

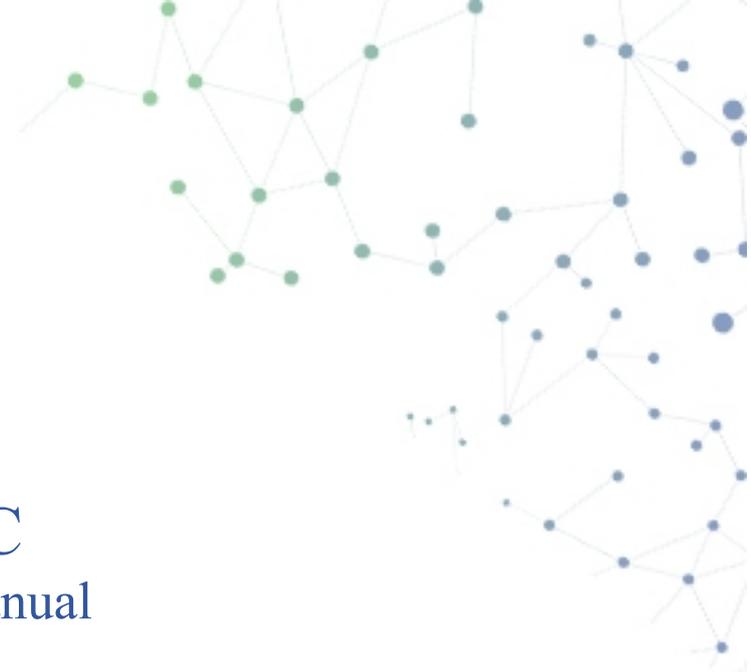
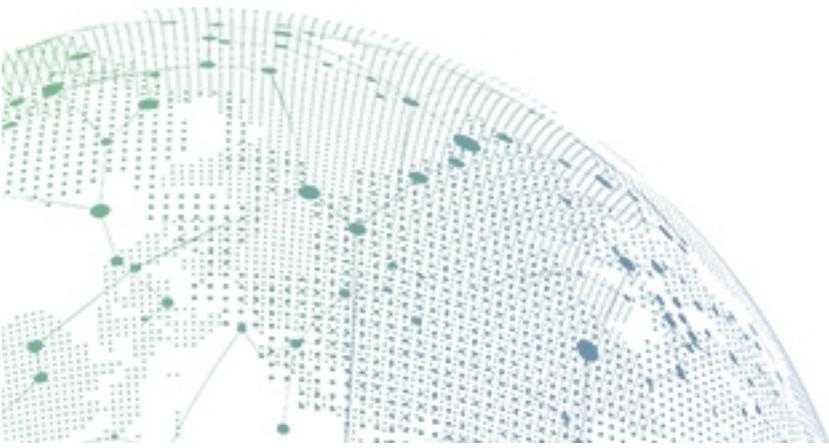


SANGFOR

BBC

User Manual

Version 2.5.1



Change Log

Date	Change Description
Aug 30, 2018	Version 2.5.1 user manual document release.

Declaration

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Preface

About the Manual

Part 1 SANGFOR BBC Software Installation

Part 2 SANGFOR BBC Overall Framework

Part 3 SANGFOR BBC Hardware Deployment

Part 4 Use of SANGFOR BBC Console

Part 5 Instructions on SANGFOR BBC Controlled Terminal Access



The manual provides the configuration instructions by taking the SANGFOR BBC V2.5.1 official version as an example. Because different software versions have certain differences in details, the actual use prevails. The differences in the specific configuration content are illustrated in the corresponding chapters.

Document Conventions

1. Graphical Interface Format

Text Description	Substituted Symbol	Examples
Button	Border + shadow + shading	The “OK” button can be simplified as 
Menu item	[]	The menu item “System Settings” can be simplified as [System Settings];
Continuous selection of menu items and submenu items	→	Select [System Settings]→[Interface Configuration]
Options from drop-down box, radio box and combo box	[]	The combo box option “Enable User” can be simplified as [Enable User]
Window name	[]	Click to pop up the [Add User] window.
Prompt	“”	If the prompt box shows “Saving configuration succeeded and the configuration modified. Do you need to restart the service to take effect immediately?”

Symbol Conventions

The manual also uses a variety of striking symbols to indicate where special attention should be paid during the operation. The meanings of these symbols are as follows:



Note: Keep in mind the precautions in the operation. Improper operation may result in the settings failure, data loss or device damage.



Warning: The notes behind the symbols should be given special attention. Improper operation may cause personal injury.



Instructions, tips, knacks: Provide necessary supplement and explanations for the description of the operation.

Technical Support

Email for user support: tech.support@sangfor.com

Technical Support BBS: <http://community.sangfor.com>

Company website: www.sangfor.com.cn

Acknowledgments

Thank you for using our products and user manual. If you have any comments or suggestions on our products or user manual, we would appreciate it if you can give us feedback by phone, forum or email.

Chapter 1 BBC Device Installation

This chapter mainly covers the hardware installation of the SANGFOR BBC series products. Once the hardware is installed correctly, you can configure and debug it.

Environmental Requirements

BBC devices can be used in the following conditions.

Input voltage: 110V - 230V

Temperature: 0 - 45°C

Humidity: 5 - 90%

In order to ensure the long-term stable operation of the system, the power supply should have good grounding measures and dust-proof measures to keep good ventilation and stable indoor temperature under the operational environment. The product conforms to the design requirements for environmental protection. The products should be placed, used and scrapped in accordance with relevant national laws and regulations.

Power Supply

The SANGFOR BBC series are supplied by 110V - 230V AC power. Before turning on the power, please ensure the good grounding measures.

Product Appearance



Fig. 1 SANGFOR BBC Gateway Panel



The picture is for reference only. Please refer to the actual product for the product appearance of different model.

The interfaces from bottom left to top right are:

USB: For debugging (not available by default)

CONSLE: For debugging

ETH0: Device LAN port

ETH1: Device spare port

ETH2: Device spare port

ETH3: Device spare port

ETH4: Device spare port

ETH5: Device spare port



1. The picture is for reference only. Please refer to the actual product for the product appearance of different model.

2. The CONSLE port and USB port are for development, testing and debugging only. The end user needs to log onto the network port through the console.

Configuration & Management

Prior to the BBC configuration, you need to have a computer. Please make sure that the computer's web browser can be used normally. Then connect the computer and SANGFOR BBC in the same LAN and configure the device through the network.

Wiring Method of Devices

Connect the power cable to the back panel and turn on the power switch. The power light (blue) of the front panel will be on. It indicates that the device is working properly.

Use a standard RJ-45 Ethernet cable to connect the ETH0 (the leftmost on the rear panel) to the LAN and configure the BBC device.



When the BBC device works normally, the power light is always on, the hard disk indicator blinks, and the LINK indicator at the ETH0 port is always on.

Chapter 2 BBC Overall Framework

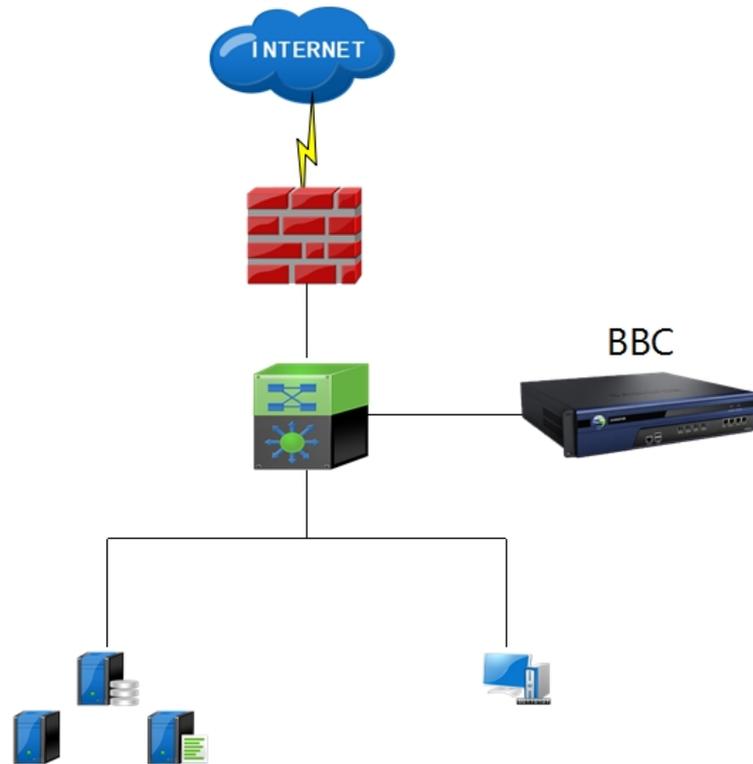
The BBC consists of two categories: the central terminal and the controlled terminal.

The BBC central terminal can be a stand-alone hardware device or run as software in Sangfor aCloud or VMWare. The BBC central terminal monitors the status of the controlled device and manages the controlled device.

The BBC controlled terminal refers to devices such as aBos and AC/AF/WANO. The controlled device connects to the BBC central terminal, reporting the status to the BBC central terminal in real time.

The BBC follows the customer's requirement of the pre-view and post-management. The BBC displays the health status, alarms, and load information of all sites so that the administrator can know the status of the site in time; then provides the remote access the site, allowing the administrator to quickly process the site fault

Chapter 3 BBC Hardware Deployment

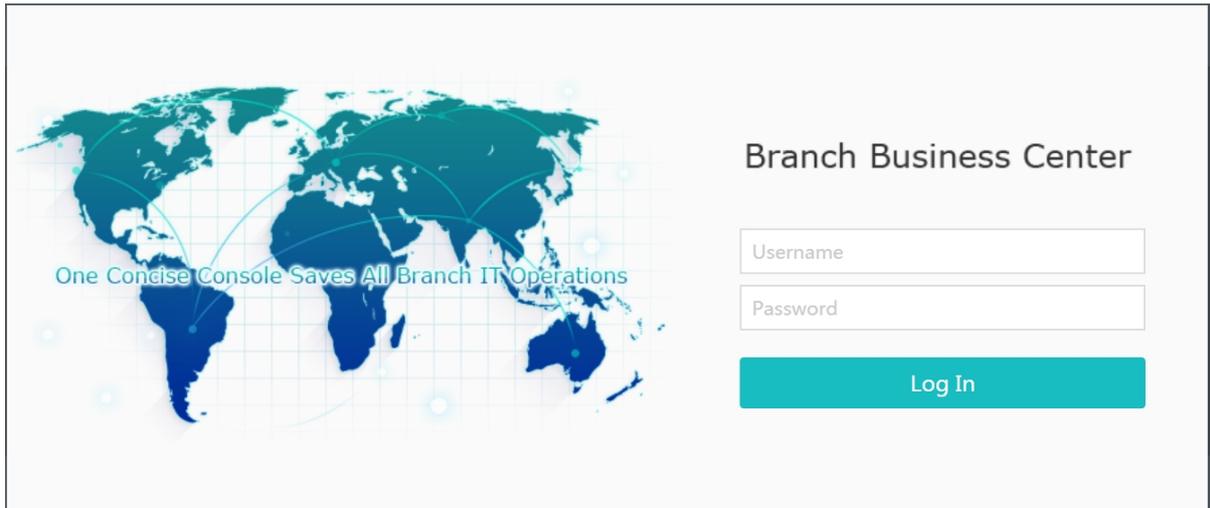


The BBC device at the central terminal only supports one-arm deployment. By default, the deployment does not need any configuration. The LAN port connects to the LAN core switch and needs port mapping on the front gateway device to map the TCP/UDP 5000 port.

Chapter 4 Use of BBC Console

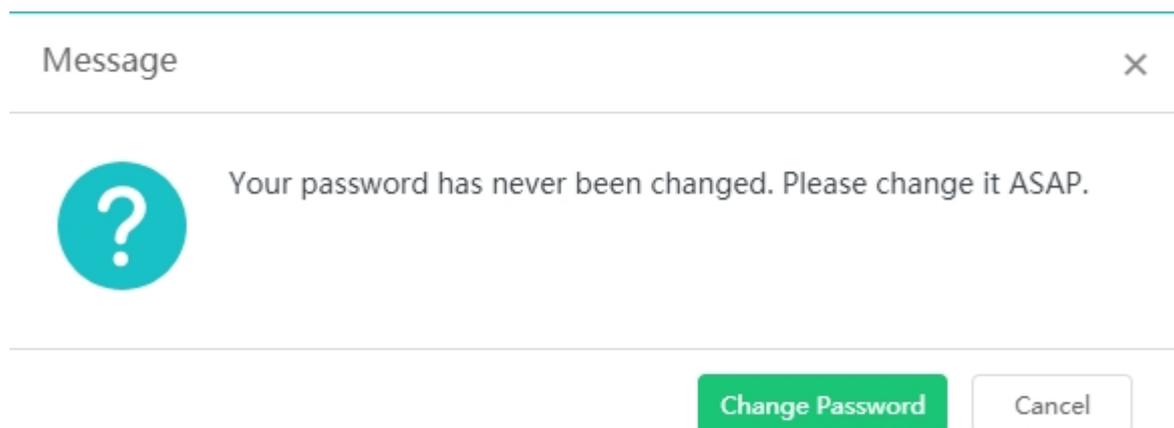
The Web console interface is used to manage and configure the SANGFOR BBC, and requires the PC to have access to the management IP configured for the BBC host during the installation.

If the IP address is not manually assigned during the installation, the default IP address is 10.250.0.7. In this case, you need to connect the physical port of the PC and the port of the BBC host to the same switch, and then configure an IP address at 10.250.0.x on the PC. Open a browser and enter <https://10.250.0.7> in the address bar. And then the BBC console interface appears as follows:



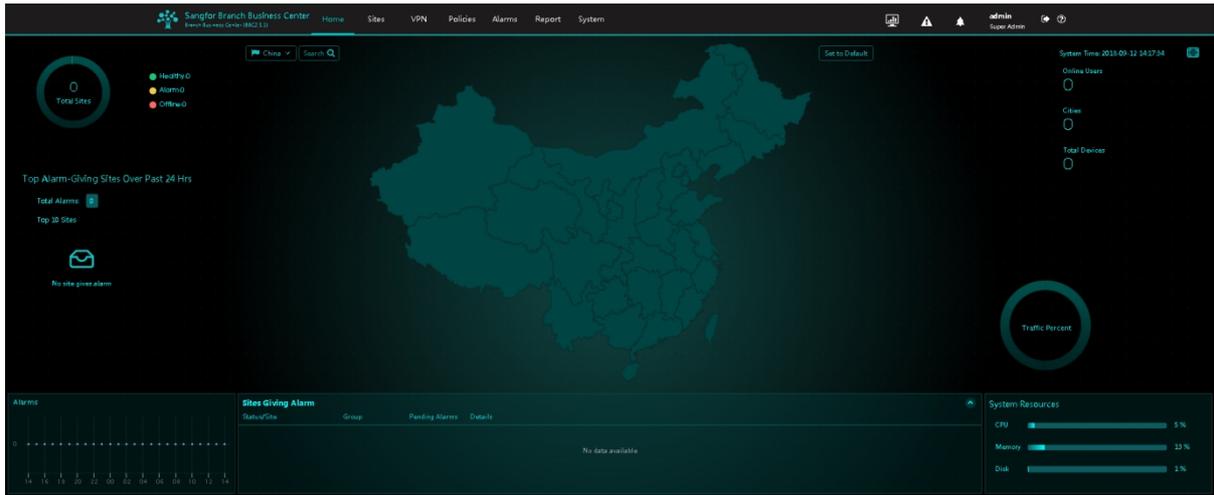
Enter the username and password in the login box, and click the **Log in** button to log onto the BBC console for configuration. By default, the username and password are both “admin” (excluding the quotes).

