SANGFOR CMC 5.0

for NGAF User Manual

Declaration

About This Document

Organization

Part I Introduces the installation guide to the CMC product of SANGFOR. This part describes the appearance, functions, and performance specifications of the CMC equipment, and preparations and precautions for its connection.

Part II Introduces how to use and log in to the CMC console.

Part III Introduces the deployment of the CMC and NGAF equipments.

Part IV Introduces the functions and configurations of the CMC Web Console.

Part V Describe how to connect with other products with CMC.

This document takes SANGFOR CMC5100 as an example. Equipment of different models differs in both hardware and software specifications. Therefore, confirm with SANGFOR about problems involving product specifications.

Conventions

GUI Conventions

Item	Sign	Example
Button	Frame+shadow+shading	The **OK** button can be simplified as **OK**.
Menu item	{}	The menu item **System Setup** can be simplified as **System Setup**.
Choose cascading menu items	→	Choose **System Setup** > **Interface Configuration**.
Drop-down list, option button, check box	[ ]	The **Enable User** check box can be simplified as **Enable User**.

Window name	**Bold Font**	Open the **New User** window.
Prompt	“”	The prompt “Succeed in saving configuration. The configuration is modified. You need to restart the DLAN service for the modification to take effect. Restart the service now?” is displayed.

Symbol Conventions

The symbols that may be found in this document are defined as follows:

 **Caution**: alerts you to a precaution to be observed during operation. Improper operation may cause setting validation failure, data loss, or equipment damage.

 **Warning**: alerts you to pay attention to the provided information. Improper operation may cause bodily injuries.

 **Note or tip**: provides additional information or a tip to operations.

Technical Support

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Acknowledgement

Thanks for choosing our product and user manual. For any suggestions on our product or user manual, provide your feedback to us by phone or email.

Table of Content

Chapter 1 Installation Guide

This part describes the composition and hardware installation of the CMC series products of SANGFOR. You can configure and commission the product after the hardware is correctly installed.

1.1. Environment Specifications

The environment specifications of the SANGFOR CMC equipment are listed as follows:

- Input voltage: 110-230 V
- Temperature: 0-45ºC
- Humidity: 5%-90%

Take proper grounding and dustproof measures, and keep good ventilation and stable room temperature in the application environment to ensure long-term and stable operation of the system.

The product complies with the design requirements in terms of environment protection. The deployment, application, and scrapping of the product must be in accordance with national laws and regulations.

1.2. Power Supply

The SANGFOR CMC series products are supplied with 110-230 V AC power. Before connecting power to the product, ensure that proper grounding measures are taken for the power supply.

1.3. Appearance

Figure 1 Front panel (CMC M5100)

1. CONSOLE interface 2.USB 3. MANAGE interface 4.ETH3
5. ETH2 6.ETH1

The ALARM indicator is steady on in red during startup of the equipment. If the indicator turns off after 1-2 minutes, the equipment is started properly. If the indicator does not turn off for a long period of time, power off the equipment and then start it again after 5 minutes. If the problem persists, contact the customer service center to confirm whether the equipment is damaged. After the equipment is started properly, the ALARM indicator may blink in red sometimes. This means that the equipment is writing system logs.

The CONSOLE interface is used only for development and commissioning. End users connect to the equipment through the CONSOLE interface.

1.4. Configuration and Management

Before configuring the equipment, get a computer ready and ensure that the webpage browser (such as the Internet Explorer) installed on the computer works properly (Firefox, Opera, Safari, Chrome and any non-IE browser are not supported). Then connect the computer to the same local area network (LAN) as the SANGFOR CMC equipment and configure the equipment.

The management interface of the CMC equipment is MANAGE (ETH0) and its default IP address is 11.254.254.254/24. The DMZ interface of the CMC equipment is ETH1 and its default IP address is 10.254.253.254/24. Connect the MANAGE (ETH0) interface to the LAN or directly to the computer by using a network cable at initial login.

1.5. Equipment Connection

Connect the power cable on the backplane and turn on the power switch. Then the POWER indicator (green) and ALARM indicator (red) on the front panel becomes on. The ALARM indicator turns off in 1-2 minutes, which indicates that the gateway works properly.

Connect the MANAGE (ETH0) interface to the LAN by using a network cable with an RJ-45 connector and then configure the CMC equipment.

After logging in to the console, perform network connection and connect cables based on the network environment and deployment requirements.

Multi-line SC device can support multiple ISP lease lines. In this case, connect the second ISP line to the WAN2 interface, the thrid ISP line to WAN3 interface and so on.

When the equipment works properly, the POWER and LINK indicators are steady on. The ACT indicator blinks in case of data flows. The ALARM indicator (red) is on for about 1 minute at startup due to system loading, and is off in normal operation. If the ALARM indicator is steady on during installation, power off the equipment and then start it again. If the problem persists, contact SANGFOR.

