



WAN Optimization (WANO)

Bridged Line Failover deployment Configuration Guide



Change Log

Date	Change Description
Nov 25, 2019	Bridged Line Failover deployment Configuration Guide

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Chapter 1 Content requirements

1 Document title

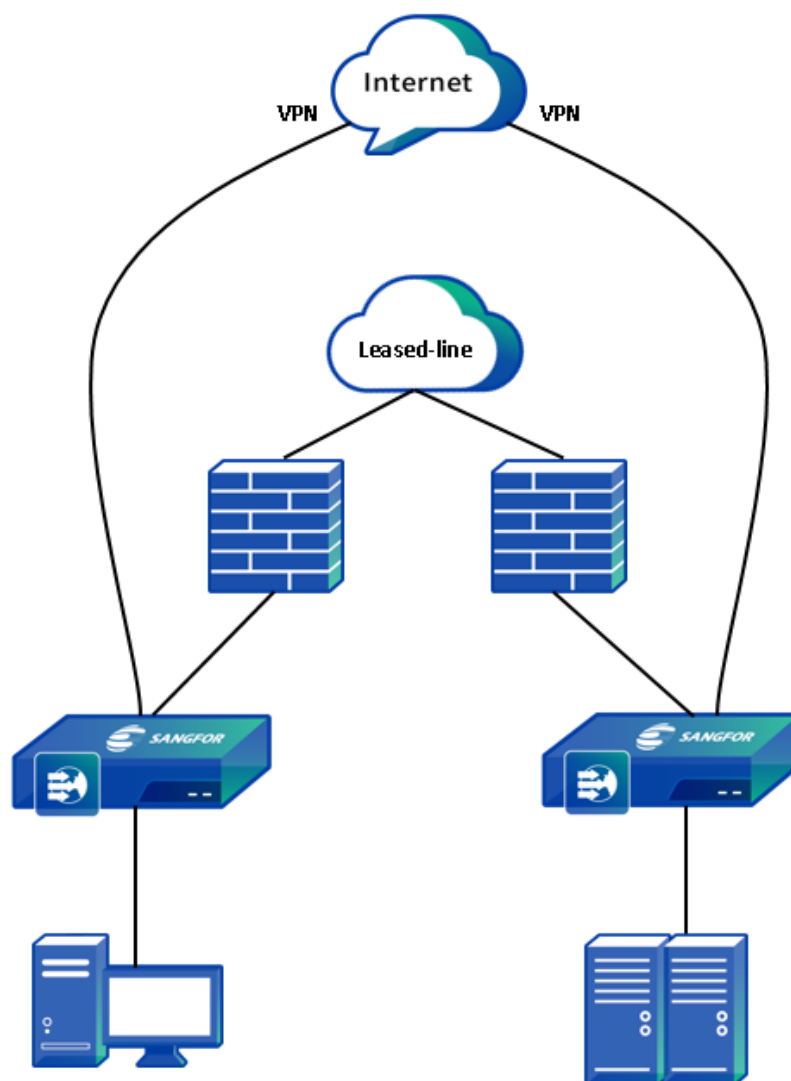
SANGFOR_WANO_Bridged_Line_Failover_deployment_Configuration_Guide_EN

2 Product Version

Every document should be written with the latest product version unless special instructions.

3 Applicable Scenario

Bridged Line Failover mainly for the deployment when Sangfor WANO is deployed in the customer leased-line environment with Single bridge mode. Other than the acceleration effect, the function can also act as back up for the leased-line. When the leased-line fails, the data can be transmitted through the VPN connection established by Sangfor WANO. When the leased-line is normal, it switches back to the dedicated line for data transmission. Typical topology is as follows