After the login, a prompt about the password change pops up as below.



The BBC console supports the login and used through browsers such as IE/Firefox/Chrome.

After the login succeeded, the home page of the console is displayed:



4.1 Deployment Configuration

With the console [System] - [System Settings], the deployment configuration can be completed. It includes network configuration, DNS settings, port settings, page settings and security settings.

The screenshot shows the 'Network' configuration page within the 'System Settings' section. The page has a tabbed interface with 'Network', 'DNS Server', 'Public BBC Address', 'Customization', and 'Security'. The 'Network' tab is active, displaying the following configuration fields:

- IP :** 192.168.20.141
- Netmask :** 255.255.255.0
- Gateway :** 192.168.20.1

 A green 'Save' button is located at the bottom left of the configuration area.



The BBC only supports one-arm mode deployment, and does not need to configure the deployment mode but configure the network settings directly.

4.1.1 Network Configuration

[Network Configuration] is used to configure IP, netmask and gateway.

Network	DNS Server	Public BBC Address	Custo
IP :	<input type="text" value="192.168.20.141"/>		
Netmask :	<input type="text" value="255.255.255.0"/>		
Gateway :	<input type="text" value="192.168.20.1"/>		

4.1.2 DNS Settings

Set the DSN server address for the domain name resolution of the device.

Network	DNS Server	Public BBC Address	Customization
Preferred DNS Server :	<input type="text" value="114.114.114.114"/>		
Alternate DNS Server :	<input type="text" value="8.8.8.8"/>		

4.1.3 Port Settings

[Port Settings] is used to set the listening port of the BBC central terminal. The site device can be connected to the BBC central terminal through this port. The page is as follows:

Network	DNS Server	Public BBC Address	Customization
<h3>Address</h3> <p>Address : <input type="text" value="1.1.1.1:5000"/></p> <p><input type="button" value="Save"/></p>			
<h3>Listening Port</h3> <p>Listening Port : <input type="text" value="5000"/></p> <p><input type="button" value="Save"/></p>			

Address: Set the address for the site to contact the BBC.

Listening port: Set the port to access BBC site users. The default port is 5000.

4.1.4 Page Settings

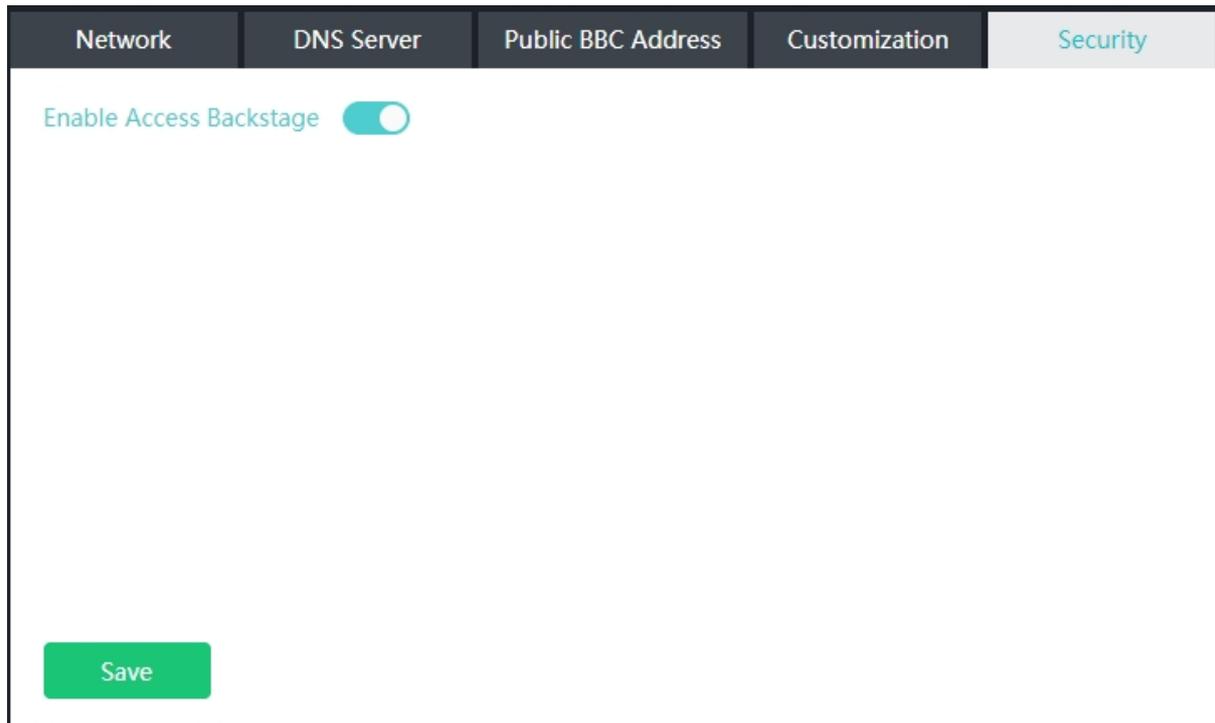
[Page Settings]: Add a company name to the BBC device for easy identification.

Network	DNS Server	Public BBC Address	Customization
<p>Company ... <input type="text" value="sangfor_CTI"/></p>			

4.1.5 Security Settings

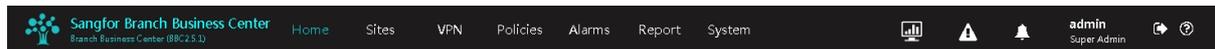
[Security Settings] is used to control technicians of the manufacturer to access the BBC background for troubleshooting. Only by clicking the Open button here, you can log onto the BBC background for

operations through the shell tool.



4.2. Navigation Bar

The **Navigation Bar** is at the top of the page, listing the seven main management modules of the BBC console:



- ✓ [Home]: Display the BBC site access, including the total number of sites, site distribution and BBC running status.
- ✓ [Site]: Facilitate the configuration that needs the BBC site access.
- ✓ [VPN]: Display the overview of the site VPN device; configure VPN topology management and SDWAN intelligent routing.
- ✓ [Policies]: Create the policy template.
- ✓ [Alarms]: Display the alarm information.
- ✓ [Report]: Display the overall trend of alarm problems, the TOP5 site alarms, the type distribution of site alarms, the TOP5 site off-line duration, the TOP5 site resource utilization, and the TOP5 site bandwidth busy duration.

- ✓ [Management]: Configure the license key, date and time, administrator, system settings, alarm settings, backup and recovery, device upgrade, notification mode, internal databases, centralized management, operational shutdown and restart and to view administrator logs.

4.2.1 Home

The middle page of the [Home] displays the current site access status in a map. Green indicates that the current site access status is normal; yellow indicates that the current site access has an alarm; red indicates that the current site is off-line. If there is any inactive site, the number of inactive sites is displayed.



The two sides of the home page are used to display the summary of the BBC site access, including the total number of sites, the site alarms statistics within 24 hours, the TOP10 sites of the alarm events, the overall trend of the alarm problems, the real-time abnormal site, the BBC system status, traffic occupancy, and the total number of devices, distributed cities, on-line users, etc.

[Total number of sites] indicates the total number of current sites and is classified accordance to different status. The green indicates the total number of health sites. Yellow indicates the total number of current alarm sites. Red indicates the total number of off-line sites. Gray indicates the total number of inactive sites.

[Site alarms statistics within 24 hours] indicates the alarm statistics of sites within 24 hours.

[TOP10 sites of the alarm events] keeps statistics of exception error and alarm items of sites and makes a ranking

[Overall trend of the alarm problems] counts and display trends in the number of alarms within 24 hours

[Real-time abnormal site] displays the usage of the abnormal site points and makes a ranking.

[BBC System Status] shows the CPU usage, memory usage, and disk usage of the BBC device.

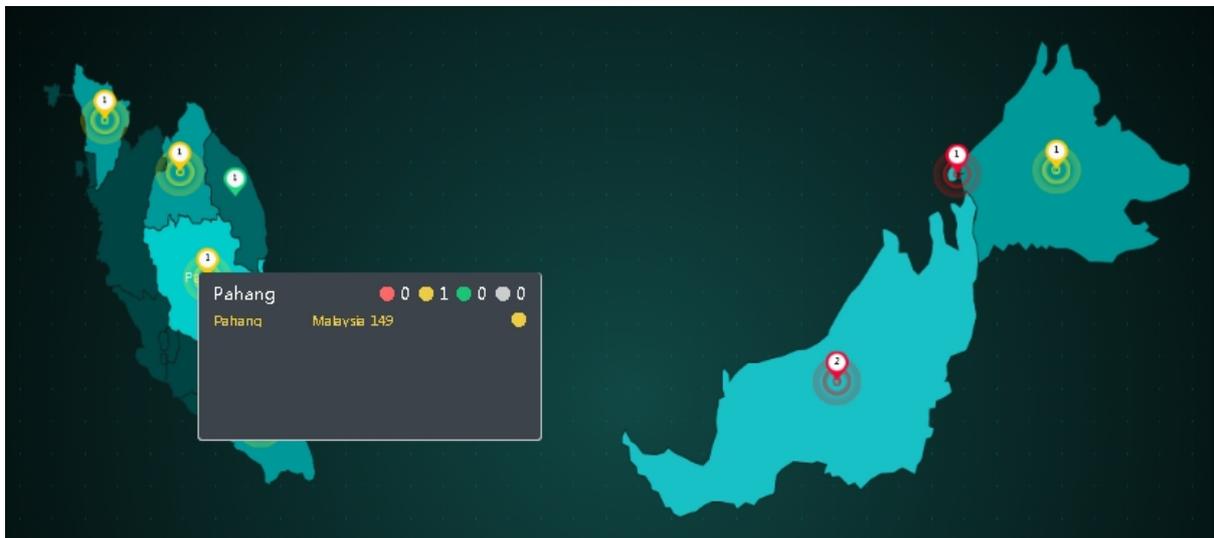
[Traffic occupancy] counts applications with high traffic occupancy in all sites, and then performs reasonable traffic control and monitoring.

[Total number of devices] shows the total number of sites

[Distributed cities] corresponds to the cities where the sites are distributed.

[On-line users] shows the statistics of on-line users at all sites

Move the mouse to a different province on the map to check the status of the current site access.



Select the province to check the distribution of site access in different cities of the province.

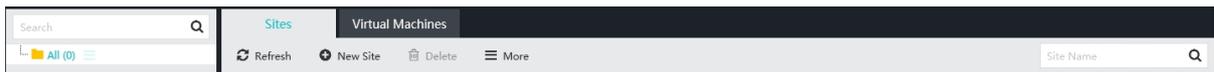


Select the city to check the distribution of site access in different regions of the city.



4.2.2 Sites

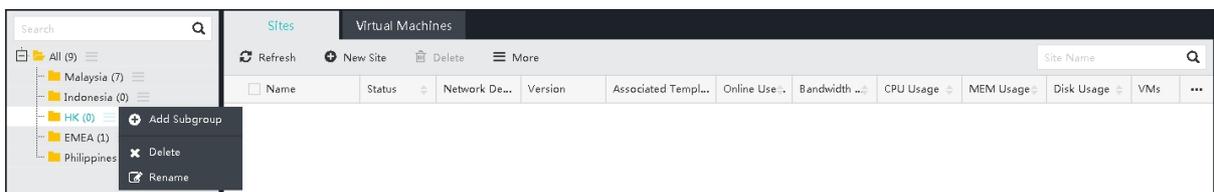
[Sites] includes the site overview and virtual machine



- ✓ [Site overview]: Refers to the usage of each site device and the statistics of device types.
- ✓ [Virtual machine]: To check the status of some VMs in the current central terminal of the BBC device.

4.2.1.1 Site Overview

4.2.2.1.1. Add Subgroup

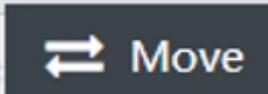


Select  to add the subgroup

Add Subgroup ✕

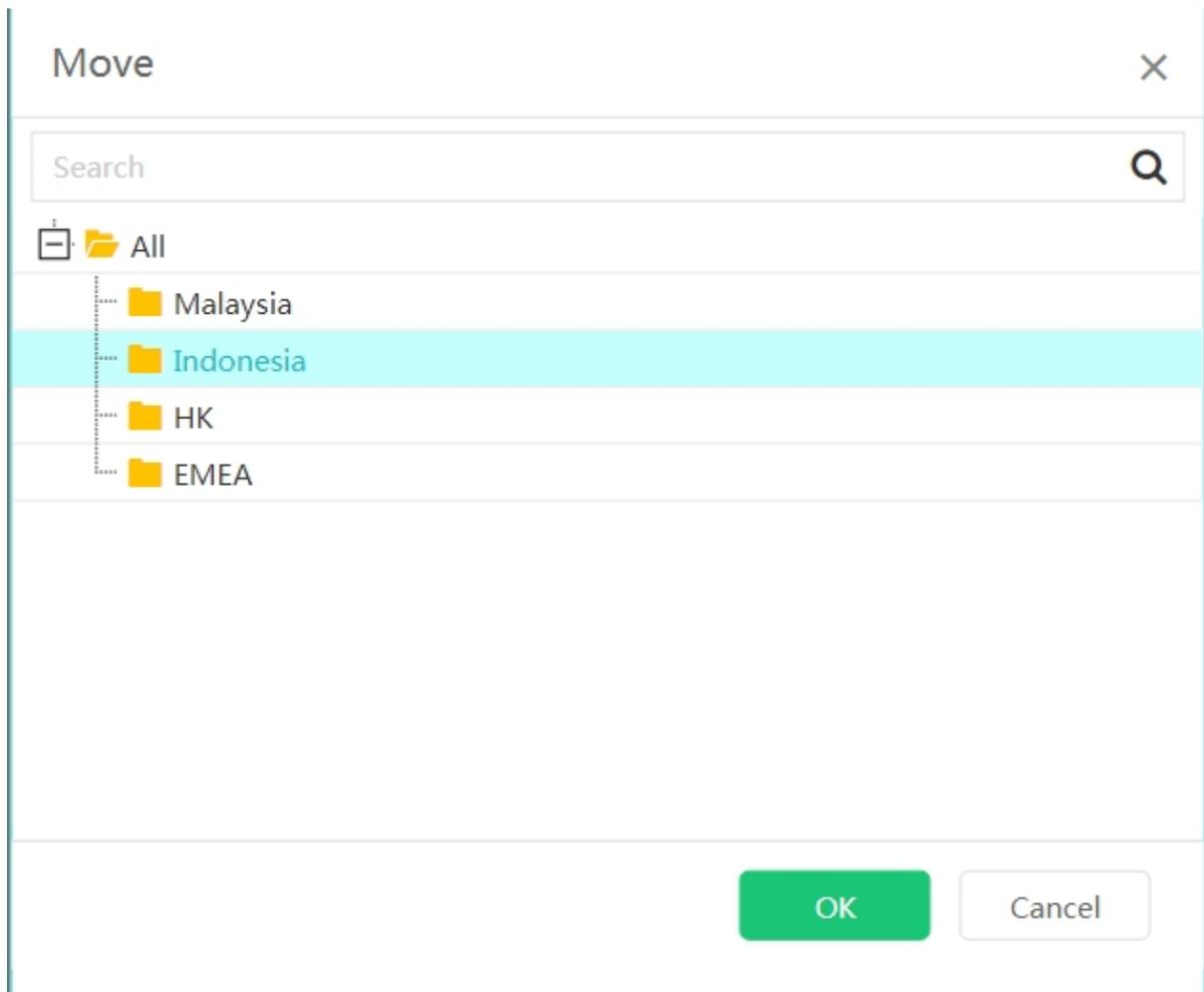
Name :

4.2.2.1.2. Move to Subgroup



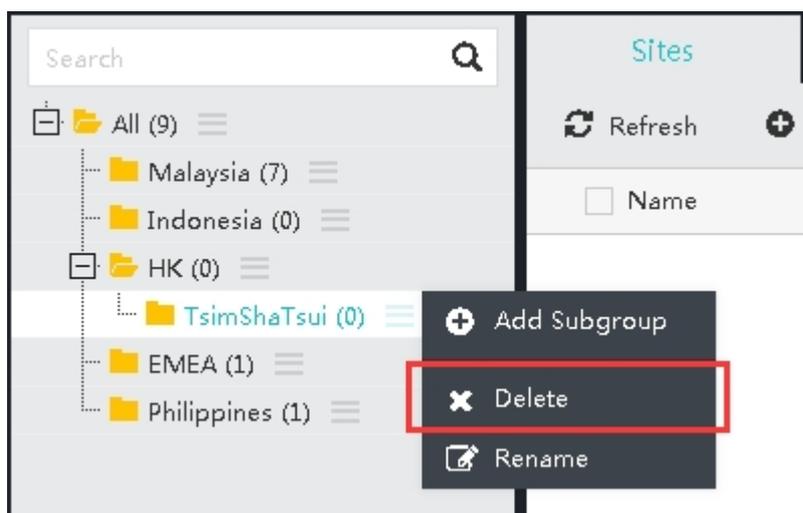
Select the site point to be moved of the group, click  to select the group to be moved, and click OK.