Use a straight-through cable to connect the network interface directly to a modem or switch, and a crossover cable to connect network interface to a router. If the indicators are normal but the cable connection fails, check whether a wrong network cable is used. A straight-through cable differs from a cross-over cable in the wire sequence at both ends. See the figure below.

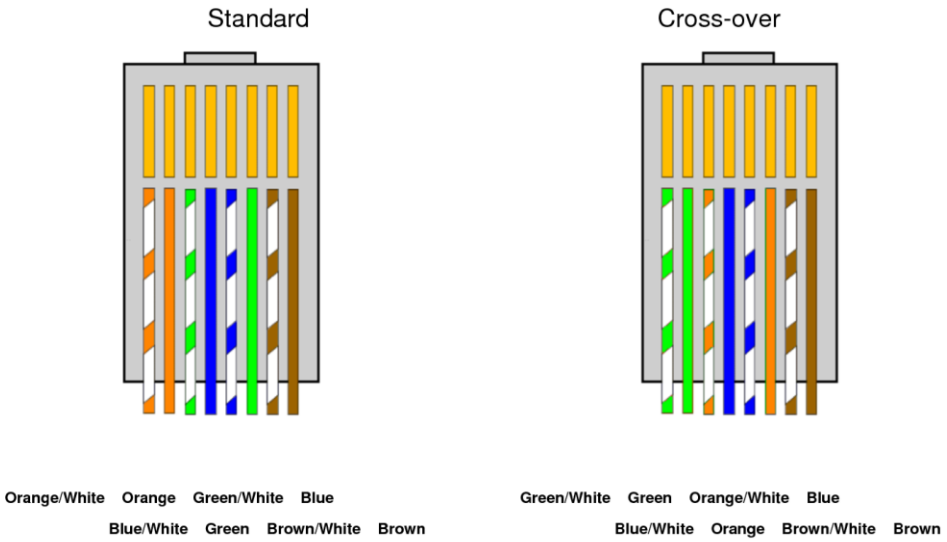


Figure 2 Wire sequences of straight-through cables and cross-over cables

Chapter 2 Introduction to the Console

2.1. Logging In to the Web UI

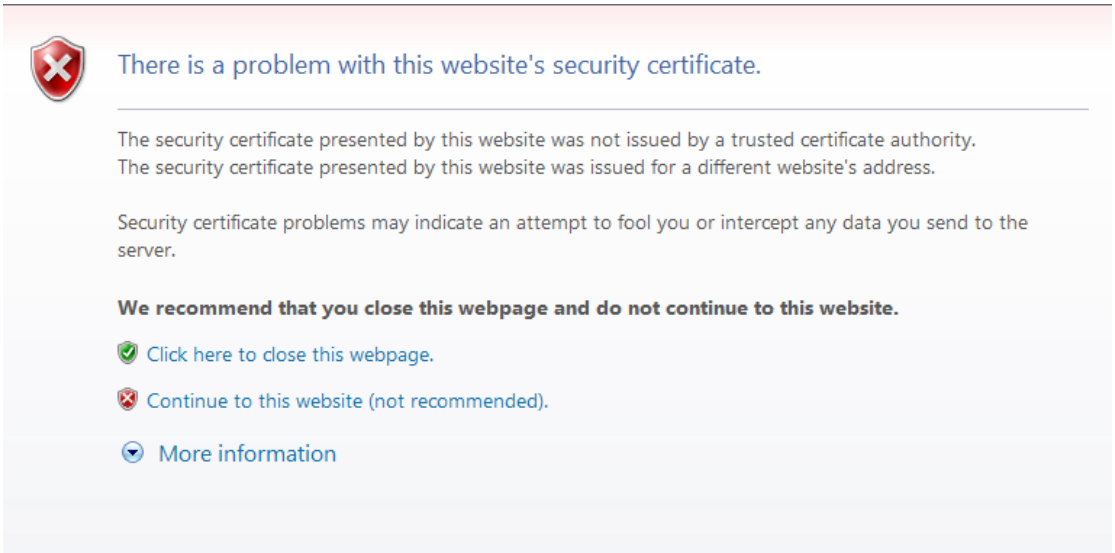
The CMCequipment supports Hypertext Transfer Protocol Secure (HTTPS) login through a standard HTTPS port. If you log in through the MANAGE interface at initial login, the URL is https://11.254.254.254.

Login to the Web UI of the CMC equipment through HTTPS can avoid security threats caused if the configurations are intercepted during transmission.