3.1 Configuration

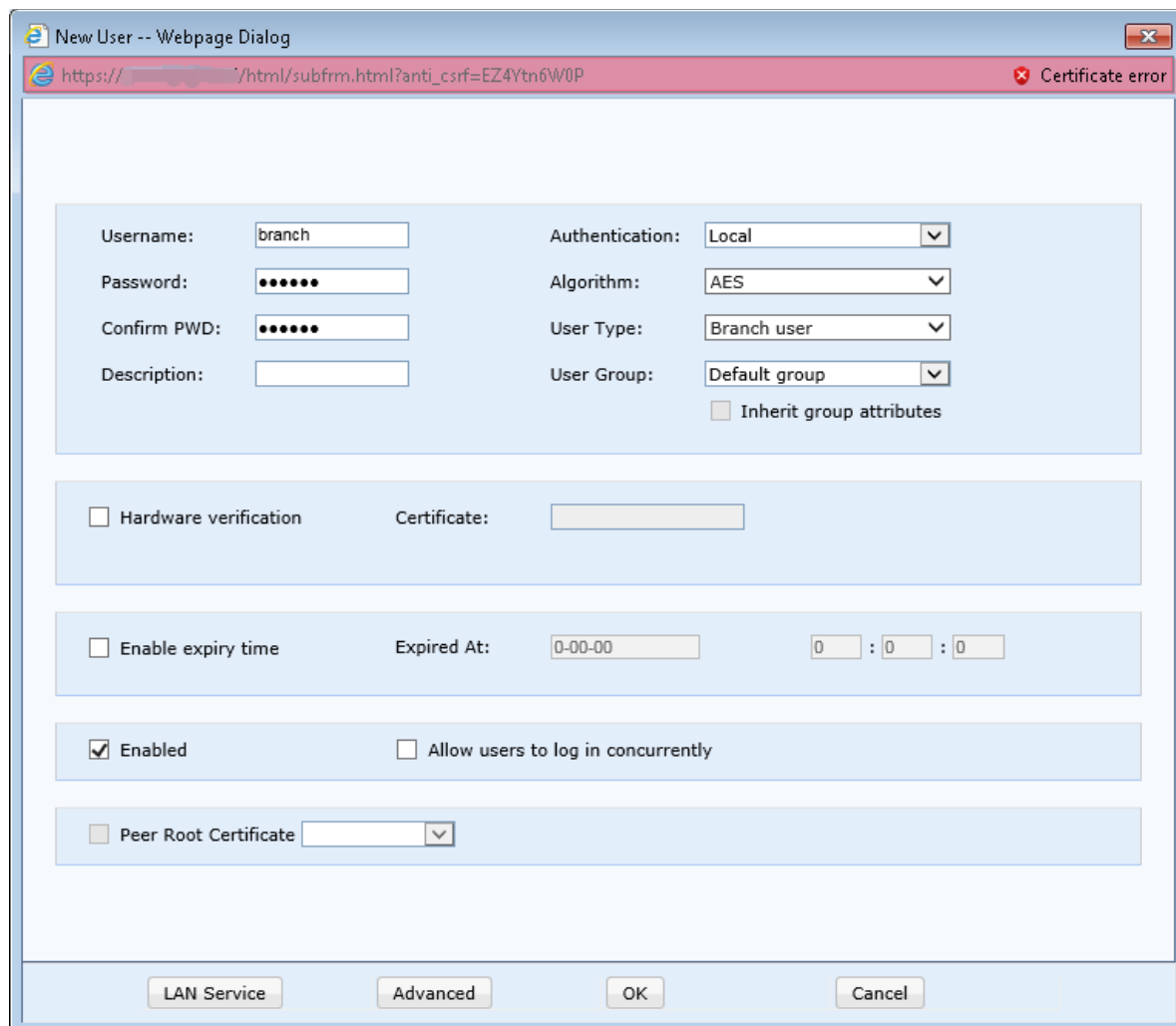
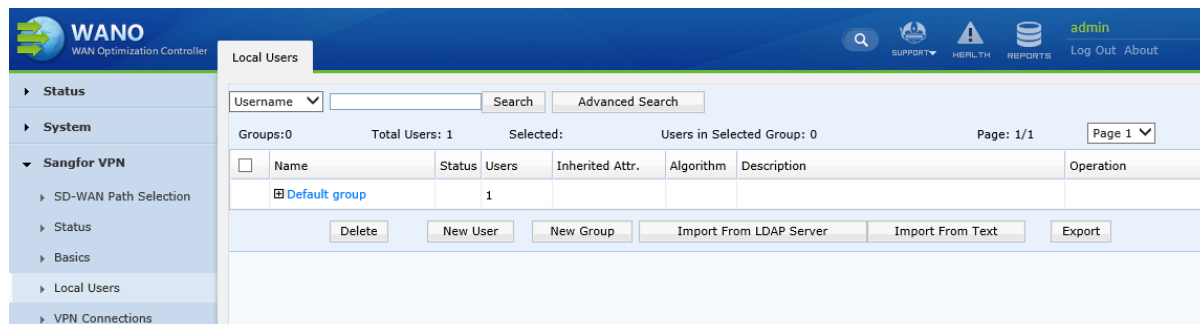
3.1.1 Server side Configuration