Refresh		New Site		Delete		More	
<input checked="" type="checkbox"/>	Name	Status			Move		Import
<input checked="" type="checkbox"/>	Branch1	Inactivated			Export		Distribute Configurations
					Send Email		Clear



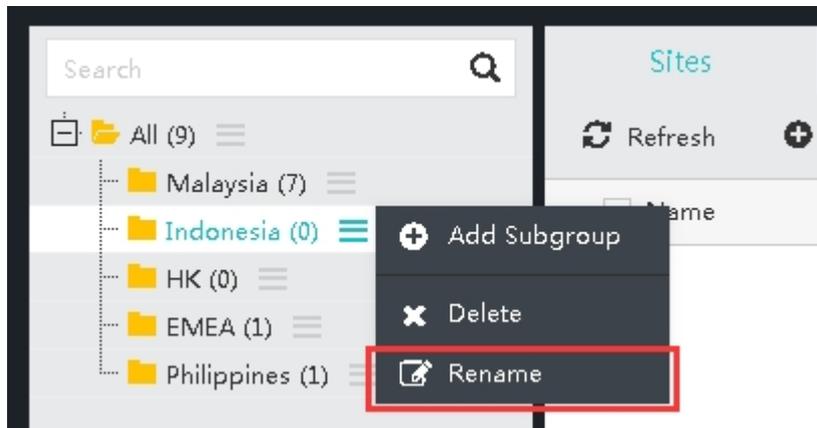
4.2.2.1.3. Delete Subgroup

Click  and select **Delete** to delete the subgroup.

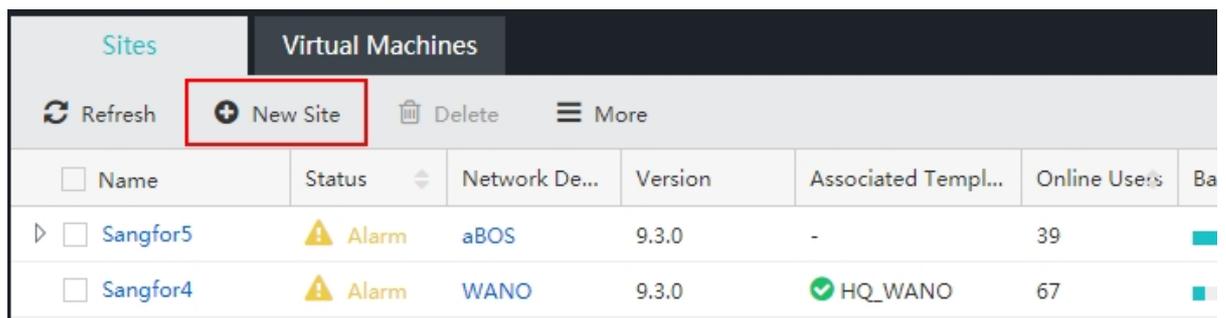


4.2.2.1.4. Rename Subgroup

Click  and select **Rename** to rename the subgroup



4.2.2.1.5. New Site



The screenshot shows the 'Virtual Machines' tab in the 'Sites' management interface. The 'New Site' button is highlighted with a red rectangular box. Below the buttons is a table with columns: Name, Status, Network De..., Version, Associated Templ..., Online Users, and Ba.

<input type="checkbox"/>	Name	Status	Network De...	Version	Associated Templ...	Online Users	Ba
<input type="checkbox"/>	Sangfor5	⚠ Alarm	aBOS	9.3.0	-	39	■
<input type="checkbox"/>	Sangfor4	⚠ Alarm	WANO	9.3.0	✔ HQ_WANO	67	■

Select **New Site**

New Site
✕

* Name :

* Unit : * ▼ *

+ New Unit
i

* Password : Show Password

* Location : ▼ ▼ ▼

* Group : ▼

Remarks :

Enter

Auto Deploy... Settings

OK
Cancel

[Name]: Refer to the name of the site for easy identification

[Site Device]: Select the device type to be accessed such as abos, IAM, AF, WANO, and SSL VPN. Device name: refers to the access name of the site device for the BBC. Select the associated template: Provide the policy template for the site device.

[Password]: The access password of the central terminal of BBC sites can be set manually.

[Location]: Refer to the specific location of the site device and displays easily on the map of the home page.

[Group]: Select the organizational structure to which the site belongs. The organizational structure is created in **4.2.2.1.1**.

[Remarks]: Make remarks or marks for the site

[Auto Deployment]: Deploy the site-related configurations. Click [Configurations](#)

- ① Configure the network: Configure the deployment mode of the site device and network interface configurations.

Auto Deployment Setup (Sangfor) ×

① Set Up Network ——— ② Change Account Password ——— ③ Confirm Email Delivery Info

Sangfor_WANO

Deployment Mode Route Mode Bridge Mode Single Arm Mode

WAN LAN DMZ

Link 1 +

Interface : WAN1

Connection Method : Use static IP address

* IP Address : Example: 192.168.0.1

* Subnet Mask : Example: 255.255.255.0

* Default Gateway : Example: 192.168.0.1

* Preferred DNS Server : Example: 8.8.8.8

* Alternate DNS Server : Example: 8.8.8.8

Next

- ② Modify the device password: Configure the password for admin account of the site device.

Auto Deployment Setup (Sangfor4) ×

① Set Up Network ——— ② Change Account Password ——— ③ Confirm Email Delivery Info

Sangfor4_WANO

! It is better to change initial password to ensure account security.

Username :

Password : Show Password

③ Confirm the site mail message: the contact and email address of the site device.

Auto Deployment Setup (Sangfor4) ×

✓ Set Up Network ——— ✓ Change Account Password ——— 3 Confirm Email Delivery Info

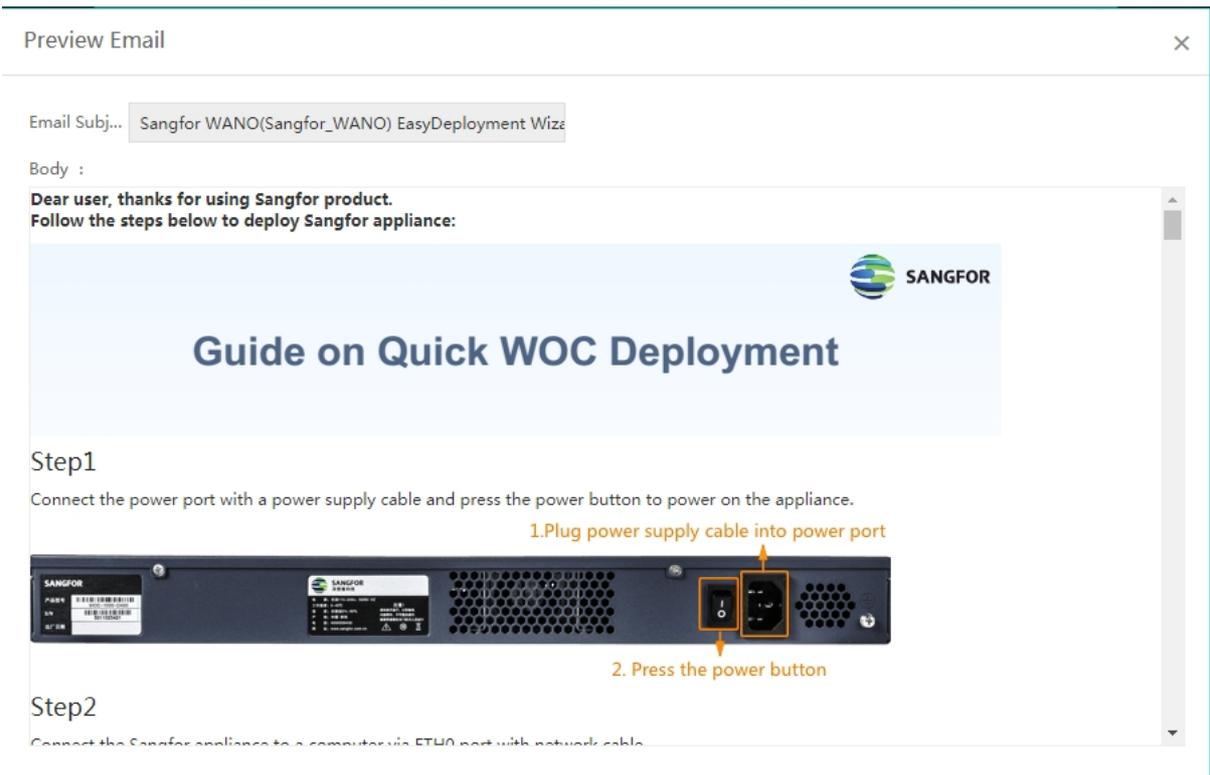
Sangfor4_WANO

* Contact :

* Email Address :

 Preview Email

Click Preview Email to preview the pattern of message body to be sent.



After the site is created, check the type of device and version number of the site device, CPU utilization, bandwidth utilization, and memory utilization.

Name	Status	Network Device	Version	Associated Template	Online Users	Bandwidth Usa.	CPU Usage	MEM Usage	...
Sangfor5	Alarm	aBOS	9.3.0	-	39	59 %	59 %	2 %	
Sangfor4	Alarm	WANO	9.3.0	HQ_WANO	67	14 %	86 %	58 %	
Sangfor3	Alarm	aBOS	9.3.0	-	3	13 %	73 %	36 %	
Sangfor2	Alarm	aBOS	9.3.0	-	37	4 %	57 %	86 %	
Sangfor1	Alarm	WANO	9.3.0	HQ_WANO	41	20 %	33 %	48 %	

4.2.2.1.6. Batch Import of Sites

Name	Status	Network Device	Version	Associated Template	Online Users	Bandwidth Usa.	CPU Usage	MEM Usage	...
Sangfor5	Alarm	aBOS	9.3.0	-	39	59 %	59 %	2 %	
Sangfor4	Alarm	WANO	9.3.0	HQ_WANO	67	14 %	86 %	58 %	
Sangfor3	Alarm	aBOS	9.3.0	-	3	13 %	73 %	36 %	
Sangfor2	Alarm	aBOS	9.3.0	-	37	4 %	57 %	86 %	
Sangfor1	Alarm	WANO	9.3.0	HQ_WANO	41	20 %	33 %	48 %	
Apple4	Normal	WANO	9.3.0	HQ_WANO	8	10 %	8 %	30 %	
Apple3	Normal	WANO	9.3.0	HQ_WANO	80	20 %	14 %	100 %	
Apple2	Normal	WANO	9.3.0	HO_WANO	89	92 %	79 %	2 %	

Import Sites ✕

📁 Upload Follow the example file to edit site information. [Example File](#)

No.	Name	Group	Status
<div style="border: 2px dashed #ccc; padding: 20px; width: 80%; margin: 0 auto;"> <div style="text-align: center; font-size: 2em; margin-bottom: 10px;">+</div> <p>Drag & Drop to Upload File (*.xls, *.xlsx)</p> </div>			

OK
Cancel

After completing the form, click 📁 Upload to check the sites of the device to be imported, and click OK, which means the site import succeeded.

4.2.2.1.7. Batch Export of Sites

Sites		Virtual Machines									
Name	Status	Associated Template	Online Users	Bandwidth Usa.	CPU Usage	MEM Usage					
<input type="checkbox"/> Sangfor5	Alarm	-	39	59 %	59 %	2 %					
<input type="checkbox"/> Sangfor4	Alarm	HQ_WANO	67	14 %	86 %	58 %					
<input type="checkbox"/> Sangfor3	Alarm	-	3	13 %	73 %	36 %					
<input type="checkbox"/> Sangfor2	Alarm	-	37	4 %	57 %	86 %					
<input type="checkbox"/> Sangfor1	Alarm	HQ_WANO	41	20 %	33 %	48 %					
<input type="checkbox"/> Apple4	Normal	HQ_WANO	8	10 %	8 %	30 %					
<input type="checkbox"/> Apple3	Normal	HQ_WANO	80	20 %	14 %	100 %					
<input type="checkbox"/> Apple2	Normal	HQ_WANO	89	92 %	79 %	2 %					

Select 📁 Export to export all sites. Edit or add sites in batches and then import them 📁 Import.