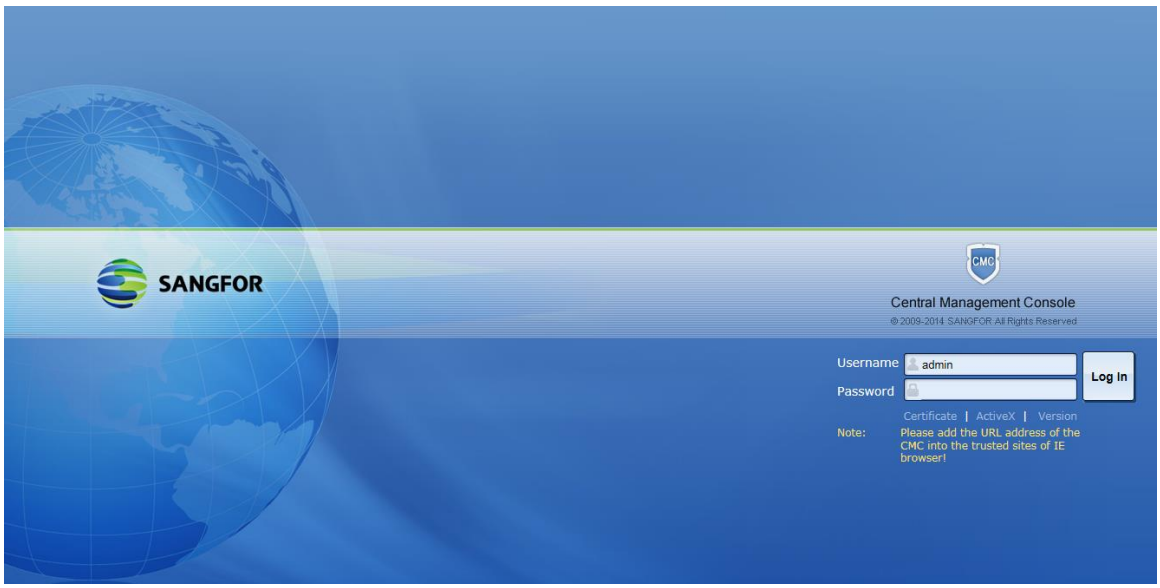
How to log in to the console page of the CMC equipment?

Connect the cables as described earlier and then configure the CMC equipment on the Web UI. The procedure is as follows:

Configure an IP address (11.254.254.100 for example) on the 11.254.254.X network segment for the computer from which you log in to the console. Then enter the default login IP address and port number of the MANAGE interface on the address bar of the Internet Explorer, that is, https://11.254.254.254. A safety prompt shown in the figure below is displayed.



Click **Yes** and the login interface shown in the figure below is displayed.



Enter the user name and password and click **Log In**. the default user name and password are both **admin**.

To view the version of the current gateway, click **Version**.

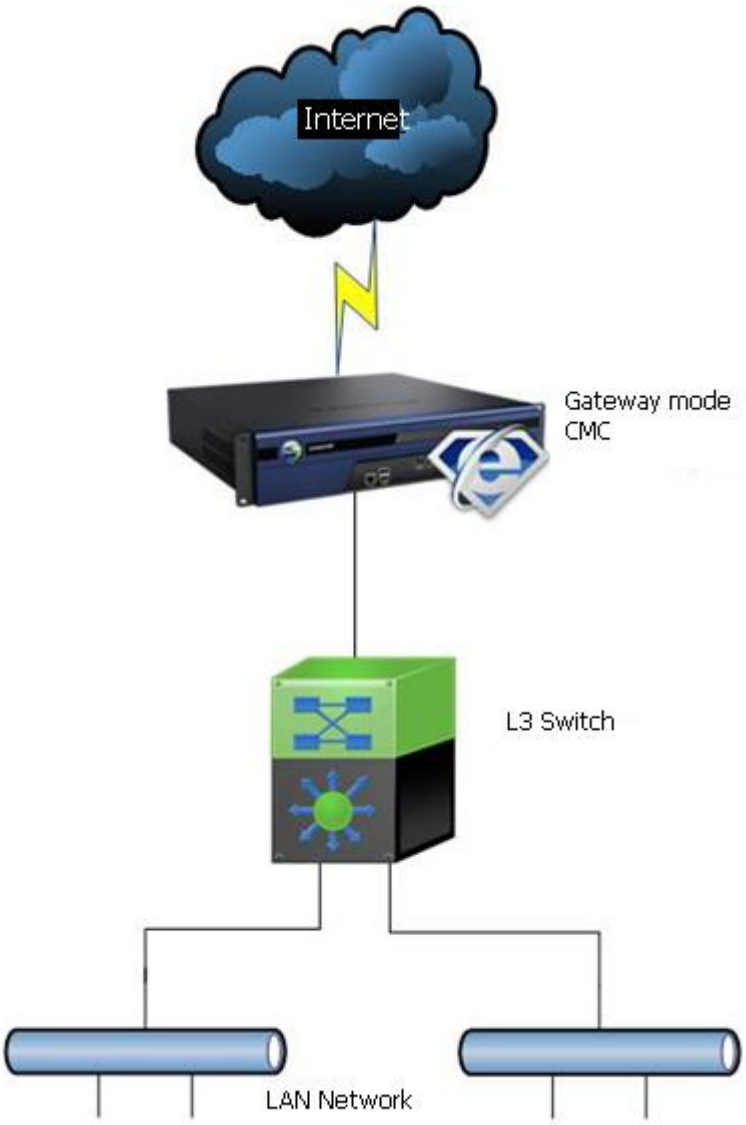
You do not need to install any control for logging in to the console. You can log in to the console by using another browser instead of the Internet Explorer.

