Sangfor IAG 13.0.47

Bandwidth Management

5. Link Load Balancing

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Link Load Balancing - Introduction

Background: With the continuous growth and development of enterprises, an enterprise has more than one Internet line, and the bandwidth of each line is very limited. How to set up a more reasonable use of line bandwidth, improve the speed of access to the public network

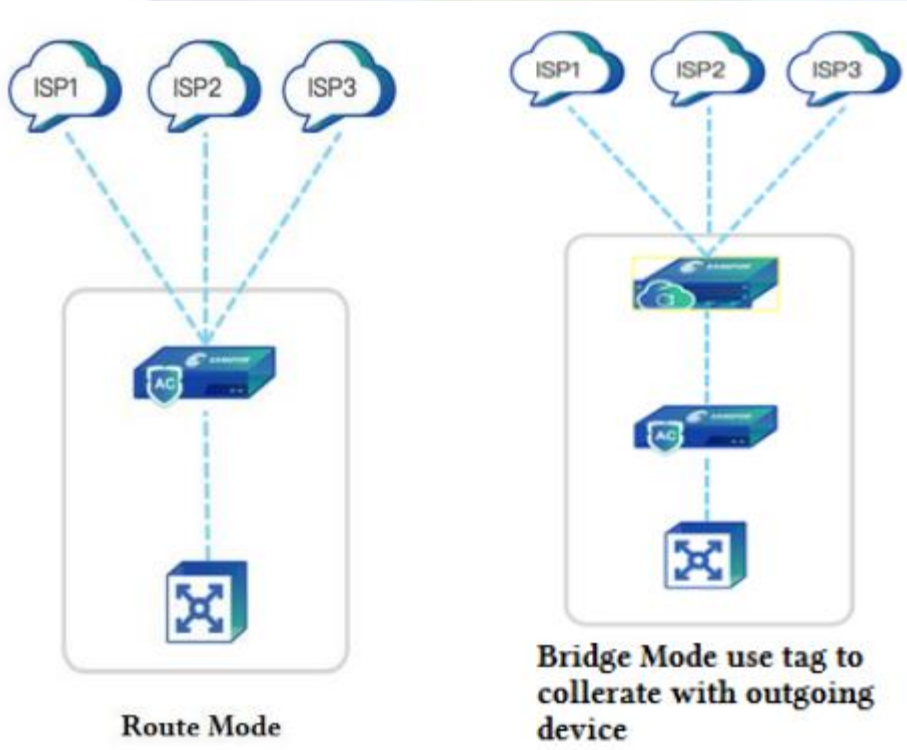
Solution: IAG offers 3 technologies: Specific line, Link Load Balancing and VPN as backup.

Policy-Based Routing: Forward traffics to different ISP according to source/destination IP and Protocol.

1.Link Load Balancing: Forward traffics to different lines base on bandwidth remaining, weighted round robin, even load assignment and prefer link at top settings.
2.Make VPN Tunnel as Standby Link: Customer has two ISP lines, Line1 is using for VPN Tunnel to branch, Line2 is lease line to branch. By default, all the traffics to branch by using lease line, when lease line is faulty, the traffics is forward via VPN tunnel.

Link Load Balancing - Introduction

Starting from IAG 12.0.41 version, the link load balancing support in Route mode and bridge mode, bridge mode required collerate with the ADC to achieve the load balancing by using the tag.