Import Sites ×			
bbc_branch_info.xls			Imported 9
No.	Name	Group	Status
2	EMEA	EMEA	✓
3	Malaysia_146	Malaysia	✓
4	Malaysia_148	Malaysia	✓
5	Malaysia_149	Malaysia	✓
6	Malaysia_142	Malaysia	✓

OK
Cancel

4.2.2.1.8. Edit Sites

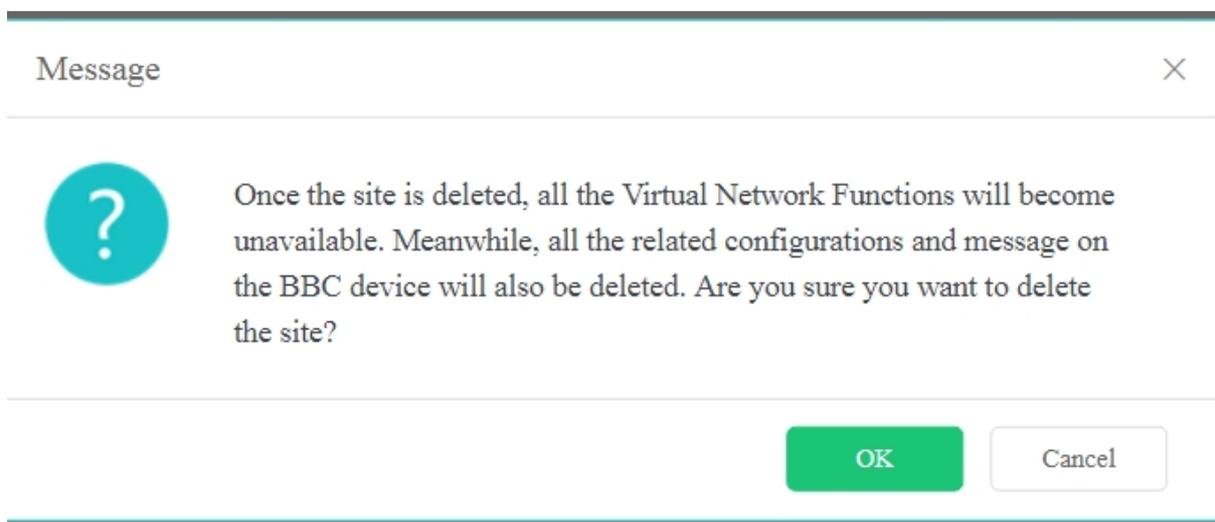
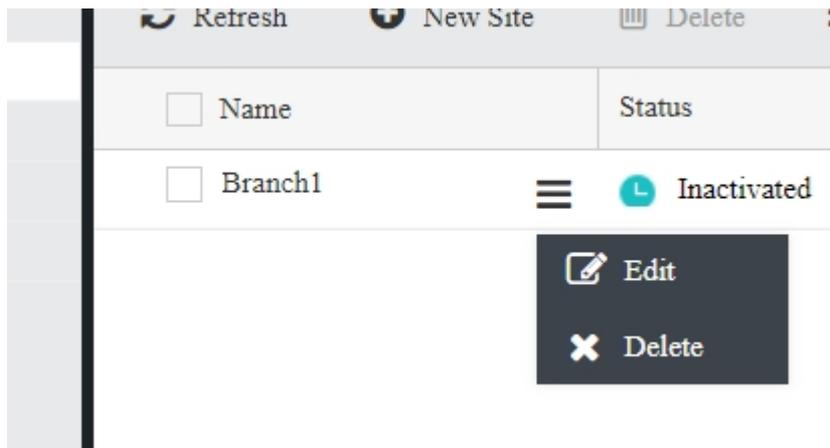
Click and select **Edit Site**

<input type="checkbox"/> Name	Status
<input type="checkbox"/> Branch1	Inactivated

Edit
 Delete

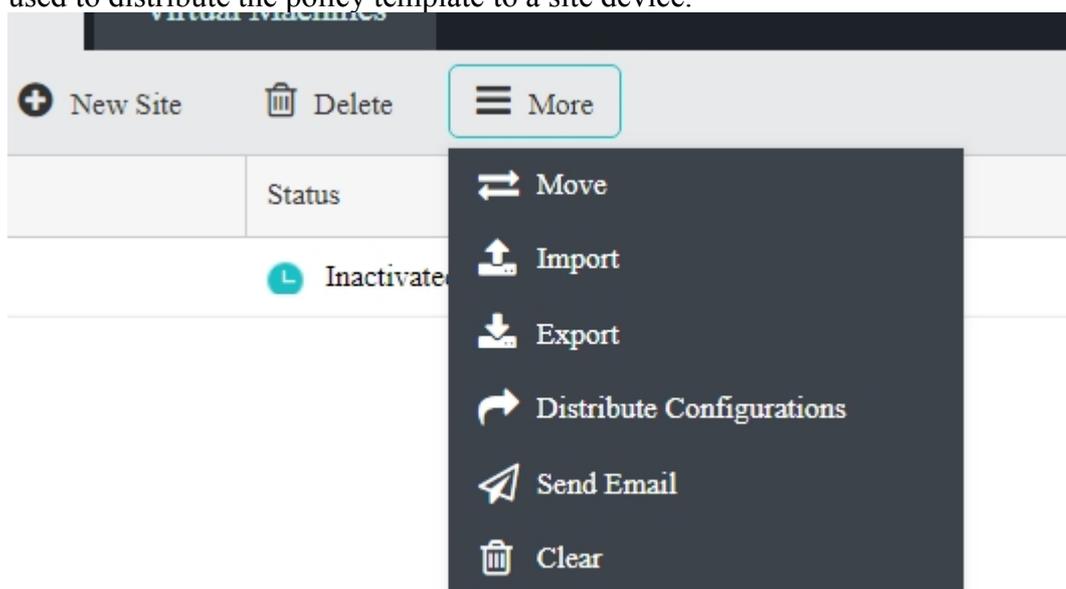
4.2.2.1.9. Delete Sites

Select the site to be deleted and click **Delete Site**. Click **OK** to delete the site.



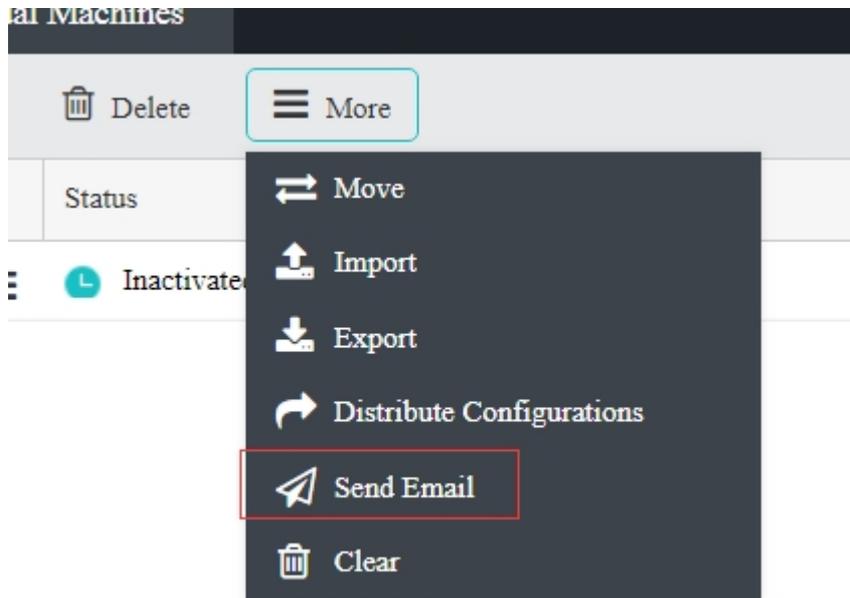
4.2.2.1.10. Distribute Configurations

It is used to distribute the policy template to a site device.



4.2.2.1.11. Send Email

To send an alarm email, you need to configure the email server first. For details, refer to the Configuration in 4.2.7.10.



The BBC administrator selects the site (such as “sangfor”) to send mail, click  for the prompt



The person in charge of the site will receive the following types of mails

Sangfor WANO(Sangfor_WANO) EasyDeployment Wizard 📧

From "Sangfor Branch Business Center (BBC)" <dct03@bbc.com>

Time 2017/03/11 16:29:47 (Sat)

To <dct03@bbc.com>

Dear user, thanks for using Sangfor product.
Follow the steps below to deploy Sangfor appliance:



Guide on Quick WOC Deployment

Step1

Connect the power port with a power supply cable and press the power button to power on the appliance.



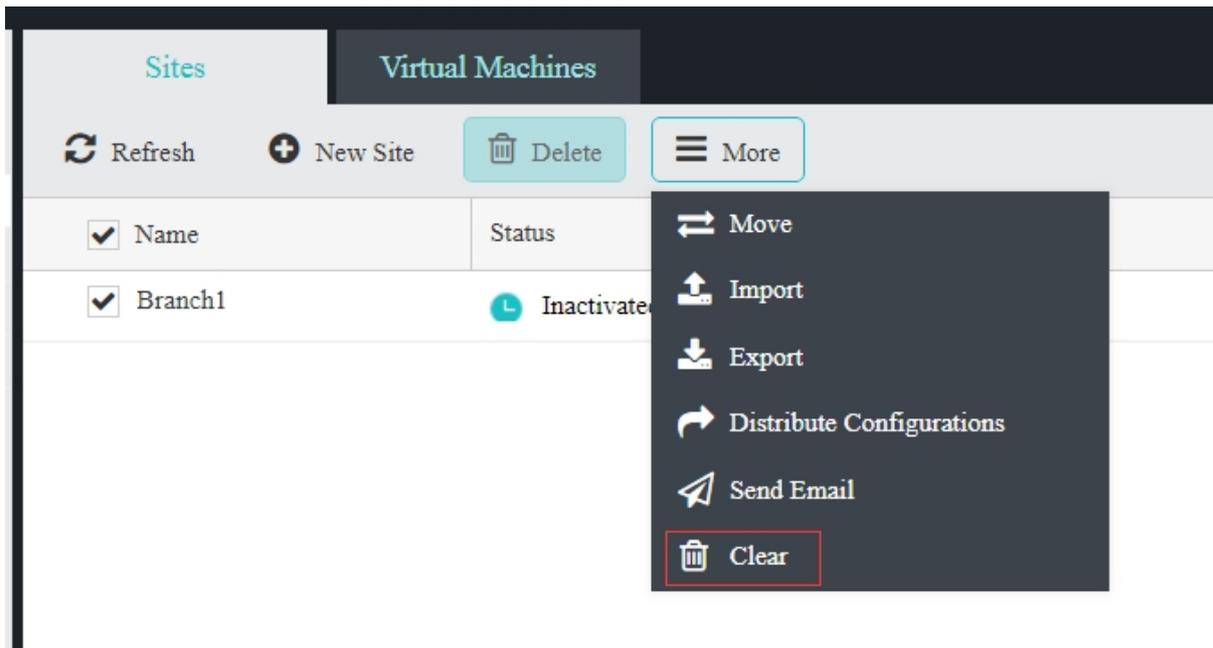
Step2

Connect the Sangfor appliance to a computer via ETH0 port with network cable



4.2.2.1.12. Clear All Sites

It is used to delete the configuration information of all sites.



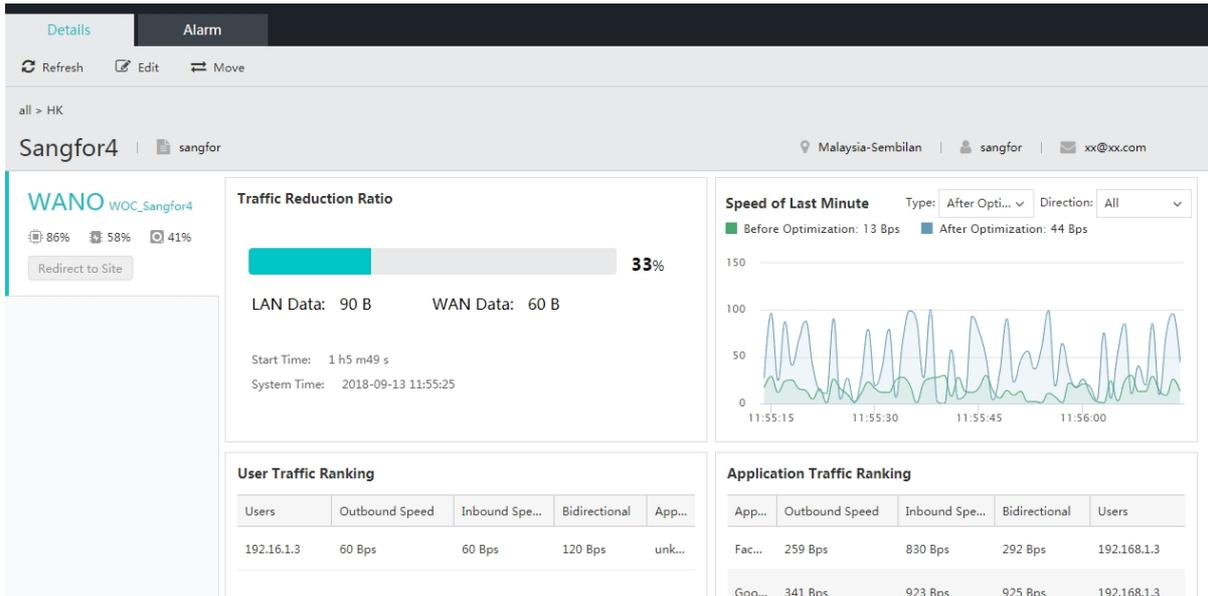
4.2.2.2.13. View Status of Site Access to BBC

Name	Status	Network Device	Version	Associated Template	Online Users	Bandwidth Usa...	CPU Usage	MEM Usage
Sangfor5	Alarm	aBOS	9.3.0	-	39	59 %	59 %	2 %
Sangfor4	Alarm	WANO	9.3.0	HQ_WANO	67	14 %	86 %	58 %
Sangfor3	Alarm	aBOS	9.3.0	-	3	13 %	73 %	36 %
Sangfor2	Alarm	aBOS	9.3.0	-	37	4 %	57 %	86 %
Sangfor1	Alarm	WANO	9.3.0	HQ_WANO	41	20 %	33 %	48 %
Apple4	Normal	WANO	9.3.0	HQ_WANO	8	10 %	8 %	30 %
Apple3	Normal	WANO	9.3.0	HQ_WANO	80	20 %	14 %	100 %
Apple2	Normal	WANO	9.3.0	HQ_WANO	89	92 %	79 %	2 %
Apple1	Normal	WANO	9.3.0	HQ_WANO	59	77 %	45 %	65 %
Amazon5	Normal	aBOS	9.3.0	-	0	11 %	27 %	0 %

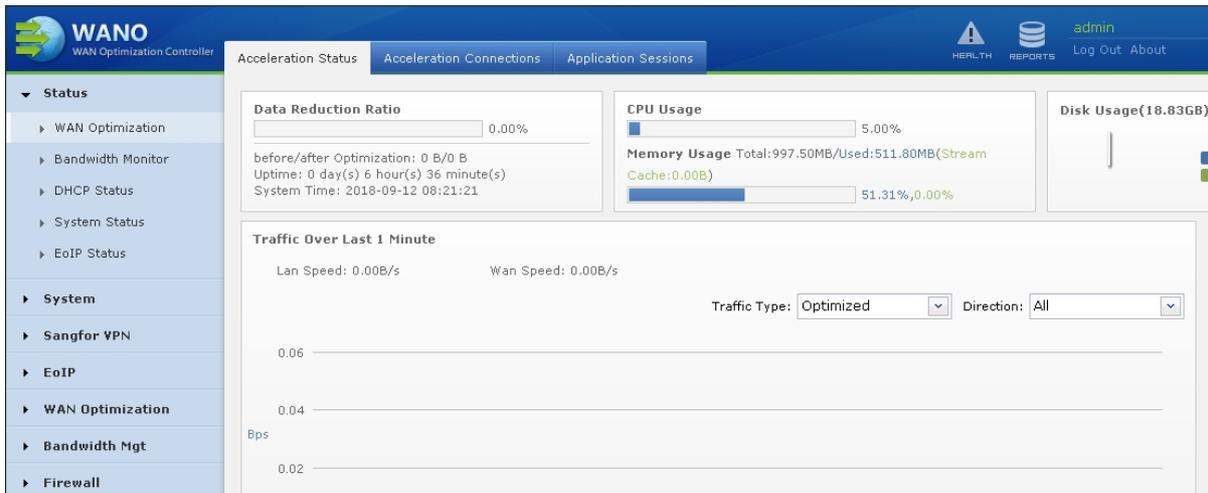
If the site access to BBC succeeded, the status displays details. Click  to check the column information currently hidden on the site page.