Chapter 3 CMC and NGAF Deployment

This chapter introduce Sangfor CMC deployment methods.

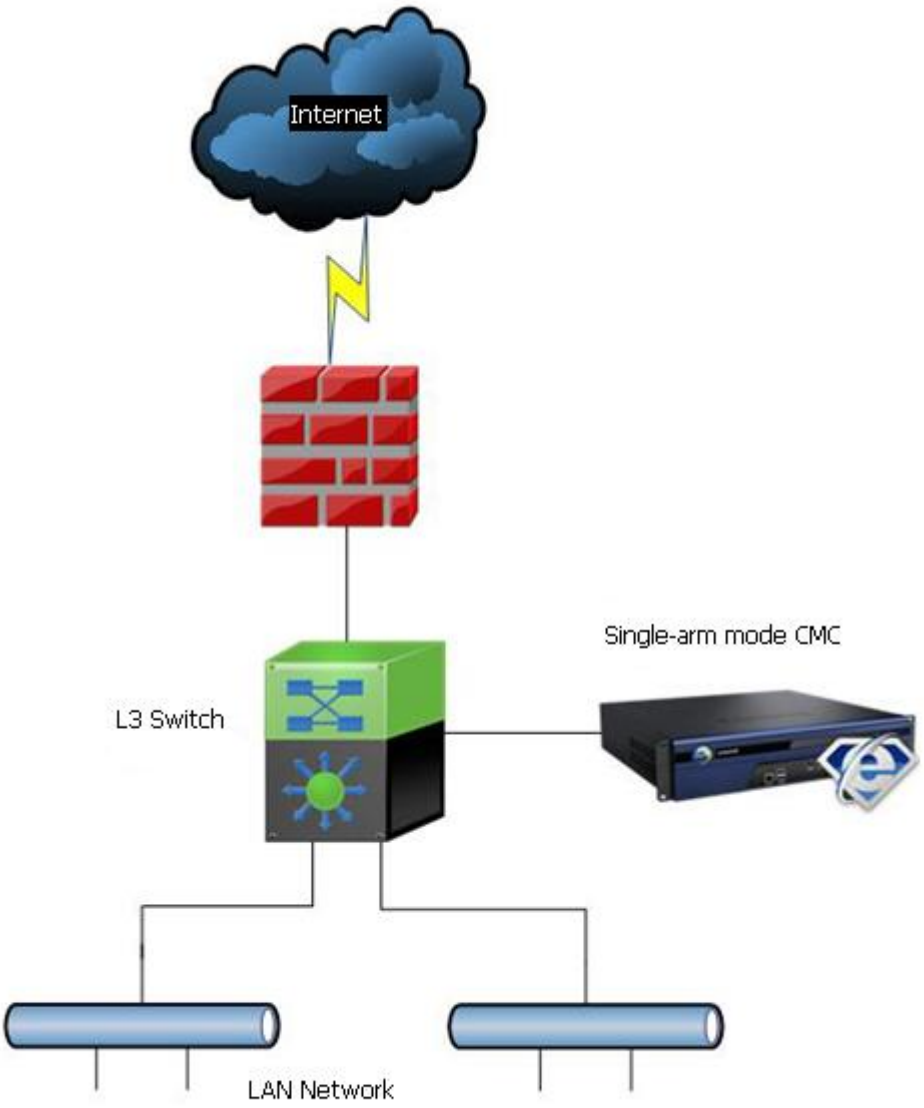
3.1. CMC Device Deployment Modes

3.1.1. Gateway Mode



CMC device in gateway deployment mode, WAN interface can connects to public network and LAN interface connects to LAN network directly without port mapping needed. Meanwhile, NGAF can get authenticated and download configuration in CMC via port 5000 by default.

3.1.2. Single-arm mode



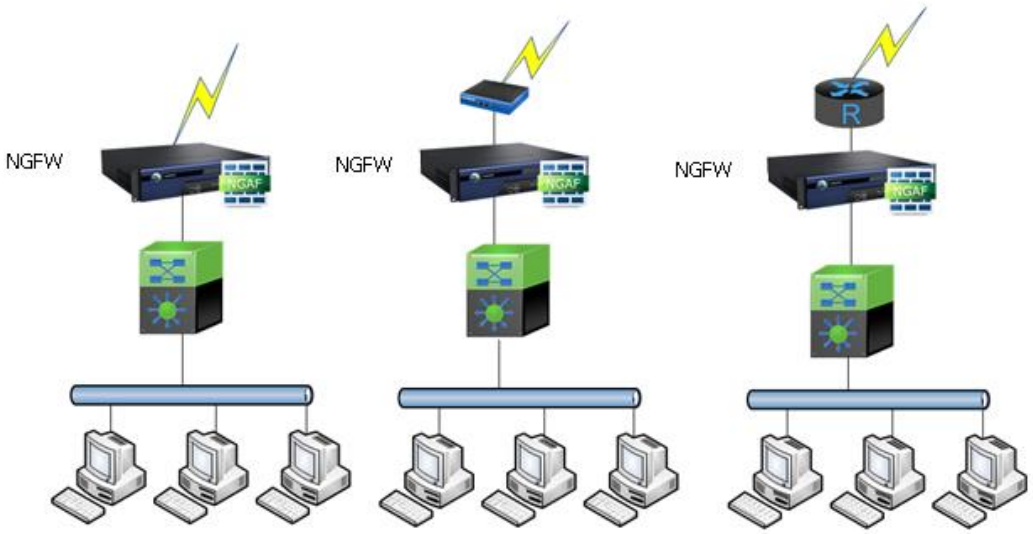
CMC deployed in single-arm mode, LAN interface connects to core-switch LAN port and port-mapping needed to be done at gateway device (such as firewall, router and etc). Ports needed are:
TCP ports : 5000, 443, 1500, 446, 5109, 9458
UDP ports : 5000