1. Navigate to [System] > [Network] > [Deployment], select “VPN and Acceleration” for Service mode, and then select “Bridged Line Failover”

2. Configure the Working IP, subnet mask, default gateway, DNS and the PPPoE for the Standby VPN Interface.

3. Navigate to [Sangfor VPN] > [Basics], configure the primary WebAgent by following to the WAN port IP. In this case, for example the public IP is 2.2.2.2. Then, include the port number 4009, the WebAgent will look like this: 2.2.2.2:4009. The other settings can remain default.

4. Navigate to [Sangfor VPN] > [Local Users], click on [New User] to create a new user.



5. Navigate to [WAN Optimization] > [Server] > [Users], create a new WOC user. WOC user is used to create a new acceleration tunnel for the Client side and associate the required acceleration policy.

The screenshot shows the WANO WAN Optimization Controller interface. The left sidebar contains a navigation menu with the following items: Status, System, Sangfor VPN, WAN Optimization (expanded), Application Proxy, Byte Cache, Video Optimization, Server (selected), Client, Certificates, Advanced, Bandwidth Mgt, Firewall, High Availability, and Maintenance. The main content area is titled 'Users' and includes a 'New' button, a 'Delete' button, and a search bar. Below these are input fields for Username (filled with 'branch'), Password (masked with dots), Confirm (masked with dots), and Description. The Client Type is set to 'WOC' in a dropdown menu, and the 'Enable user' checkbox is checked. Below the form is a table for selecting a Policy Group. The table has columns: Select, Name, Description, and Operation. Two policy groups are listed: 'Default for PACC' and 'Default for gateway'. The 'Default for gateway' group is selected. At the bottom are 'OK' and 'Cancel' buttons.

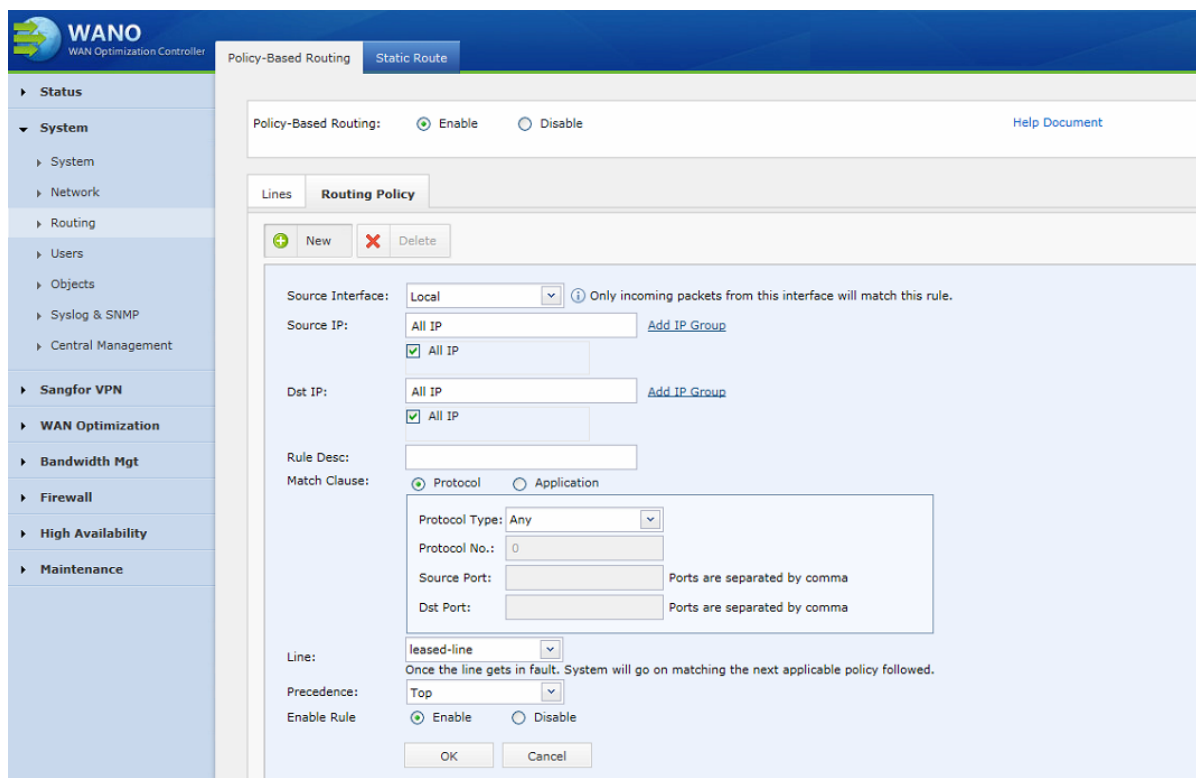
[Username]	To allow Client side establish Acceleration Tunnel with the Server WANO.
[Password]	Password for the WOC account
[Confirm]	Confirm password for the WOC account
[Description]	Simple description for the WOC account
[Client Type]	Type of the account created. Includes WOC and PACC for client type. WOC is for establish acceleration tunnel between two Sangfor WANO. While PACC is for establish acceleration tunnel between a mobile client and a Sangfor WANO.
[Policy Group]	Select the appropriate Policy Group to apply for this User. Click on [Add] will be redirected to [WAN Optimization] > [Server] > [Policy Group]