Name	Status	Network Device	Version	Associated Template	Online Users	Bandwidth Usa...
Sangfor5	Alarm	aBOS	9.3.0	-	39	59 %
Sangfor4	Alarm	WANO	9.3.0	HQ_WANO	67	14 %

Click on the site name such as “Sangfor4” to skip to the **Details** page and **Alarms** page of the current site AC or abos device.

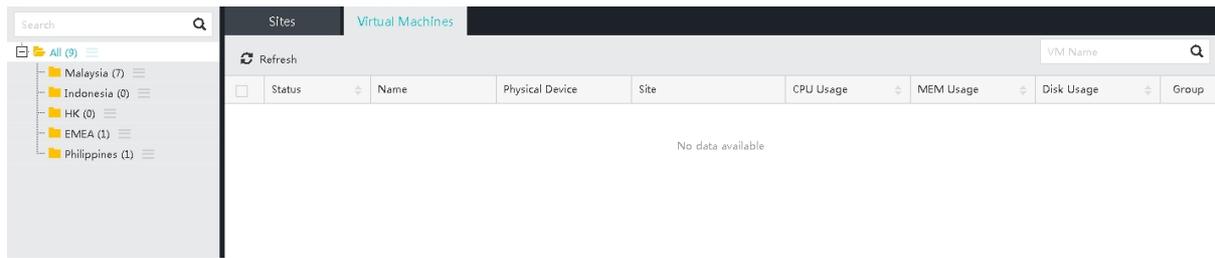


Select [Redirect to Site](#), you do not need to log onto the site device console



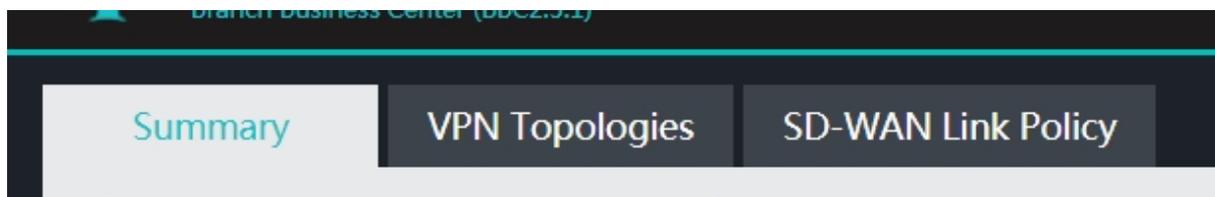
4.2.1.2 Virtual Machine

[Virtual Machine] can check the status of some VMs in the current BBC device on the access central terminal.



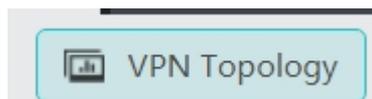
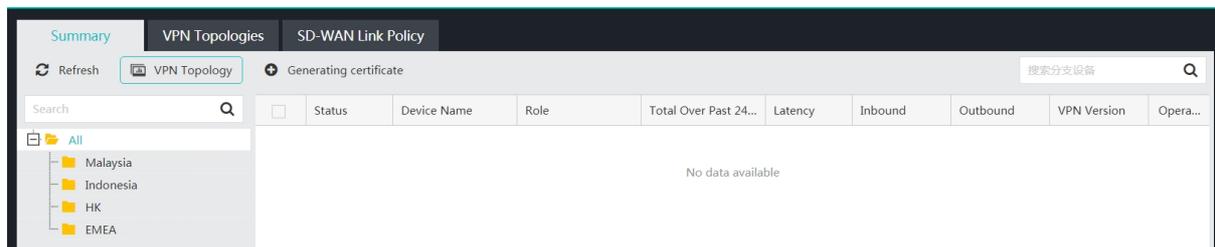
4.2.3 VPN

[VPN] includes the summary of VPN devices, VPN topology management and SDWAN intelligent routing.

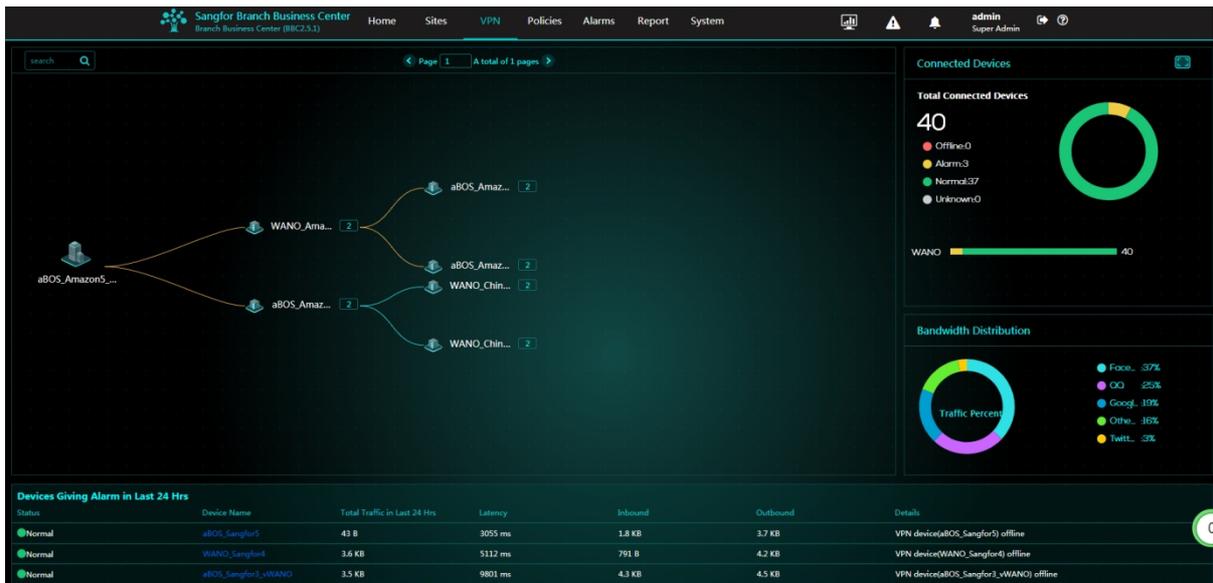


4.2.3.1 Summary of VPN Devices

[Summary of VPN Devices] is used to check the status information of VPN tunnels of sites.



Click [VPN Topology](#) to display the current VPN connection of the site device in a large page format. Blue indicates that the current VPN connection of the access site is normal. Yellow indicates that the current site has an alarm. Red indicates that the current site is off-line, and gray indicates that the current site is inactivated.



[Search VPN Device] is used to search for a specified VPN device.

[Alarm Device within 24 hours] displays the alarm information of each VPN device within 24 hours.

[Traffic Occupancy] counts applications with high traffic occupancy in VPN tunnels of all sites.

[Number of VPN Devices] counts the status of all VPN devices on the whole network.

Click  to generate a device certificate for the specified site device. The certificate authentication is required for creating a VPN topology.

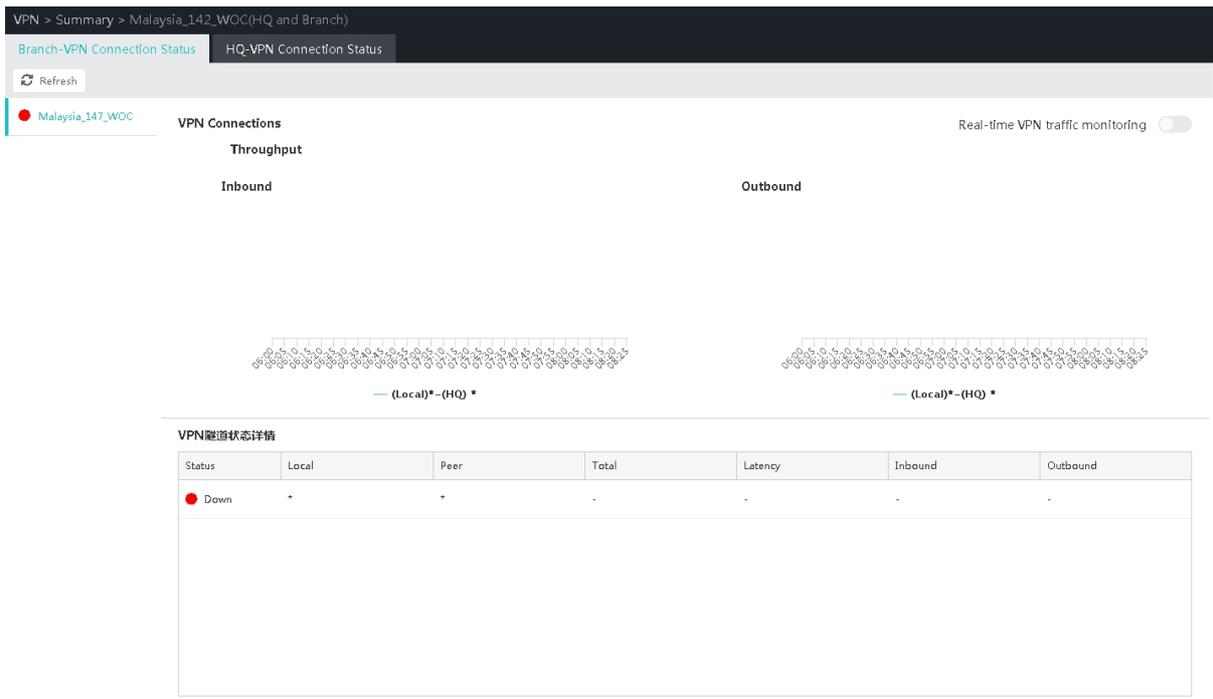
	Status	Device Name	Role	Total Over Past 2...	Latency	Inbound	Outbound	VPN Version	Operation
<input type="checkbox"/>	Normal	aBOS_Amazon5_y...	Peer	2.8 KB	1905 ms	8.1 KBps	6.1 KBps	VPN2.1	View
<input type="checkbox"/>	Alarm	aBOS_oppo1_vW...	HQ and Branch	4.6 KB	7312 ms	2.9 KBps	6.3 KBps	VPN2.1	View
<input type="checkbox"/>	Normal	WANO_Sangfor1	HQ and Branch	8.5 KB	8534 ms	5.3 KBps	4.6 KBps	VPN2.1	View
<input type="checkbox"/>	Normal	aBOS_oppo2_vW...	HQ and Branch	5 KB	5388 ms	4.3 KBps	4.7 KBps	VPN2.1	View
<input type="checkbox"/>	Normal	aBOS_oppo3_vW...	HQ and Branch	4.2 KB	3444 ms	8.9 KBps	7.6 KBps	VPN2.1	View

After the certificate is generated successfully, a prompt



appears.

Click the site name such as “WANO_Sangfor1” to skip to the VPN details page of the current site.



[Connection to Headquarters Devices] indicates that the device type is a site device. The following refers to the VPN connection status between the site and headquarters.

[Traffic Status] displays the VPN trend of sending and receiving traffic in the last day. Click

Real-time VPN traffic monitoring

to enable the refresh of real-time traffic trend.

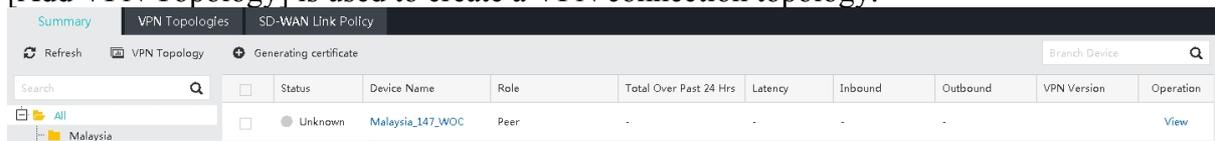
[Details of VPN Tunnel Status] is to check the connection status of the device and all VPN headquarters devices, including status, sites of tunnel headquarters, delay, and flow rate for sending and receiving.

Click the option **View** to view the connection information for the site.

HQ Device	Primary Address	Secondary Address	VPN Ve...
WANO_China_...	10.10.10.10		VPN2.1

4.3.2.2 VPN Topology Management

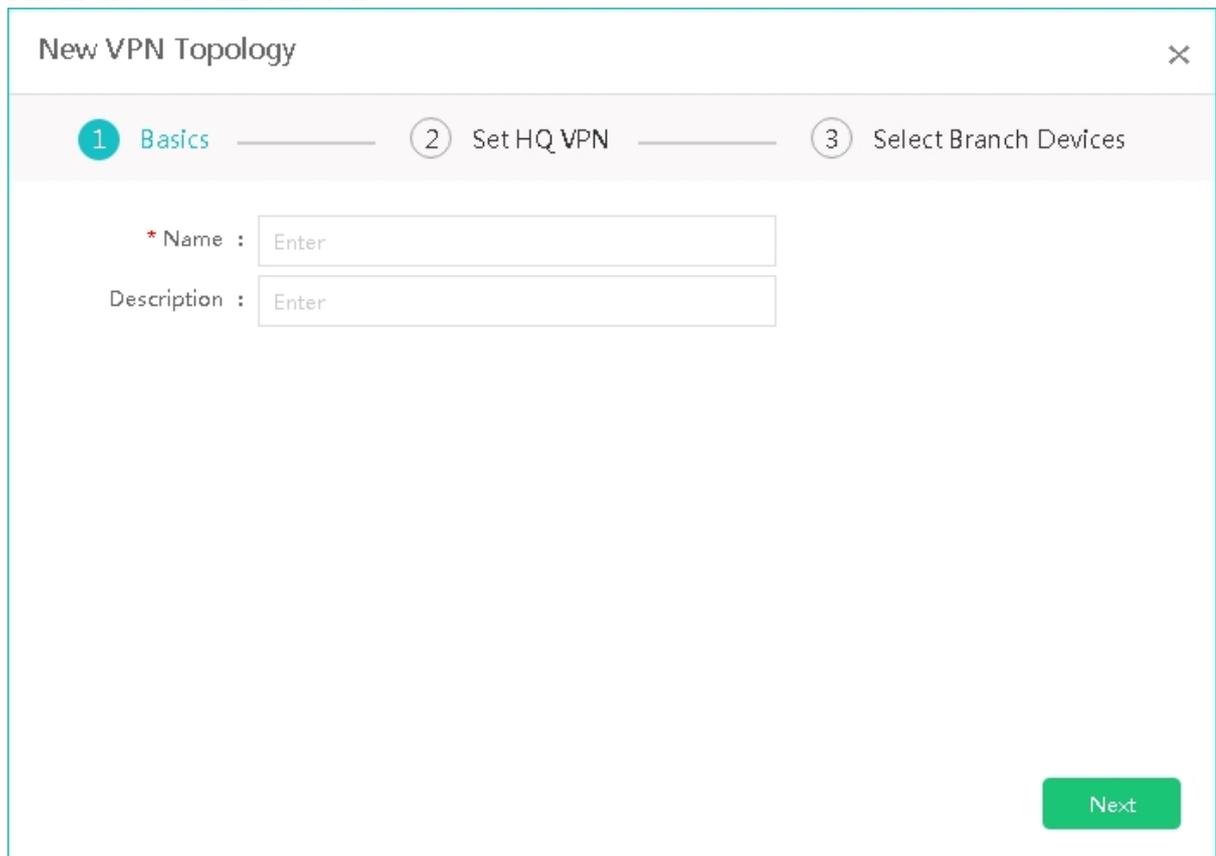
[Add VPN Topology] is used to create a VPN connection topology.