Single-arm deployment mode of CMC is recommended.

3.2. NGAF Deployment

3.2.1. NGAF as Gateway Mode

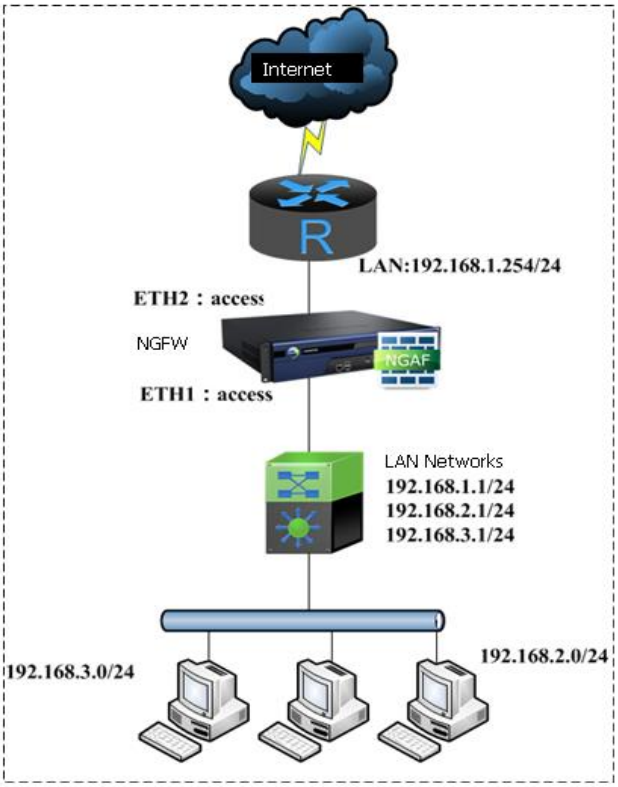
Gateway mode NGAF device is deployed in the public network as router which can proxy for internal user to access Internet as shown below:



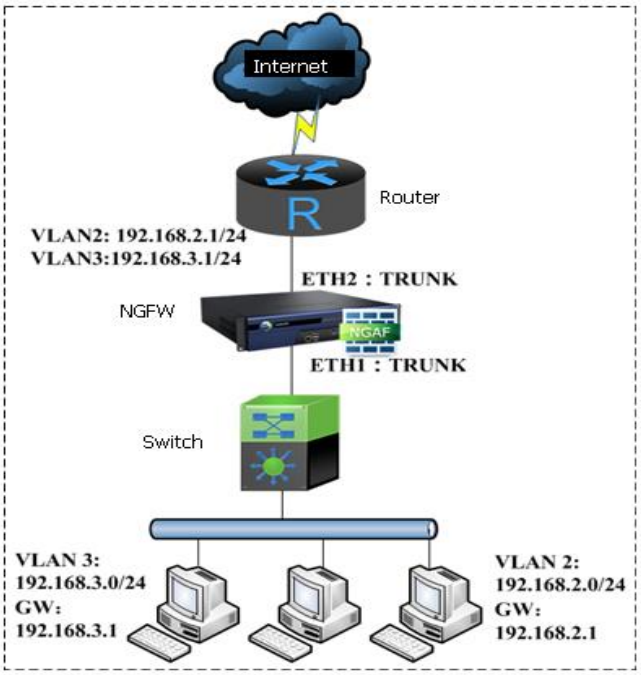
3.2.2. NGAF as Transparent mode

NGAF transparent deployment mode supports **ACCESS port** connection and **TRUNK port** connection.

