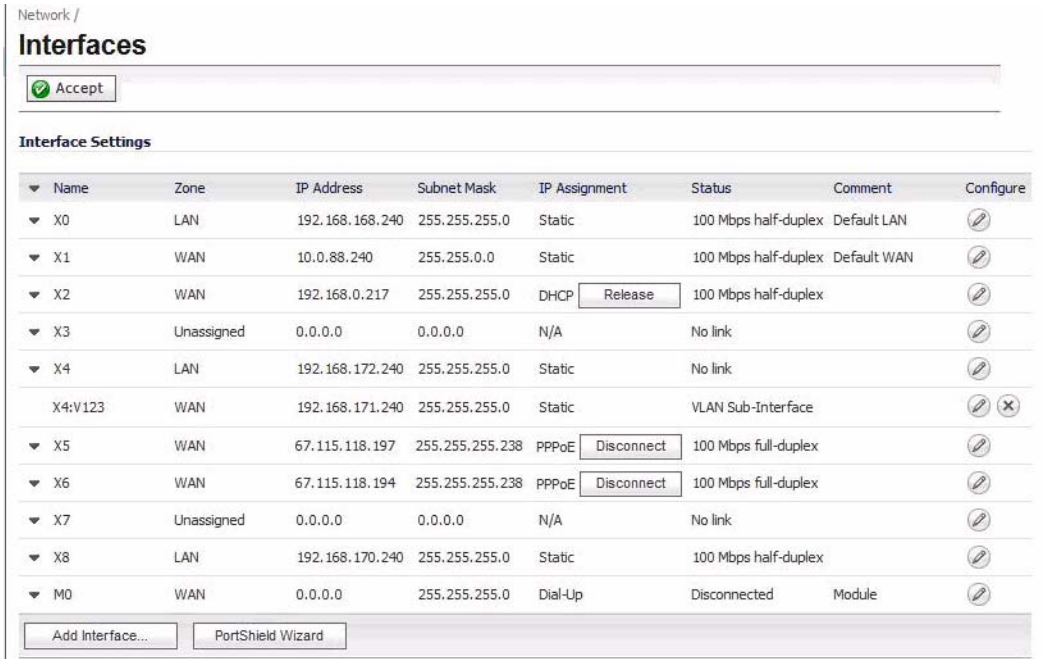
For devices with a Dial-up WAN interface, the factory default built-in settings for probing is similar to what this new option does for the four WAN Ethernet interfaces. However, even with this checkbox enabled, the Dial-up WAN interface probe settings can be modified separately if desired. This checkbox does not affect the Dial-up WAN interface settings.



Note If probing the Alternate WAN #2 and Alternate WAN #3 is not desired, the checkbox should not be selected.

Network Interfaces

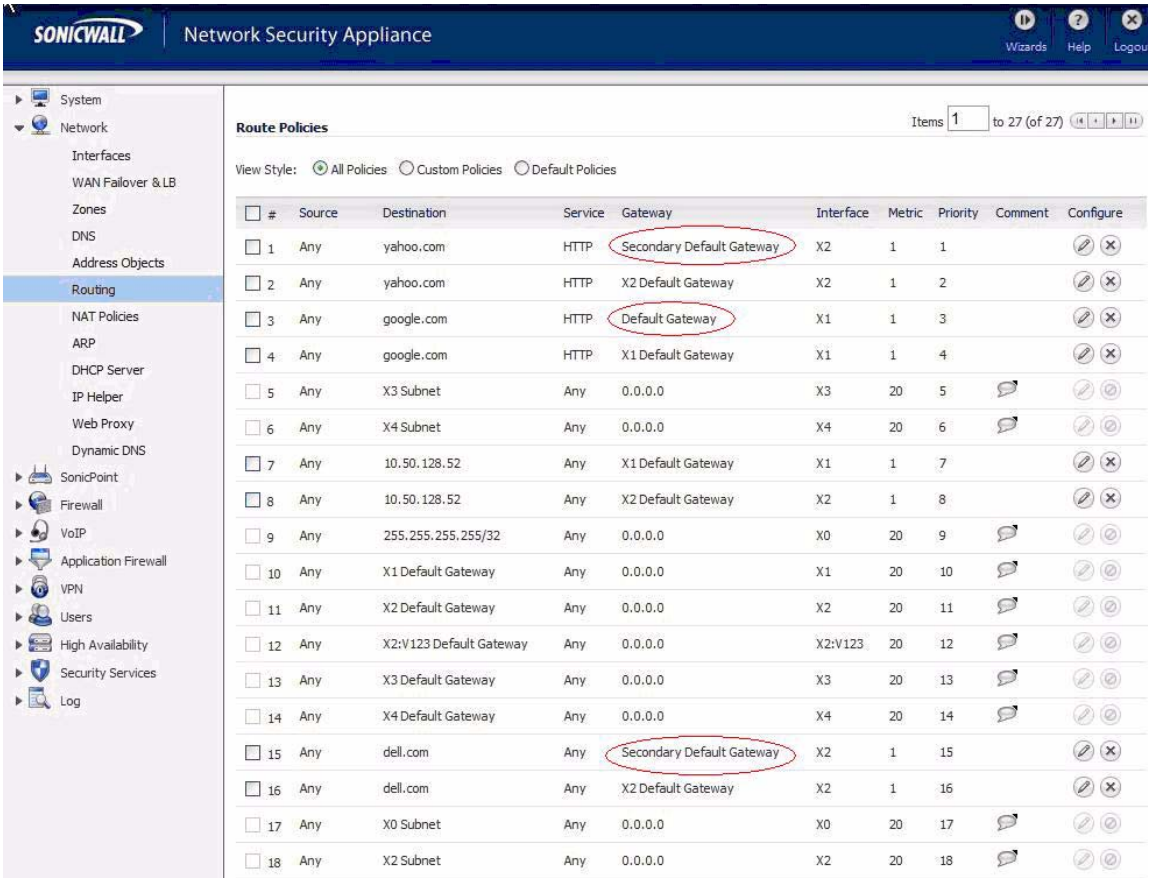
The Network Interfaces page allows more than two WAN interfaces to be configured for routing. It is possible to configure WAN interfaces in the Network Interfaces page, but not include them in the WAN Failover & LB. Only the Primary WAN Ethernet Interface is required to be part of the WLB group whenever WLB has been enabled. Any WAN interface that does not belong to the WLB group is not included in the WLB function, but performs normal WAN routing functions.