Status	Device Name	Role	Total Over Past 24 Hrs	Latency	Inbound	Outbound	VPN Version	Operation
Unknown	Malaysia_147_WOC	Peer	-	-	-	-	-	View

Click **VPN Topologies** to add and configure a VPN topology

① Fill in the basic information



New VPN Topology

1 Basics — 2 Set HQ VPN — 3 Select Branch Devices

* Name :

Description :

Next

“Connection Name” specifies the VPN topology name.

“Description” describes the topology.

② Configure the headquarters device

New VPN Topology
✕

✔ Basics
② Set HQ VPN
③ Select Branch Devices

HQ Device : 🏠 Select Devices No device selected yet

Use applied VPN configurations on HQ device

Authentication Met... Password Based Auth ▼

Connect-In Metho... Use IP address/domain name Use WebAgent

* Primary Address ... ❗

Secondary Address...

* Listening Port : ❗

Shared Key :

Local Subnets :

Back
Next

VPN Headquarters Device: Select the VPN topology as the device at the VPN headquarters.

VPN Headquarters Has Effective Configuration: Check this option. The configuration of the VPN headquarters directly reads the existing configuration of the device.

Authentication Mode: Select the VPN site authentication mode as the account password authentication or certificate authentication.

Access Mode: Select the VPN site access by IP or domain name, or by dynamic webagent;

Primary Access Address: Set the primary access address for the VPN site;

Standby Access Address: Set the standby access address for the VPN site;

VPN Listening Port: Set the listing service port for VPN headquarters;

Shared Key: Set the shared key to VPN site access;

Local Subnet: Set a network segment where the LAN and the LAN port are not directly connected in the 3-layer LAN of VPN headquarters.

③ Select a site device

New VPN Topology



✓ Basics ——— ✓ Set HQ VPN ——— 3 Select Branch Devices

Devices : [Select Devices](#) No device selected yet

Delete	Device Name	Site	Group	VPN Version
No data available				
				0 in all
				« < 1 > »

Back

OK

“VPN Site Device”: Select the VPN site device.

Click [Distribute VPN configurations](#) to distribute the VPN connection configuration immediately.

Summary		VPN Topologies	SD-WAN Link Policy	
<input type="checkbox"/>	Name	Status	HQ Device	Applicable Units
<input type="checkbox"/>	topology_WANO_Sangfor1_1	● Normal	WOC_Sangfor1	1
<input type="checkbox"/>	VPN_aBOS_oppo1_vWANO	● Alarm	aBOS_oppo1_vWANO	2
<input type="checkbox"/>	VPN_aBOS_oppo2_vWANO	● Normal	aBOS_oppo2_vWANO	3

Click [Delete](#) to delete the specified VPN topology.

4.3.2.3 SDWAN Intelligent Routing

Summary		VPN Topologies		SD-WAN Link Policy			
Refresh	New	Delete	Push Down Policy	LAN Services	Link Type Mgt		
Name	Connected Devices	LAN Services	Link Selection Mode	Priority	Status	Move	Operation
-	Default Path Select...	All devices	All services	Link Load Balancing	Lowest	Enabled	View

 **New**

Click  to add the policy for SDWAN intelligent routing.

Add Policy ✕

*** Name :**

Connected Dev...

LAN Services :

Link Selection ... Preferred Links Link Load Balancing

Branch link: link at the top of the list is preferred. When the top link is busy or down, the link will be used from top to bottom.

<input type="checkbox"/>	VPN Branch Link	Move
No data available. If no connected device is selected. Please select first.		

Link Selection:

1. Link from same ISP is preferred.
2. In both modes, when the preferred link is down, the best-performing link in the remaining links will be used by default.

Policy Name specifies the policy name.

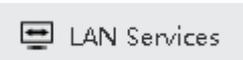
VPN Device specifies the applicable VPN device.

LAN Service specifies the applicable LAN service.

Routing Mode: Select the routing mode and the specific configuration parameters in the corresponding line mode.

Flow Control Priority: Select the flow control priority.

Click  to distribute the policy for SDWAN intelligent routing immediately.

Click  to specify objects for LAN service.

VPN > SD-WAN Link Policy > LAN Services

Service Name	Protocol	Description	Operation
All services	TCP,UDP,ICMP	All services	View
All TCP services	TCP	All TCP services	View
All UDP services	UDP	All UDP services	View
All ICMP services	ICMP	All ICMP services	View

Click  to specify the settings of the route type.

VPN > SD-WAN Link Policy > Link Type Mgt

Device Name	Site	WAN1	WAN2	WAN3	WAN4	Operation
aBOS_Sangfor2_...	Sangfor2	-	-	-	-	Edit
aBOS_Sangfor3_...	Sangfor3	-	-	-	-	Edit
WANO_Sangfor4	Sangfor4	-	-	-	-	Edit
aBOS_Sangfor5_...	Sangfor5	-	-	-	-	Edit
WANO_Apple1	Apple1	-	-	-	-	Edit

4.2.4 Policies

[New Policy Template] is for the policy configuration and distribution

Name	Status	Category	Version	Applicable Units	Creator	Time Updated
WANO Policy						
HQ_WANO	Normal	WANO	9.5.3	40	admin	2018-09-13

4.2.4.1 Create New Policy

Add New Template
✕

Creation Method : Create New Template
Clone Existing Template

Category : WANO

* Template Version :

* Name :

Applicable Unit : Select Units 0 WANO unit (s) selected

OK
Cancel

Configuration Mode: Creating a new template means creating a brand new template

Template Type: Select the corresponding product for the template

Template Version: Select the template version for the product

Template Name: Name the template

Associated Device: Select the product device to be associated

4.2.4.1 Clone Template from the Existing Template

Add New Template
✕

Creation Meth... Create New Template
Clone Existing Template

* Template :

* Name :

Applicable Unit... Select Units 0 unit (s) selected

OK
Cancel

Configuration Mode: Cloning the configuration from an existing template means that you can clone an identical template configuration from an existing template.

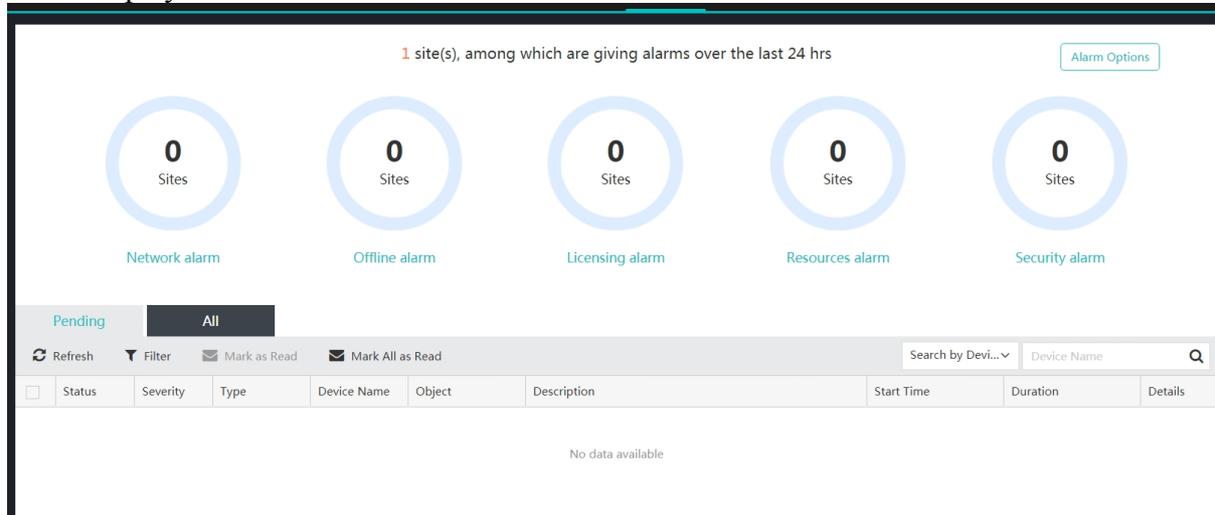
Select Template: Select the template to be cloned

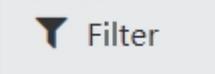
Template Name: Name the template

Associated Device: Select the product device to be associated

4.2.5 Alarms

It can display the health status of the current site device.



Click  to screen the log information according to conditions.

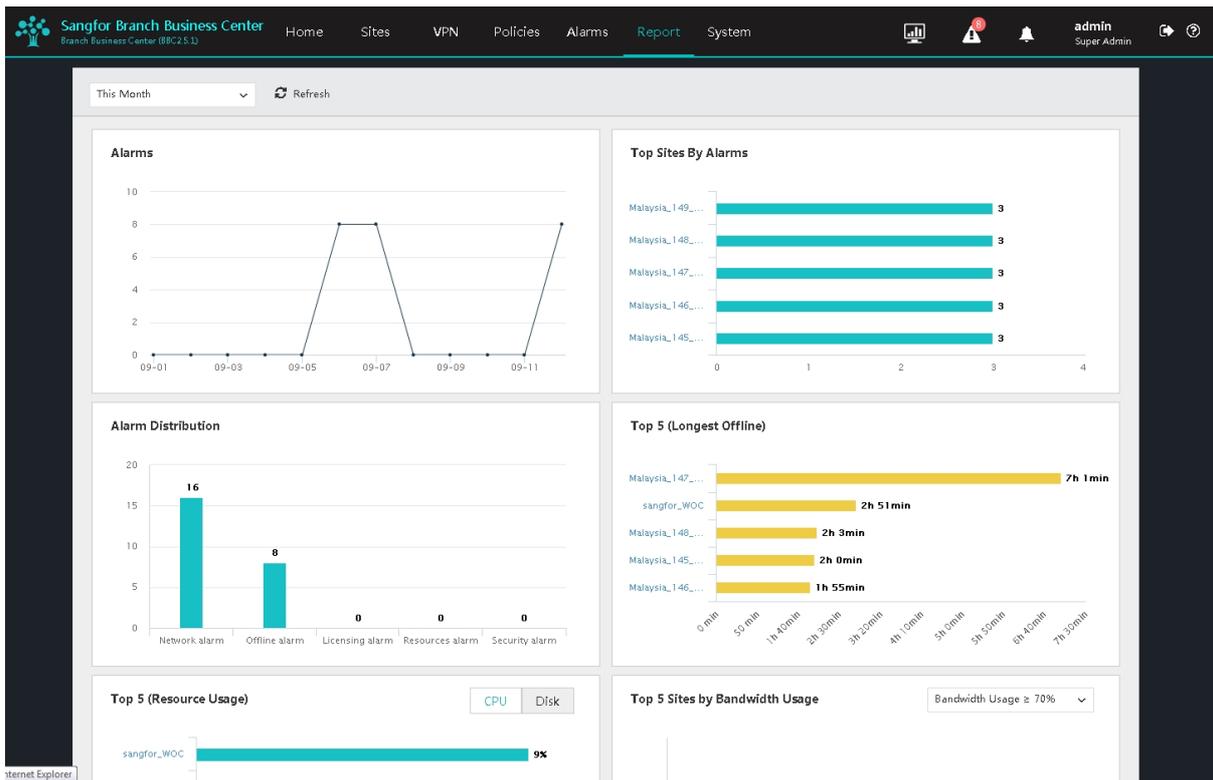
The screenshot shows a "Filter" dialog box with the following settings:

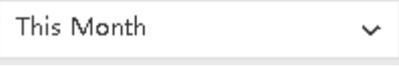
- Severity : Critical Failure
- Type : All (dropdown)
- Time : Last 3 Days (dropdown)
- Group : All (dropdown)

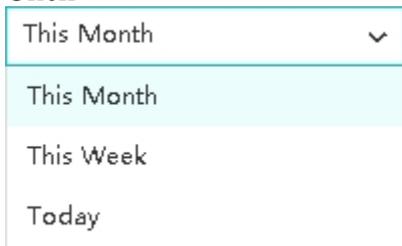
At the bottom of the dialog are three buttons: "Restore", "OK", and "Cancel".

4.2.6 Report

To make a statistics of the usage of each site, status of each site device, the overall trend of alarm problems, the top 5 site alarms, site alarms ranking, the top 5 site off-line duration, the top 5 site resource utilization, and the top 5 site bandwidth busy duration.



Click  to select the period of the statistics report.



4.2.7 Management

Management includes: the license key, date and time, administrator, system settings, alarm settings, backup and recovery, administrator logs, shutdown and restart, device upgrade, notification mode, internal databases and centralized management.



4.2.7.1 License Key

Fill in the license key, device ID and serial number, click [**Apply for Free Trial License Key**] to skip to the application page as follows, and then fill in the information honestly.

Licensing Methods : Online(Trial Edition)

Authorized User :

aBoS ID : T83B8-22F0-0FE7-D3D9-BDC3-BB44-77FA-59B5

License Key : 557A-C4B5-B289-0738-0DB1-E50C-EFB5-19CF

[Edit License Key](#)

Name: *

Mobile Number: *

SMS Passcode: *

Company Name: *

Purpose: * ✖

With reasonable and real purpose, it will be approved earlier.
Please tell us the purpose of free trial.

Referrer

Referrer Phone

With informations of referrer, it will be approved earlier.

You can view all authorized devices:

Device Name	Site	License of Device	Multi-Function License	Application Signature/URL Dat .	Software Upgrade License	Operation
No data available						

4.2.7.2 Date and Time

4.2.7.2.1. Date and Time

Set date and time in sync with Internet time

Date and Time



16:59:02
2018-09-12 Wed
(UTC+08:00) Irkutsk, Beijing
[Change](#)

Time Sync

Sync Time with NTP Server

Server :

Display the current BBC system time. You can modify the system time by clicking **Change Time Settings**.

Date and Time ✕

◀ 2018 ▼ Sept ▼ ▶

Sun	Mon	Tue	Wed	Thu	Fri	Sat
26	27	28	29	30	31	1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29
30	1	2	3	4	5	6

17:00:30 ⬆️ ⬆️

(UTC+08:00) Irkutsk, Beijing ▼

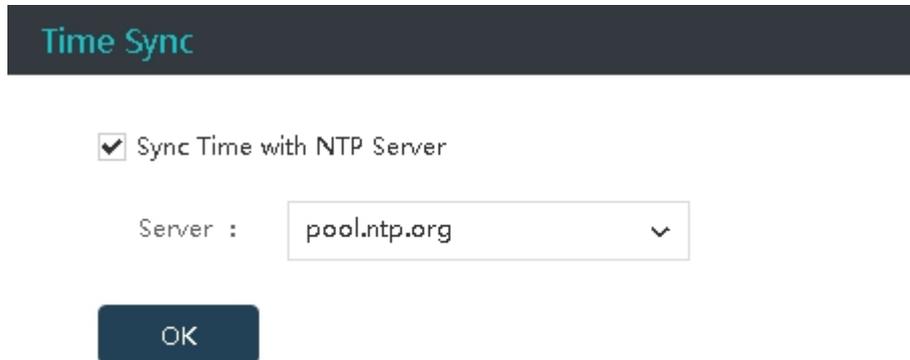
Sync with Local PC

Click **Get Local Time** to synchronize the BBC host time with the time of the computer which is currently logged in. Click **OK** to save the new time settings.