6. Navigate to [System] > [Routing] > [Policy-Based Routing] > [Lines], create 2 new lines. 1 for leased-line, 1 for VPN.

The screenshot shows the WANO Policy-Based Routing configuration page. The left sidebar contains a navigation menu with categories like Status, System, Network, Routing, Users, Objects, Syslog & SNMP, Central Management, Sangfor VPN, WAN Optimization, Bandwidth Mgt, Firewall, High Availability, and Maintenance. The main content area is titled 'Policy-Based Routing' and has tabs for 'Static Route' and 'Lines'. The 'Lines' tab is active, showing a 'New' button and a 'Delete' button. Below these buttons, the configuration form for a new line is displayed. The 'Name' field is set to 'VPN'. The 'Outgoing Interface' is set to 'VPN'. The 'Enable Line' option is checked. The 'Link state detection' checkbox is checked, and the 'Method' is set to 'DNS'. The 'DNS Server' is set to '8.8.8.8'. The 'Detection Interval' is set to '3' seconds, and the 'Max Attempts' is set to '3'. A note states: 'The link is considered down if detection fails so many times successively.' Below the form are 'OK' and 'Cancel' buttons. At the bottom, there is a table with columns: Name, Outgoing Int..., Next-Hop, Status, Enable, and Operation. The table is currently empty, with a message 'No data available'.

The screenshot shows the WANO Policy-Based Routing configuration page, similar to the one above. The 'Lines' tab is active, and the configuration form is for a new line named 'leased-line'. The 'Outgoing Interface' is set to 'WAN(eth3)'. The 'Next-Hop' is set to '2.2.2.1'. The 'Enable Line' option is checked. The 'Link state detection' checkbox is checked, and the 'Method' is set to 'DNS'. The 'DNS Server' is set to '8.8.8.8'. The 'Detection Interval' is set to '3' seconds, and the 'Max Attempts' is set to '3'. A note states: 'The link is considered down if detection fails so many times successively.' Below the form are 'OK' and 'Cancel' buttons. At the bottom, there is a table with columns: Name, Outgoing Int..., Next-Hop, Status, Enable, and Operation. The table is currently empty, with a message 'No data available'.