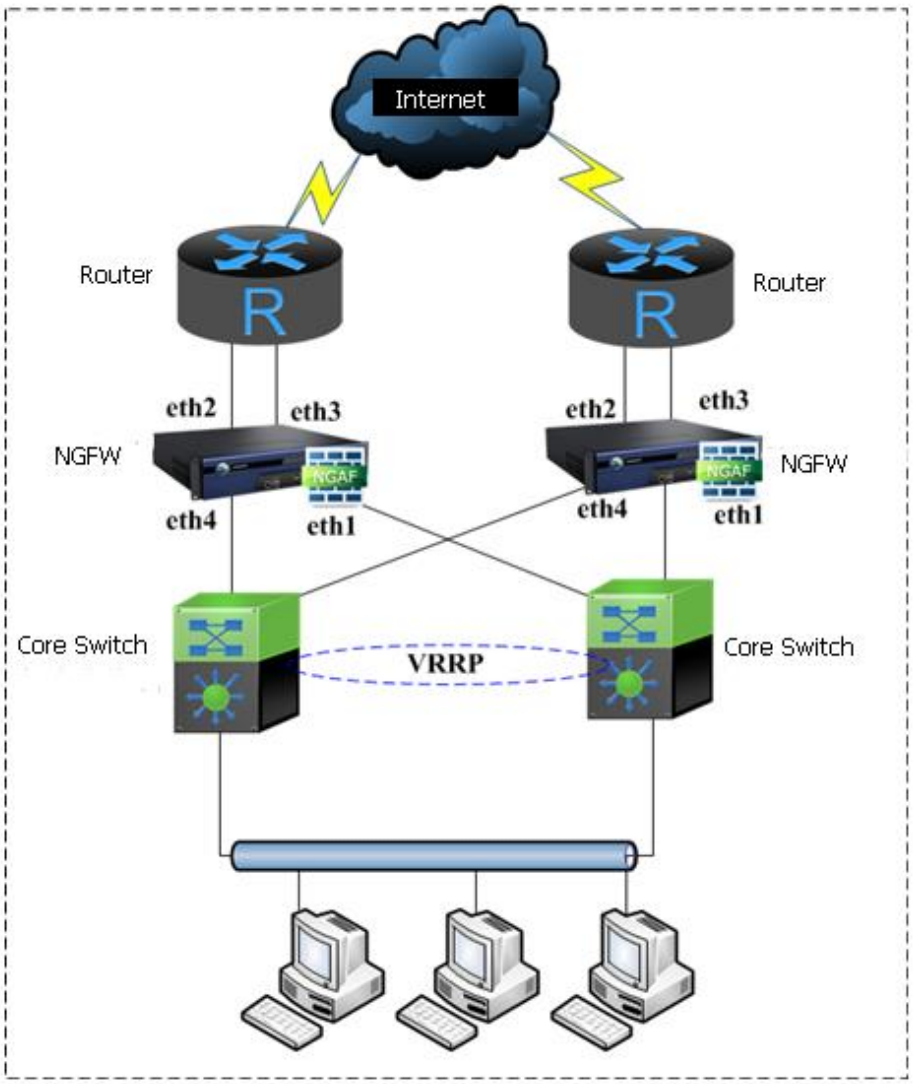
By referring to the topology below, NGAF deployed as transperant mode, LAN interface is connected to a L3 switch with two netowrk segments 192.168.2.0/255.255.255.0 and 192.168.3.0/255.255.255.0. NGAF connected as ACCESS port.



Transparent deployment mode NGAF; core switch ports assigned VLAN segments but routing feature is not enabled; Router as gateway for all VLAN networks. LAN networks includes 192.168.2.0/255.255.255.0 and 192.168.3.0/255.255.255.0 which belongs VLAN2 and VLAN3 accordingly, trunking protocol is used between core-switch and router.