Link Load Balancing - Introduction

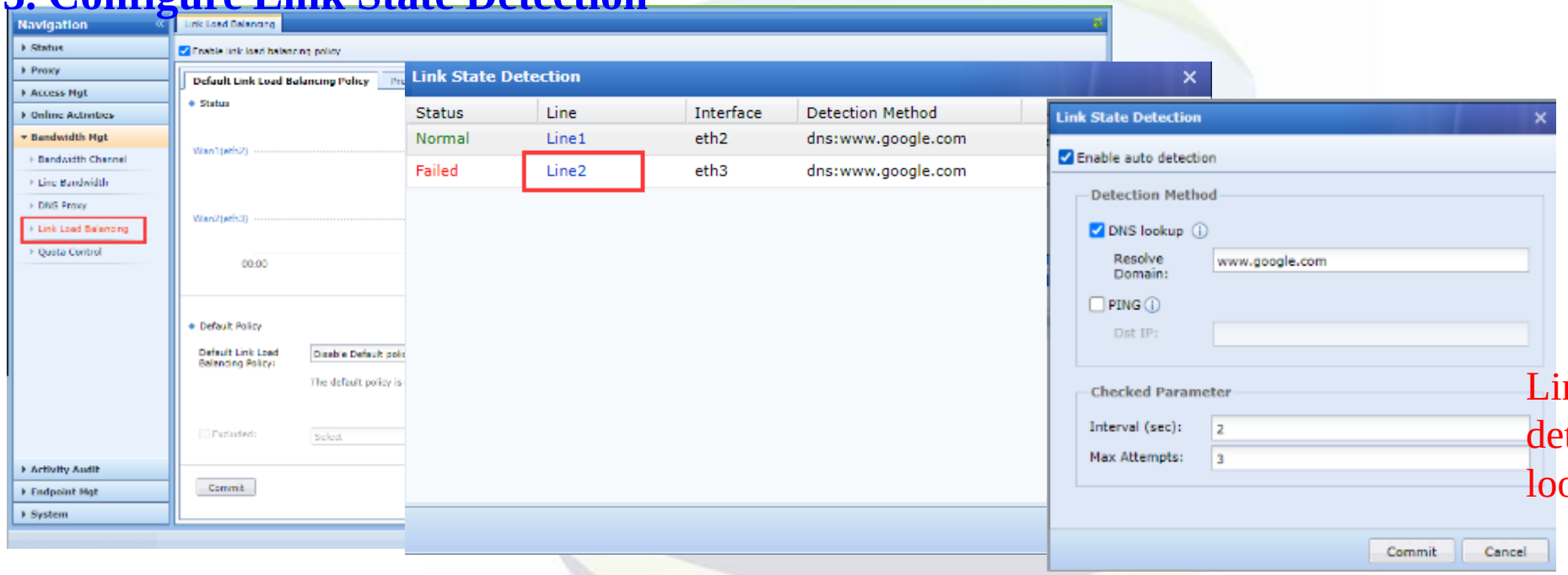
1. Deploy device in route mode and bridge mode, configure IP address, DNS and Gateway for each WAN interface correctly.

2. Configure access control policy in IAG, allow all internal network segments to access Internet by using all WAN interfaces.

The configuration steps above are skipped, please refer to PPT slides: IAG_Deployment, IAG_Access_control and IAG_Firewall

Link Load Balancing - Introduction

3. Configure Link State Detection



Link State Detection has 2 detection methods: DNS lookup and Ping

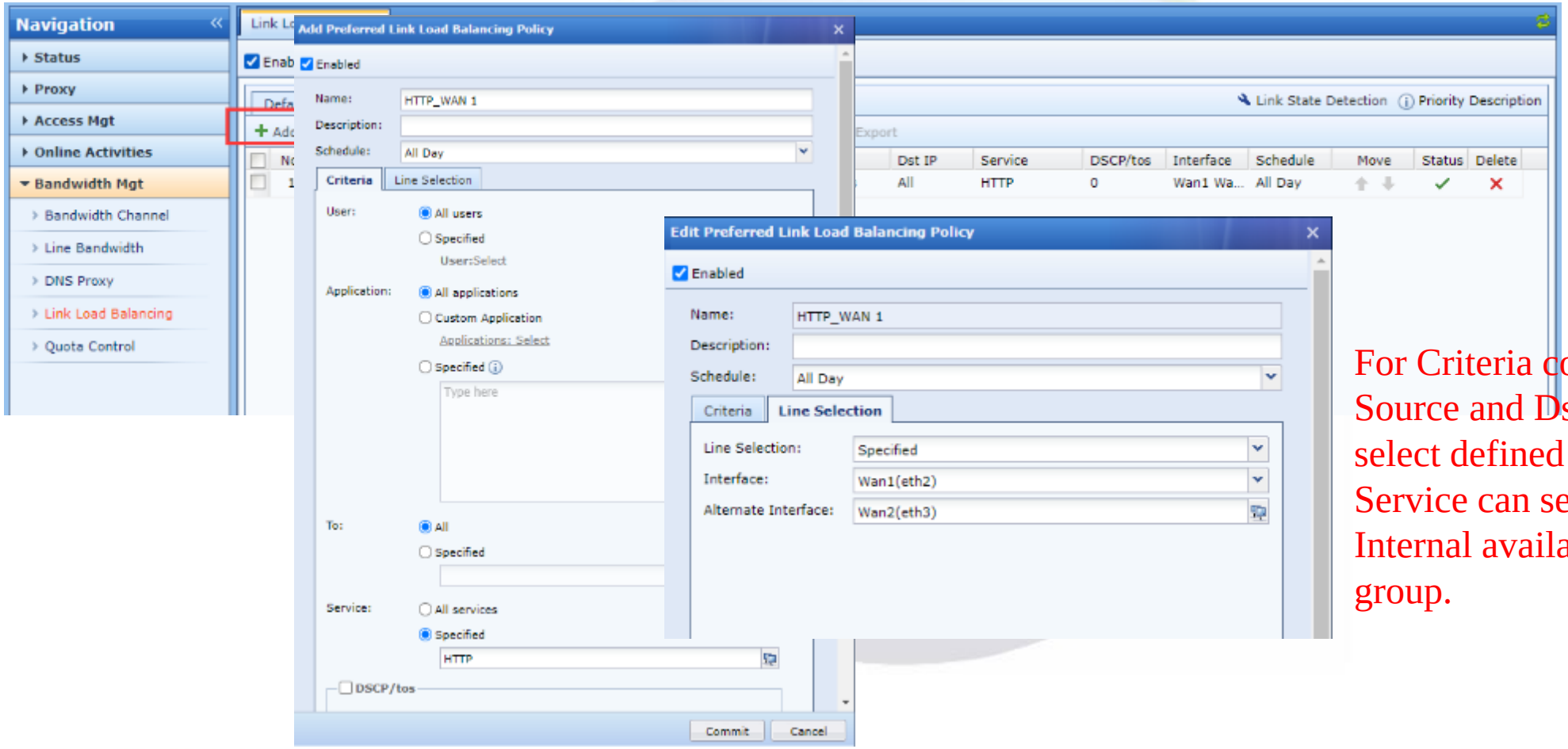
Configure link state for second line as well