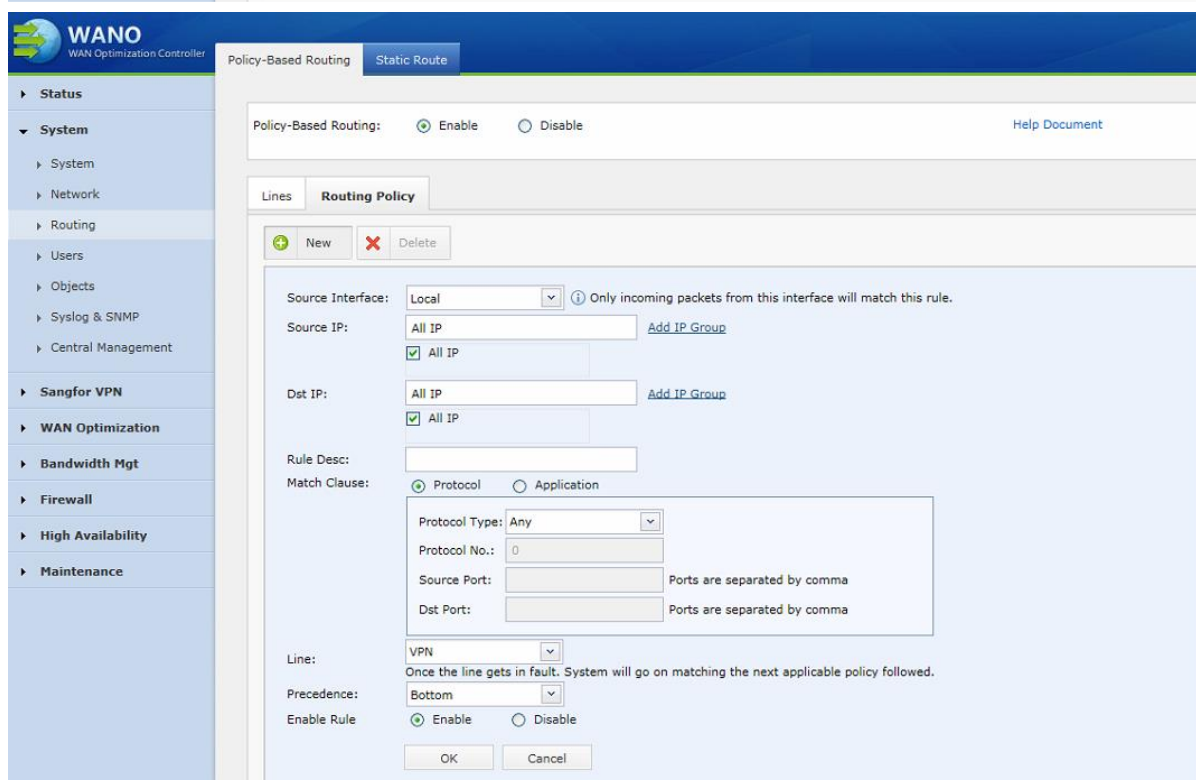
7. Then, create Routing Policy by setting Leased-line with high priority, and VPN with low priority.



The screenshot shows the WANO Policy-Based Routing configuration interface. The left sidebar contains a navigation menu with categories like Status, System, Sangfor VPN, WAN Optimization, Bandwidth Mgt, Firewall, High Availability, and Maintenance. The main panel is titled 'Policy-Based Routing' and 'Static Route'. The 'Policy-Based Routing' section has 'Enable' selected. The 'Routing Policy' tab is active, showing a 'New' button and a 'Delete' button. The configuration fields are as follows:

- Source Interface:** Local (Note: Only incoming packets from this interface will match this rule.)
- Source IP:** All IP (Add IP Group link)
- Dst IP:** All IP (Add IP Group link)
- Rule Desc:** (Empty text box)
- Match Clause:** Protocol (selected), Application
- Protocol Type:** Any
- Protocol No.:** 0
- Source Port:** (Empty text box) Ports are separated by comma
- Dst Port:** (Empty text box) Ports are separated by comma
- Line:** leased-line (Note: Once the line gets in fault. System will go on matching the next applicable policy followed.)
- Precedence:** Top
- Enable Rule:** Enable (selected), Disable

Buttons at the bottom: OK, Cancel.