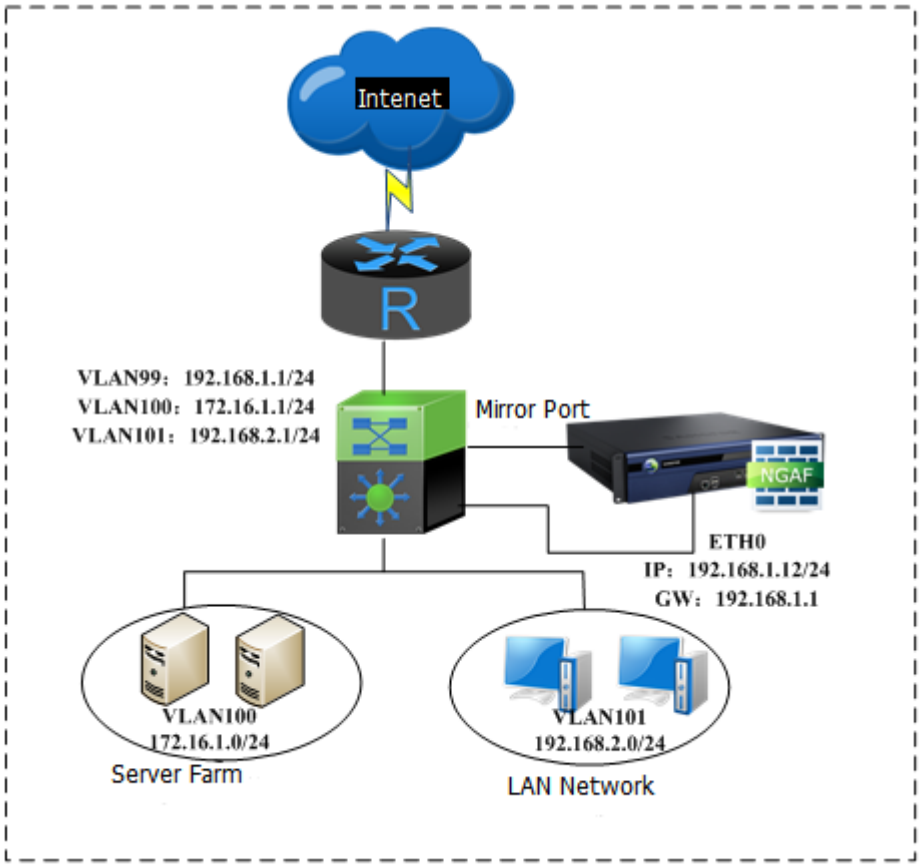

Internet
Router
VLAN2: 192.168.2.1/24
VLAN3:192.168.3.1/24
ETH2 : TRUNK
NGFW
NGAF
ETH1 : TRUNK
Switch
VLAN 3:
192.168.3.0/24
GW:
192.168.3.1
VLAN 2:
192.168.2.0/24
GW:
192.168.2.1

3.2.3. NGAF in VRRP environment



If customer's network topology is similar with the figure above; there are two layer 3 core switches and two routers performing load balancing, NGAFs are deployed as transparent mode to prevent changes happen in the network.

3.2.4. NGAF as Mirror mode



Bypass mode can enable protection at the same time can maintain customer's network environment and prevent the risk of user's network disruption. Connect the NGAF device with switch's mirror port or HUB and ensure that the user traffics forward to servers pass by the switch or HUB, then enable mirroring download and upload traffics during configuration for mirror port and enable server protection.

The network topology above shows NGAF device deployed as bypass mode, LAN interface connects to layer 3 switch, the network segment is 192.168.2.0/24, server farm network segment is 172.16.1.0/24. Customer's requirement is NGAF can perform IPS, WEB application protections and DLP protection.

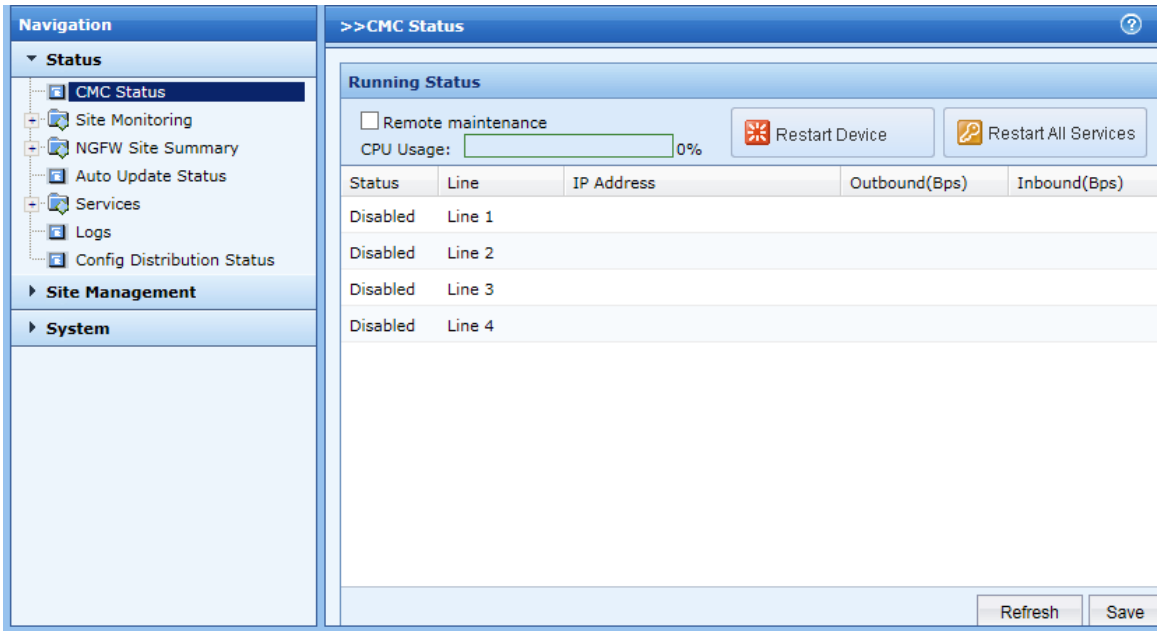
Chapter 4 CMC Web Console

4.1. Status

This section include [CMC status], [Site Monitoring], [NGAF Site Summary],[Auto Update Status], [Services],[Logs] and [Config Distribution Status] modules.

4.1.1. CMC Status

[CMC Status] include [CPU Usage], [Extranet Interface Line Status], [IP address], [Outbound Traffics] and [Inbound Traffics], [Remote Maintenance], [Restart Device] and [Restart All Services] function modules as shown below:



[CPU Usage] : Display real time CPU usage of CMC device.

