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ShareTech UTM Solution

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Load Balancing

Building a Seamless Network Environment

In today's fast-paced internet world, network services are crucial for businesses. Ensuring a fast, secure network is a challenge. Relying on a single external connection leaves no room for downtime—if it fails, all services stop. To avoid this, many businesses use multiple WANs to make sure their network can keep running if one line has a problem. However, with multiple WANs, how can businesses maximize network performance effectively?

ShareTech's Next Generation UTM offers a load balancing feature that optimizes network access through multiple dedicated lines and ISP connections. If one line or ISP fails, the system automatically switches to another to maintain uninterrupted service. The UTM devices (NU Series) provide outbound and inbound load balancing, with multiple WAN ports and various modes to suit business needs.

Explanation of Load Balancing Modes

1. Outbound Load Balancing:

Outbound load balancing distributes traffic evenly across multiple network lines. If one line fails, the second line can take over, ensuring continuous network operation.

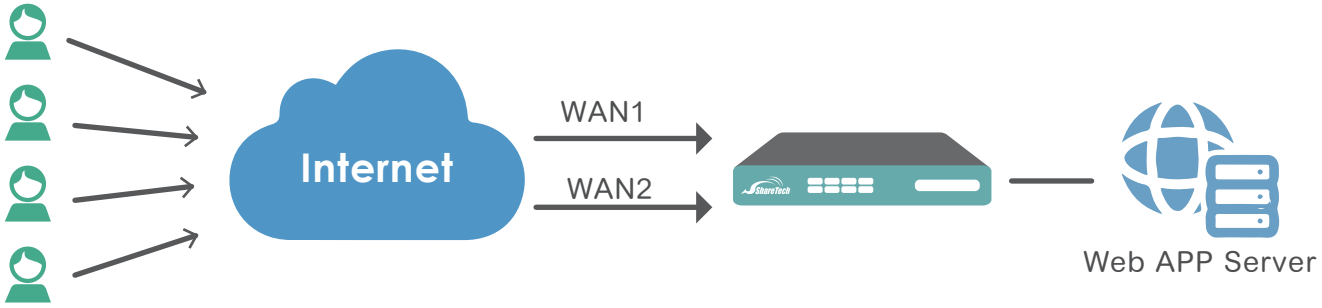

Figure 1. Load Balancing Diagram

Load Balance Modes:

I. Session

Distributes based on session weight regardless of source or destination IP address. For example, if Line A has a weight of 1 and Line B has a weight of 2, the first session goes to Line A, the second and third sessions to Line B, and so forth.

II. Source IP

Distributes based on the weight of the source IP address. For example, if Line A has a weight of 1 and Line B has a weight of 2, the first session from the same source IP address goes to Line A, the second and third sessions to Line B, and so on. Distribution for different source IP addresses follows the same pattern.

III. Destination IP

Distributes based on the weight of the destination IP address. For example, if Line A has a weight of 1 and Line B has a weight of 2, the first session to the same destination IP address goes to Line A, the second and third sessions to Line B, and so forth. Distribution for different destination IP addresses follows the same pattern.

IV. MINFIRST

Distributes network packets based on actual load conditions, with smaller loads receiving more packets.

2. Inbound Load Balancing:

When users connect to the business website or server, the system evenly distributes traffic across multiple network lines. If one line fails, it automatically switches to another to keep the website running smoothly.

This is done using the built-in DNS server, which assigns the domain's A record to multiple lines for load balancing. If one line goes down, the DNS server will not respond with the failed line's IP, preventing connection issues. Therefore, it is crucial to set the correct upload and download speeds when configuring the WAN.