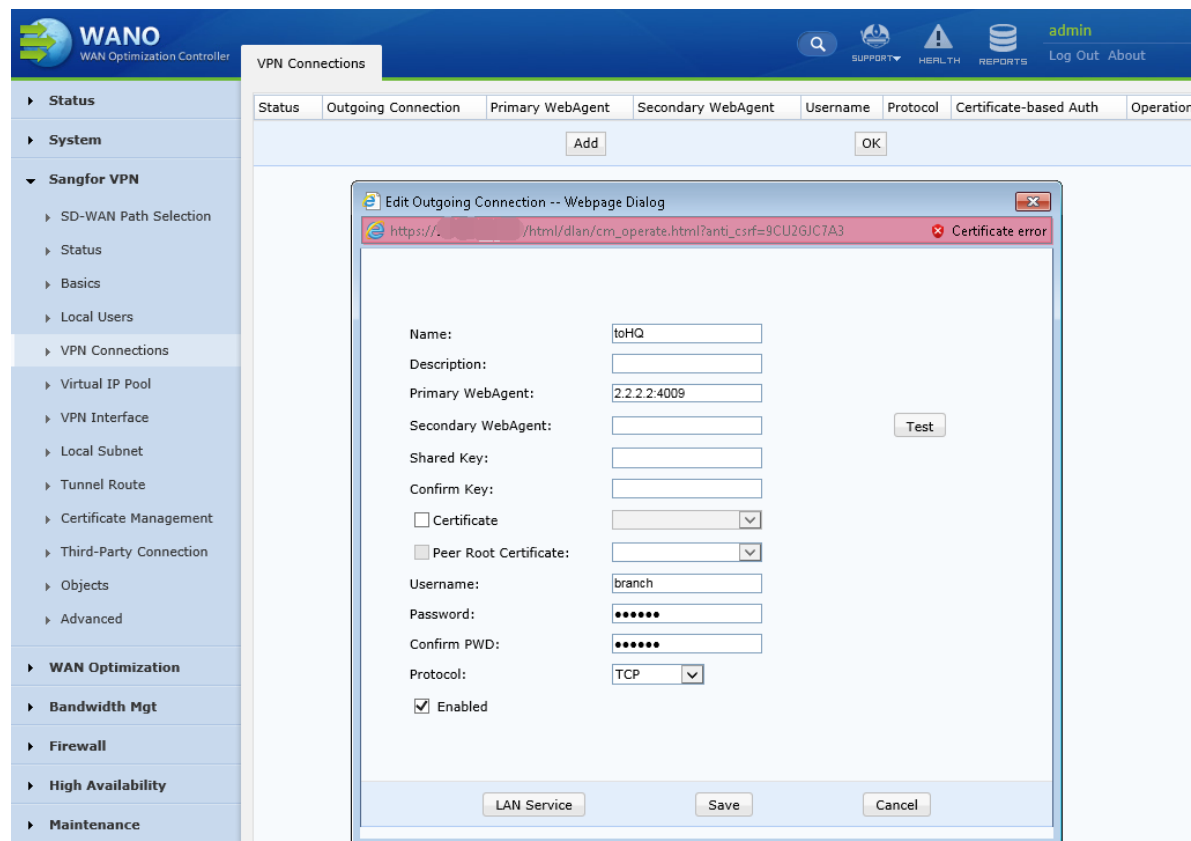
The screenshot shows the WANO Policy-Based Routing configuration interface, similar to the previous one, but with the 'Line' set to 'VPN'. The configuration fields are as follows:

- Source Interface:** Local (Note: Only incoming packets from this interface will match this rule.)
- Source IP:** All IP (Add IP Group link)
- Dst IP:** All IP (Add IP Group link)
- Rule Desc:** (Empty text box)
- Match Clause:** Protocol (selected), Application
- Protocol Type:** Any
- Protocol No.:** 0
- Source Port:** (Empty text box) Ports are separated by comma
- Dst Port:** (Empty text box) Ports are separated by comma
- Line:** VPN (Note: Once the line gets in fault. System will go on matching the next applicable policy followed.)
- Precedence:** Bottom
- Enable Rule:** Enable (selected), Disable

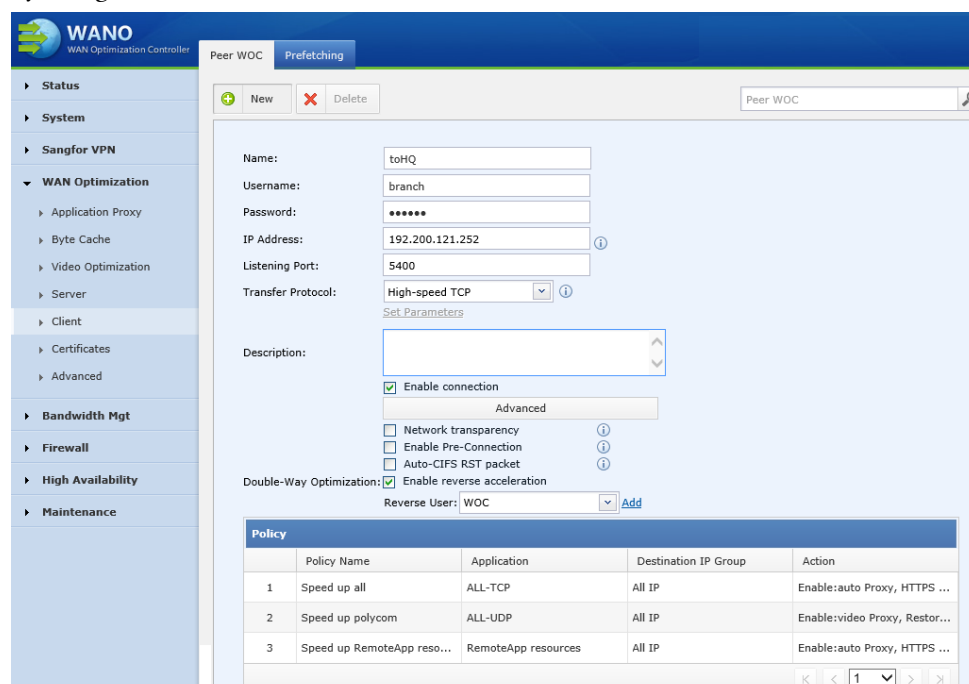
Buttons at the bottom: OK, Cancel.