After modifying the system date and time settings, you need to log in again.

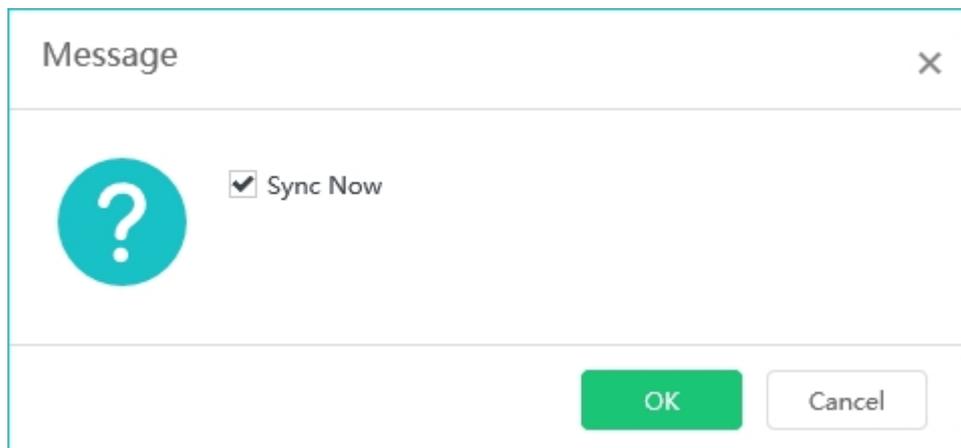
4.2.7.2.2. Time Synchronization Settings

To set the BBC to synchronize time through the NTP server and select the NTP server from the drop-down list.



The screenshot shows a dialog box titled "Time Sync" with a dark header. Below the header, there is a checked checkbox labeled "Sync Time with NTP Server". Underneath, the text "Server :" is followed by a dropdown menu containing the text "pool.ntp.org" and a downward arrow. At the bottom of the dialog is a dark blue button labeled "OK".

Click **Save** to pop up the **Synchronize Server Time** dialog box immediately. Click **OK** to synchronize now. NTP time synchronization requires the BBC to configure the correct DNS and connect to the Internet normally.



The screenshot shows a dialog box titled "Message" with a close button (X) in the top right corner. On the left side, there is a teal circular icon containing a white question mark. To the right of the icon is a checked checkbox labeled "Sync Now". At the bottom of the dialog, there are two buttons: a green "OK" button and a white "Cancel" button with a grey border.

4.2.7.3 Administrator

To set the administrator account and password for the device login. The BBC can create the system administrator and zone administrator. The system administrator can modify the administrator password or add other administrators. The zone administrator has only the access to the zone, and the super administrator can maintain all members.

Users (1)			
Username	Description	Group	Change Password
admin		admin	

4.2.7.3.1. Add System Administrator

Click **Add** to create a new administrator, as shown below:

Add Admin Account ✕

* Name :

* Password : (i)

* Retype Password ...

Role : System Admin ▼

Description :

OK
Cancel

Name: Give the administrator a name

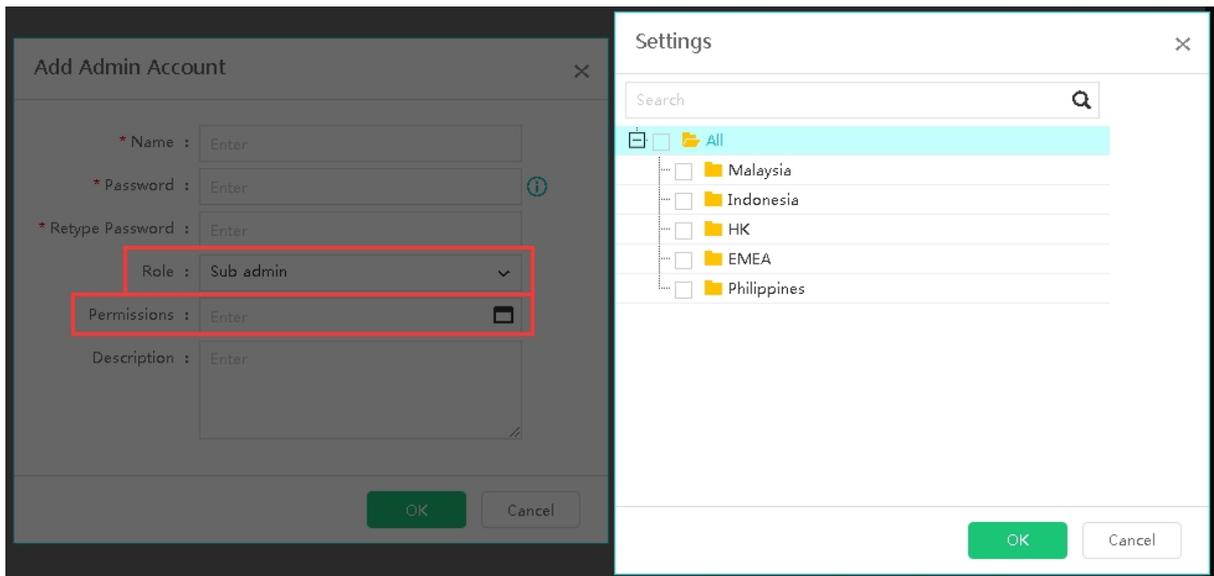
Password: Set a login password for the administrator

Retype Password: In order to avoid password input errors, retype the password for confirmation.

Role: Select the System Administrator

Description: Mark the administrator

4.2.7.3.2. Add Zone Administrator



Name: Give the administrator a name

Password: Set a login password for the administrator

Retype Password: In order to avoid password input errors, retype the password for confirmation.

Role: Select the Zone Administrator

Authorization Configuration: Select a controllable site

<input type="checkbox"/>	Username	Description	Group	Change Password
<input type="checkbox"/>	admin		admin	

By clicking to fill in the current account password, you can change the password for the selected administrator.

Confirm

?

Enter Your Password to Confirm :

Change Password
✕

New Password :

i

Retype Password ...

OK
Cancel



The password cannot contain a username. The password includes at least two combinations of uppercase letters, lowercase letters, numbers, and special characters.

4.2.7.3.3. Edit User

By clicking on the corresponding user such as “admin”, you can edit the administrator.

	Username	Description	Group	Change Password
<input type="checkbox"/>	admin		admin	

Edit Account
✕

* Name :

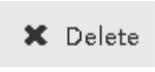
Role :

System Admin
▼

Description :

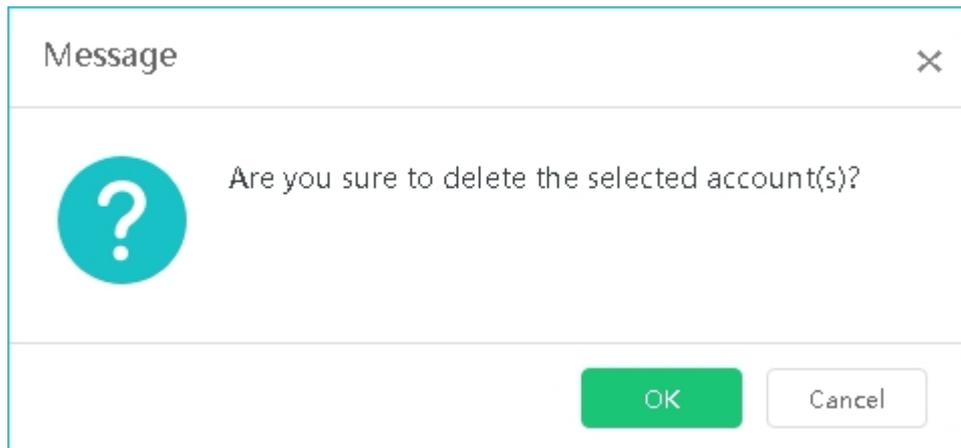
OK
Cancel

4.2.7.3.4. Delete User

By selecting the user to be deleted and clicking , you can delete the administrator but cannot delete the administrator of the admin.



Users (2)		Username	Description	Group	Change Password
System Admin (2)	<input type="checkbox"/>	admin		admin	
Sub admin (0)	<input type="checkbox"/>	sangfor		admin	



4.3.7.4 System Settings

Refer to 4.1 for the network settings and access address settings

Network	DNS Server	Public BBC Address	Customization	Security
IP :	<input type="text" value="192.168.20.141"/>			
Netmask :	<input type="text" value="255.255.255.0"/>			
Gateway :	<input type="text" value="192.168.20.1"/>			
<input type="button" value="Save"/>				

4.3.7.5 Alarm Setting

Set the alarm events, threshold conditions for triggering alarms and notification mode of alarm generation.

4.2.7.5.1. Site Alarm Settings

It sets the alarm conditions. If the alarm condition is met, an alarm log is generated. The interface is as follows:

Alarm Options	Alarm Delivery
 Site Units (Applicable to IAM, SG, NGAF, MIG, aBOS, WANO)	
<input checked="" type="checkbox"/> Host CPU usage is above (<input type="text" value="1"/> % , Last for <input type="text" value="1 minute"/>)	<input type="button" value="Disabled"/> ▾
<input checked="" type="checkbox"/> Host memory usage is above (<input type="text" value="1"/> % , Last for <input type="text" value="1 minute"/>)	<input type="button" value="Disabled"/> ▾
<input checked="" type="checkbox"/> Storage usage reaches (<input type="text" value="1"/> %) ⓘ	<input type="button" value="Disabled"/> ▾

“Set Alarm Conditions”: To check and set the conditions for alarm generation.

4.2.7.5.2. BBC Alarm Configuration

 **BBC**

<input checked="" type="checkbox"/> BBC is offline	Notify	▼
<input checked="" type="checkbox"/> Site is offline	Notify	▼
<input checked="" type="checkbox"/> License is about to expire	Notify	▼
<input checked="" type="checkbox"/> System CPU usage is above (<input type="text" value="90"/> %, Last for <input type="text" value="5 minute"/>)	Notify	▼
<input checked="" type="checkbox"/> System memory usage is above (<input type="text" value="90"/> %, Last for <input type="text" value="5 minute"/>)	Notify	▼
<input checked="" type="checkbox"/> System disk usage is above (<input type="text" value="85"/> %)	Notify	▼

4.2.7.5.3 WANO Alarm Configuration

 **WANO**

<input checked="" type="checkbox"/> Enable Email Alarm		
<input checked="" type="checkbox"/> Resource Health State	Disabled	▼
<input checked="" type="checkbox"/> Network State	Disabled	▼
<input checked="" type="checkbox"/> Security State	Disabled	▼
<input checked="" type="checkbox"/> WANO Connection	Disabled	▼
<input checked="" type="checkbox"/> Configuration error occurred	Disabled	▼

4.2.7.5.3. Alarm Notification

The alarm notification is used to send an alarm email to the specified email address after the alarm is generated. Check **Send to the Specified Mailbox** and fill in the Email.

Alarm Options Alarm Delivery

Send alerts to specified email addresses

Recipient Address ... One entry per row. Example:
test1@domain.com
test2@domain.com

Save SMTP Server



To send an email, you need to configure the email server first. For details, refer to **4.2.7.10**

4.3.7.6 Backup and Recovery

4.2.7.6.1. Backup

Select the **Backup System to Local** to back up the BBC configuration to the local.

Backup

i System and policy template configurations will be backed up to this BBC unit at midnight every day. You may save the configurations to the local disk manually.



Back Up System Configuration

4.2.7.6.2. Recovery

Restoring the configuration supports recovery from local backup files and keeps the automatic backup.

Restore

i To restore BBC configurations, you will restore those of Virtual Network Function(VNF) as well.

1. Restore from a scheduled backup

2018-09-12 00:00:22 ▼

Restore

2. Restore from a backup on the local disk

Select *.bcf file Browse...

Restore

4.2.7.6.3. Restore Factory Settings

It is used to bring all parameter information of the BBC device to the original state, including the user, site data, alarm logs, operation logs, and so on.

Restore to Factory Defaults

i All the BBC configurations will be restored to factory defaults, such as settings of Administrators, Sites, Tasks and Alarms, etc. Please operate with caution!

Restore to Factory Defaults

4.2.3.1 Administrator Logs

[Operation Logs]: Record the system operation logs and the generated alarms to provide a basis for subsequent troubleshooting, and configure the logs for policy distribution to the site terminal.

Status	Action	Start Time	End Time	Username	Node	Object Type	Object	Operation
Completed	Redirect to device	2018-09-12 16:20:33	2018-09-12 16:20:33	admin (192.200.19.54)	192.168.20.141	WOC	EMEA_WOC	View
Completed	Push down EasyDepl...	2018-09-12 16:14:02	2018-09-12 16:14:13	admin (192.200.19.54)	192.168.20.141	Site	Site Name: Malaysia_142	View
Completed	Push down EasyDepl...	2018-09-12 16:13:19	2018-09-12 16:13:32	admin (192.200.19.54)	192.168.20.141	Site	Site Name: Malaysia_142	View
Completed	Export sites	2018-09-12 16:10:36	2018-09-12 16:10:36	admin (192.200.19.54)	192.168.20.141	Site	Export sites	View
Completed	Export sites	2018-09-12 16:05:54	2018-09-12 16:05:54	admin (192.200.19.54)	192.168.20.141	Site	Export sites	View
Completed	Delete group	2018-09-12 15:59:29	2018-09-12 15:59:30	admin (192.200.19.54)	192.168.20.141	Group	Group name: TsimShaTsui	View
Completed	Add group	2018-09-12 15:58:24	2018-09-12 15:58:24	admin (192.200.19.54)	192.168.20.141	Group	Group name: TsimShaTsui	View
Completed	Edit site	2018-09-12 15:45:53	2018-09-12 15:45:54	admin (192.200.19.54)	192.168.20.141	Site	Site name: Malaysia_142	View
Completed	Log in	2018-09-12 09:20:43	-	admin (192.200.19.54)	192.168.20.141	User	admin	View
Completed	Restart	2018-09-12 09:13:12	2018-09-12 09:13:12	admin (192.200.19.54)	192.168.20.141	Branch Business...	Current operating system	View

Click  to view the detailed logs.