Note A virtual WAN interface may belong to the WLB group. However, prior to using within the WLB group, please ensure that the virtual WAN network is fully routable like that of a physical WAN.

Routing the Default & Secondary Default Gateways

Because the gateway address objects previously associated with the Primary WAN and Secondary WAN are now deprecated, user-configured Static Routes need to be re-created in order to use the correct gateway address objects associated with the WAN interfaces. This will have to be configured manually as part of the firmware upgrade procedure.

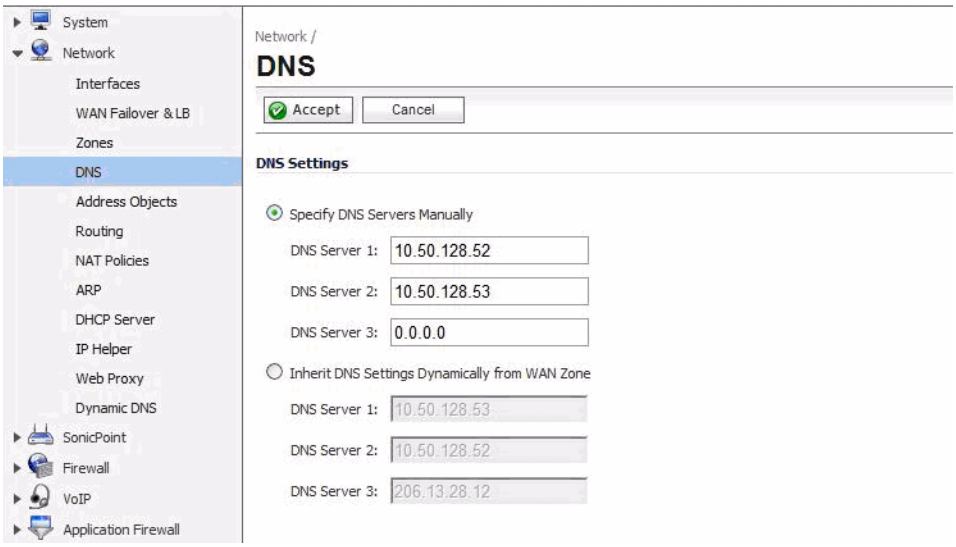


The old address object Default Gateway corresponds to the default gateway associated with the Primary WAN in the WLB group. The Secondary Default Gateway corresponds to the default gateway associated with Alternate WAN #1.

Note After re-adding the routes, delete the old ones referring to the Default and Secondary Default Gateways.

DNS

When DNS name resolution issues are encountered with this firmware, you may need to select the **Specify DNS Servers Manually** option and set the servers to Public DNS Servers (ICANN or non-ICANN).



Note Depending on your location, some DNS Servers may respond faster than others. Verify that these servers work correctly from your installation prior to using with your SonicWALL appliance.

Solution Document Version History

Version Number	Date	Notes
1	6/30/2009	This document was created by Angela Mendoza.
2	7/01/2009	Reviewed with Rosalea Real.
3	8/03/2009	Incorporated feedback and edits from Rob Andrews.
4	8/06/2009	Incorporated feedback and edits from Rosalea Real.