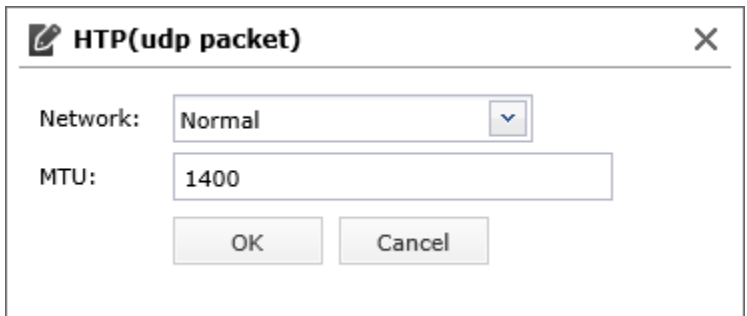
3.1.2 Client side Configuration

1. Refer to Server side Sangfor WANO configuration from Step 1 and Step 2 to configure the deployment mode.
2. Navigate to [Sangfor VPN] > [VPN Connections], add a new VPN connection by filling in the Server side credentials.



3. Navigate to [WAN Optimization] > [Client] > [Peer WOC], add a new connection back to Server side by using the credentials created at the Server side.



[Name]	Name for the Acceleration Tunnel. Can simply create a name for this.
[Username]	Username that created at Server side WANO.
[Password]	Password for the account
[IP Address]	LAN IP address for the Server side WANO
[Listening Port]	Listening port for the Acceleration service. Change only if necessary.
[Transfer Protocol]	Method of encapsulation while transferring through Acceleration Tunnel. Options include High-speed TCP and HTP(UDP). High-speed TCP is suitable for smooth network environment, stable latency with almost no packet drops. While HTP(UDP) works the opposite side, it is suitable for unstable network environment, high latency with packet drops.
[Set Parameters]	Available for HTP(UDP) only. Able to adjust Network status and MTU 
[Description]	Simple description for the acceleration tunnel/connection
[Network Transparency]	Restore the original Source and Destination IP when traffic passes through Acceleration Tunnel. Suitable to apply when there is Bandwidth Management to limit the Source and Destination IP between Sangfor WANO.
[Enable Pre-Connection]	When the client PC initiates access to the server, it does not need to wait for the real server to respond, the client WANO device proxy responds to the connection to speed up the establishment of the local connection and the speed of data transmission.
[Auto-CIFS RST packet]	Allows the device to send TCP RST packets to disconnect established CIFS long connections so that the network neighbor links can be proxied and optimized to increase their access speed
[Double-Way Optimization]	In the reverse connection, when the Client device is connected to the Server device, the Client is actively notified to accelerate the bidirectional traffic that the Client connected to the WOC User created by the Server device, and achieve two-way acceleration effect.

4. Then, refer to Server side Sangfor WANO configuration from Step 6 and Step 7 to configure Policy-Based Routing on the Client side Sangfor WANO.

4 Precautions

1. Both Server and Client side WANO must use the same deployment mode
2. Device total number of WAN lines must required to have 2 or above.
3. Cannot deploy under VLAN Trunk environment
4. Bandwidth Management DOES NOT work on back up VPN link
5. Back up VPN link DOES NOT support Tunnel Route, Tunnel NAT, multicast and broadcast.



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