(1) Any detection method: Ping and DNS lookup failed, the line is consider down

(2) DNS lookup and Ping support multiple IP address/domain, the line is consider normal if any IP/domain accessible

Link Load Balancing - Introduction

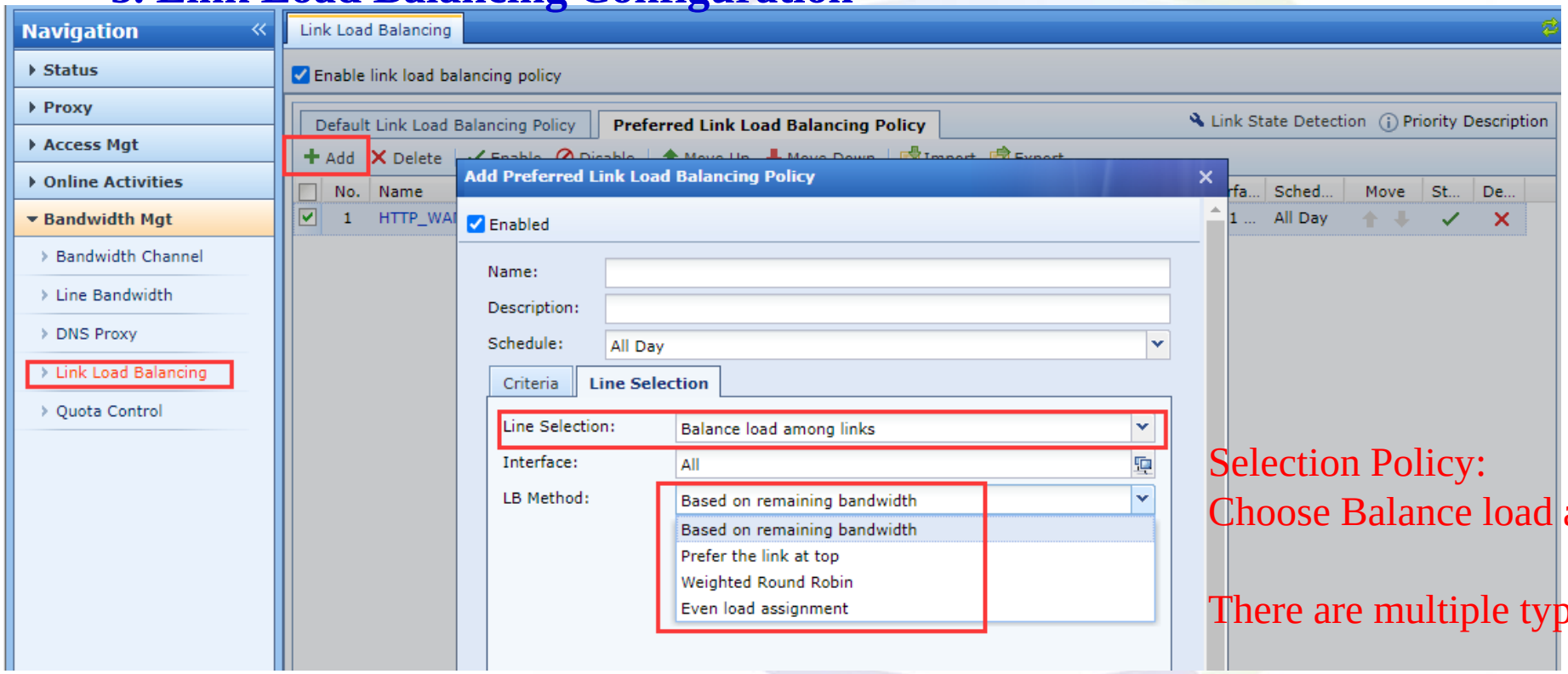
4. Configure Policy-Based Routing



For Criteria configuration, Source and Dst Address can select defined IP group, Service can select IAG Internal available service group.