Status :  Completed

Action : Export sites

Start Time : 2018-09-12 16:10:36

End Time : 2018-09-12 16:10:36

Username : admin (192.200.19.54)

Node : 192.168.20.141

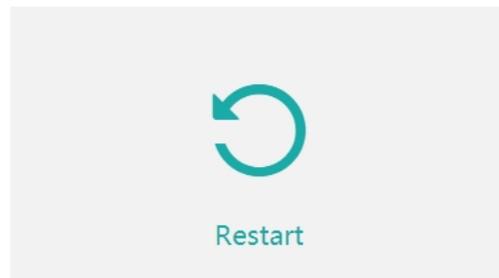
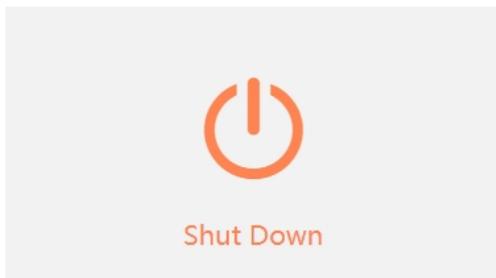
Object Type : Site

Object : Export sites

Description :

4.2.7.7 Shut Down and Restart

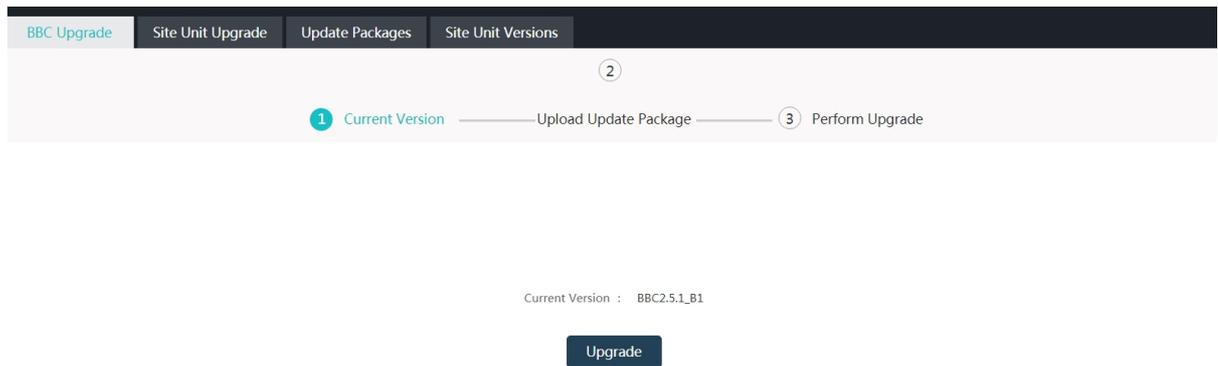
The device can be shut down or re-started via the console.



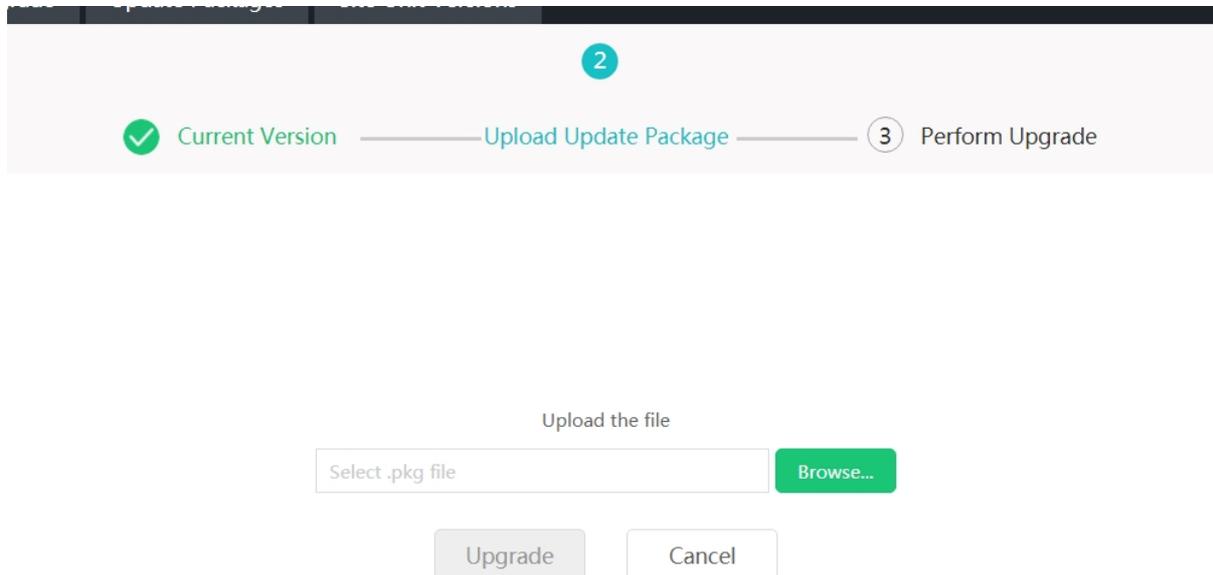
4.2.7.8 Device Upgrade

4.2.7.8.1 BBC Upgrade

Upgrade the BBC through uploading the upgrade package. If there is a new version, the customer may upgrade by uploading the upgrade package,



Click **Upgrade to Other Version** to load local upgrade package. After upgrade completed, manually click “Restart Now” to restart the host.



4.2.7.8.2. Upgrade of Site Device

Upgrade the site device by uploading the upgrade package of the site point to upgrade the site device.

BBC Upgrade									
Site Unit Upgrade									
Update Packages									
Site Unit Versions									
Refresh									
New Upgrade Schedule									
Delete									
Enabled									
Disabled									
Name									
Q									
Status	Name	Schedul...	Upgrade Status	Start Date	Start Time	Enabled/...	Description	Operation	
No data available									

Use **[New Upgrade Schedule]** to add an upgrade schedule and fill in

New Upgrade Schedule
×

3

1 Basics
2 Select Unit
Specify Update Time

* Name :

* Applicable Devi...

* Update Packag...

No appropriate update package? [Upload Update Package](#)

Prefer to obtain update package from update server

Description :

① Basic Information

Fill in **[Schedule Name]** at will without any requirements

Use **[Upgrade Object]** to select the product required upgrade

Use **[Upgrade Package]** to select the required upgrade package if there is no **New Upgrade Package** in the list to upload required upgrade package

[Description] may be filled in or not

New Upgrade Schedule ×

✔ Basics — ② Select Unit — ③ Specify Update Time

WOC unit (s) in total: 40, selected: 0

<input type="checkbox"/>	Device Name	Device Type	Site	Version	Associated Te...
<input type="checkbox"/>	WANO_Sangfor1	WANO	Sangfor1	9.3.0	HQ_WANO
<input type="checkbox"/>	aBOS_Apple5_v...	WANO	Apple5	9.3.0	HQ_WANO
<input type="checkbox"/>	WANO_KFC1	WANO	KFC1	9.3.0	HQ_WANO
<input type="checkbox"/>	aBOS_KFC2_vW...	WANO	KFC2	9.3.0	HQ_WANO
<input type="checkbox"/>	aBOS_KFC3_vW...	WANO	KFC3	9.3.0	HQ_WANO

40 in all

«
<
1
2
3
4
>
»

Back
Next

② Select Upgrade Device

You may select each site at each organizational structure on the left, and site device in each team is on the right

③ Execute the Schedule

Select the specific time for device upgrade

New Upgrade Schedule ×

✔ Basics — ✔ Select Unit — ③ Specify Update Time

System Time: 2018-09-13 15:15:30

Start Date :

Start Time :

Enable this schedule

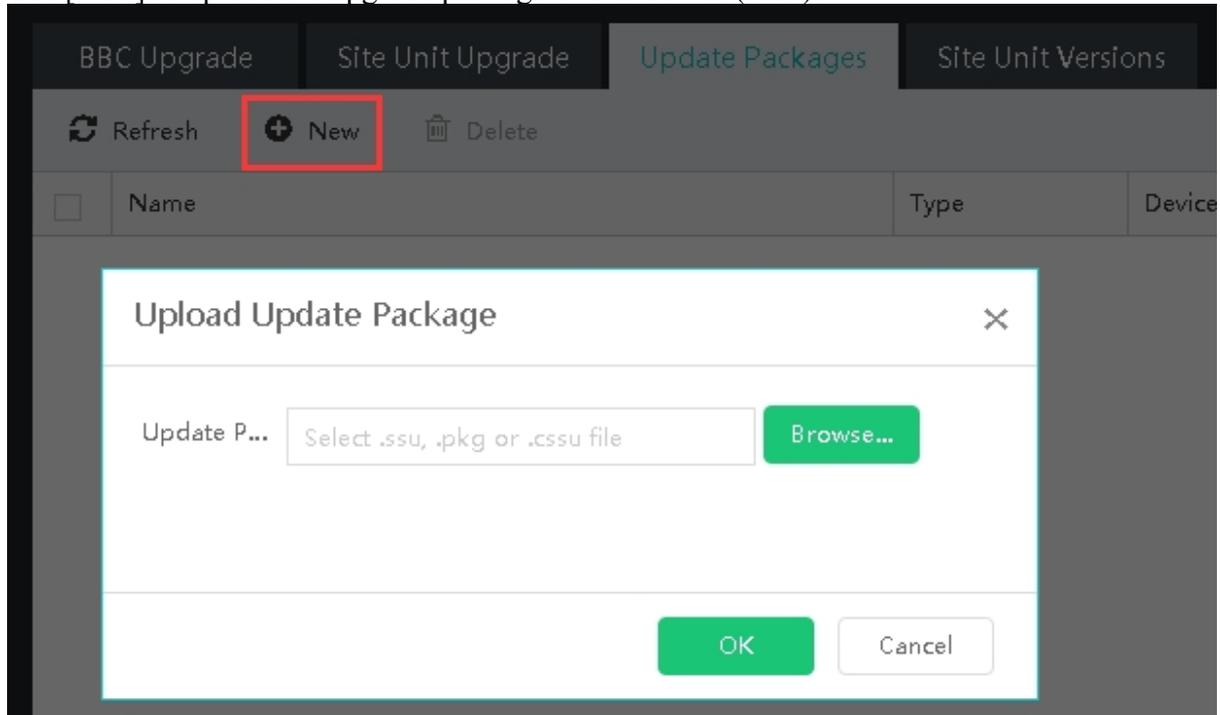
Back
OK



Note: try to select idle time as far as possible in selection of timing to avoid unnecessary network outages or failure

4.2.7.8.3. Management of Upgrade Packages

Use [**Add**] to upload the upgrade package of site device (.ssu).



4.2.7.8.4. Site Version Center

Use [**Add**] to upload the image file of site device (.bbc).

BBC Upgrade Site Unit Upgrade Update Packages Site Unit Versions

Refresh New Delete

Version Name	Version	Associated
WANO (Basic version 9.5.3)		
WANO9.5.3	9.5.3	1

Add Version

* Version Name :

* Installation Package :

4.3.7.8 Notification Method

SMTP Server

 Notes

SMTP Server :

Sender Address :

Port :

SSL

Authentication required

Username :

Password :

Testing Email

OK

Cancel

Server Address or Domain Name: to set the IP address or domain name of mail server

Sender Address: to set the email account that sends alarm logs

(Server) Port: to set the SMTP port of mail server

Username & Password: if the mail server requires authentication, username and password of the mail account are required to be filled

Click **Test Mail** to input a mail address, click **Send** to send a test mail to the mail address promptly

Testing Email
✕

Recipient Address ...

OK
Cancel

4.2.7.9 Internal Database

You can find the current version of rule library for each site, as well as the current version of rule library for the central terminal here.

Device Name	Application Signature Database	URL Database	Others
Sangfor BBC ★			View



Note: The version difference between the rule libraries for BBC and controlled terminal will not hinder the configuration from distributing.

4.2.7.10 Centralized Management Option

It will provide the site devices for unlocked password and temporary pass word, and enable the site to access the shared key.

Decontrol Password: _____

Password :

Retype Passwo...

Decontrol OTP: _____

Gateway ID :

Decontrol OTP :

Shared Key: _____

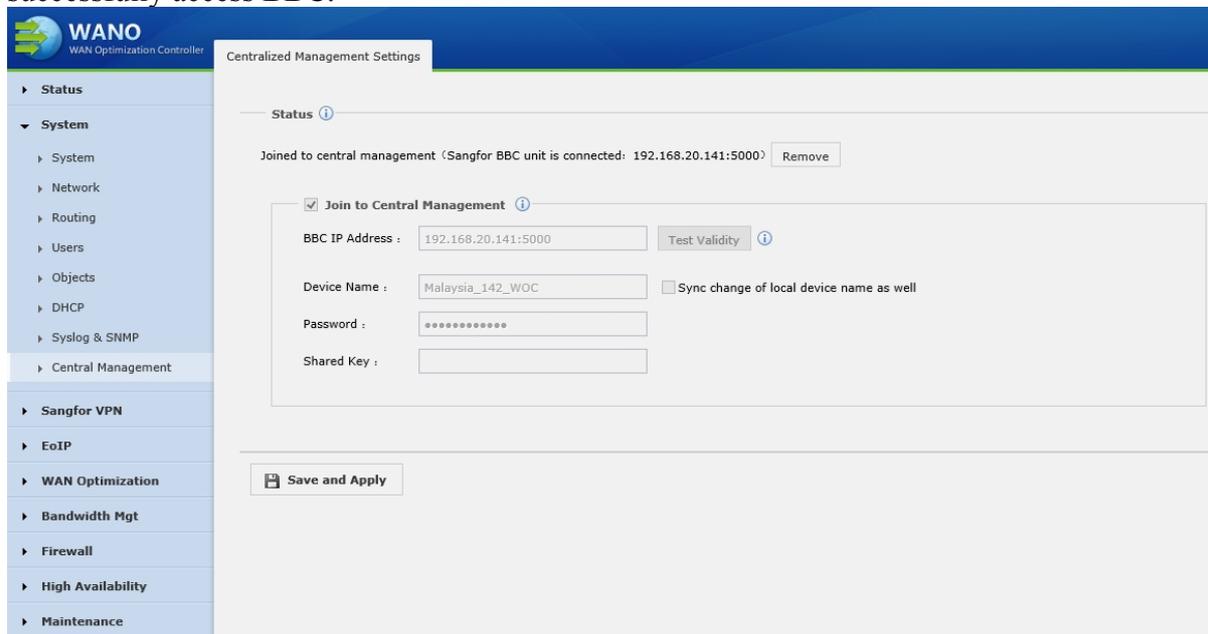
Shared Key :

Show Password

5 Access Instruction on BBC Controlled Terminal

4.4 WOC Device Access Central Terminal BBC

The WOC administrator in the site shall login the WOC Control Console, open [System] → [Centralized Management Configuration], and fill in visit access, port, site password and branch name provided by BBC administrator in the headquarters, and then he can successfully access BBC.



The screenshot displays the WANO WAN Optimization Controller interface. The left sidebar contains a navigation menu with the following items: Status, System (expanded), Sangfor VPN, EoIP, WAN Optimization, Bandwidth Mgt, Firewall, High Availability, and Maintenance. The main content area is titled "Centralized Management Settings" and shows the "Status" section. It indicates that the device is "Joined to central management (Sangfor BBC unit is connected: 192.168.20.141:5000)" with a "Remove" button. Below this, the "Join to Central Management" checkbox is checked. The configuration fields are as follows:

BBC IP Address :	<input type="text" value="192.168.20.141:5000"/>	<input type="button" value="Test Validity"/>
Device Name :	<input type="text" value="Malaysia_142_WOC"/>	<input type="checkbox"/> Sync change of local device name as well
Password :	<input type="password" value="*****"/>	
Shared Key :	<input type="text"/>	

At the bottom of the settings area, there is a "Save and Apply" button.



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