Link Load Balancing - Introduction

5. Link Load Balancing Configuration

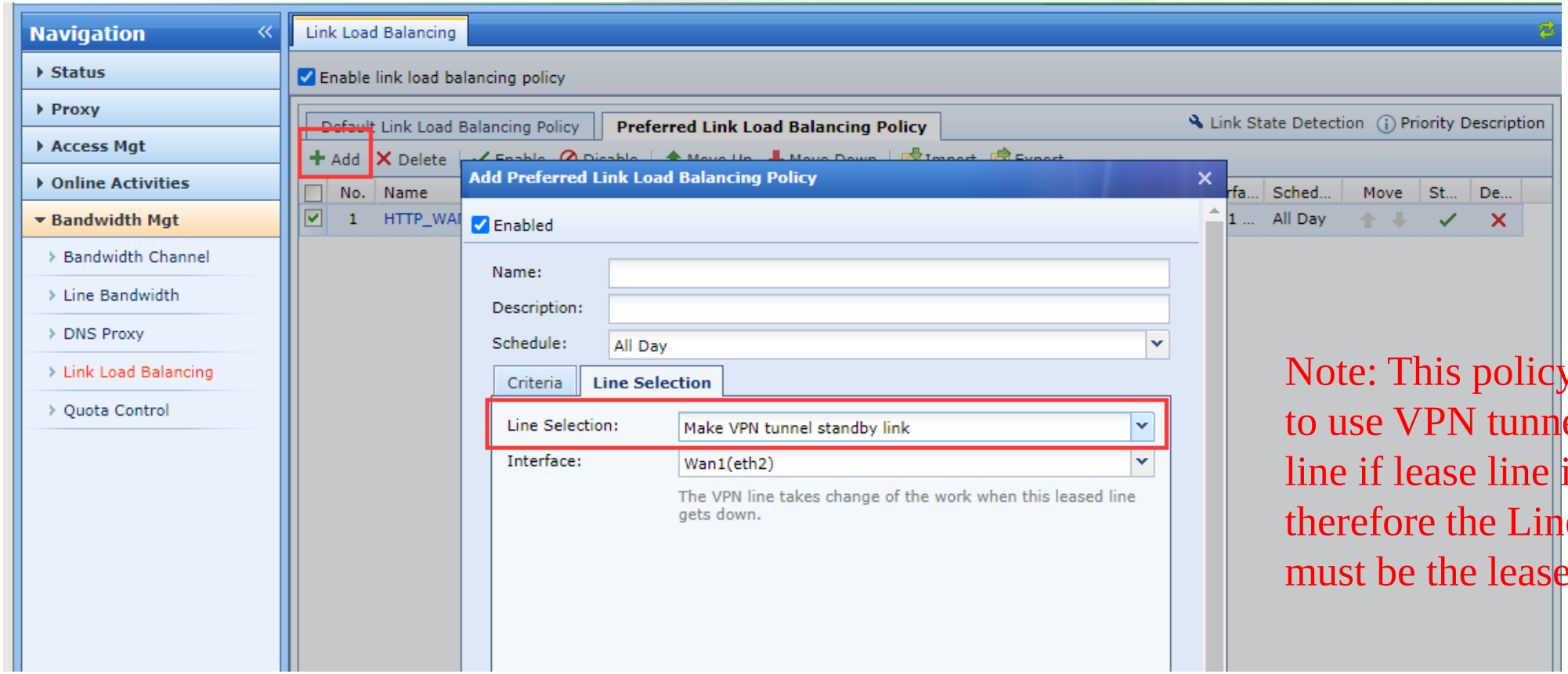


Selection Policy:
Choose Balance load among links.

There are multiple type of LB methods

Link Load Balancing - Introduction

6. Make VPN tunnel standby link



Note: This policy purpose is to use VPN tunnel as backup line if lease line is down, therefore the Line selected must be the lease line

Precaution

1. Link Load Balancing only available for route mode and bridge mode deployment.

2. When there is requirement for multiple WAN lines, make sure the WAN lines license under device license is enough.

3. Link State Detection configuration must be done first because this function will detect and determine whether ISP line is valid. If the line is faulty, IAG will forward the traffics to another line.