[Remote maintenance] : Check this option to allow Webconsole access through WAN interface.

[Restart Device] : Click the button to reboot hardware of the CMC device.

[Restart All Services] : Click the button to restart all services running in CMC device but not

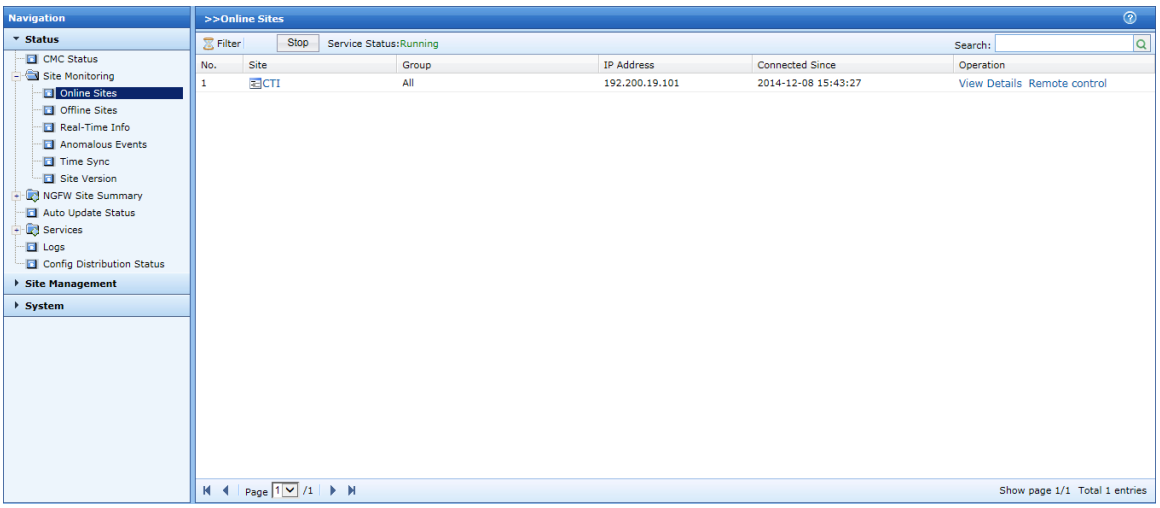
hardware reboot.

4.1.2. Site Monitoring

[Site Monitoring] includes [Online Sites]. [Offline Sites], [Real-Time Infor], [Anomalous Events], [Time Sync] and [Site Version] modules.

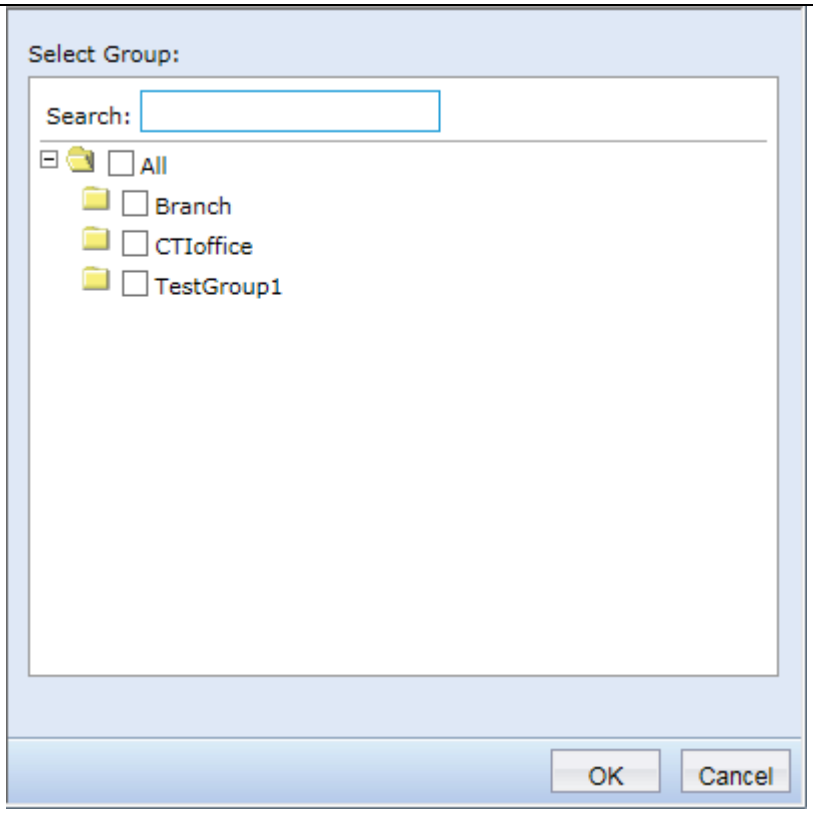
4.1.2.1 Online Sites

[Online Sites] includes [Stop services], [Filter] and [Search] function module. This page also display all online Sites, IP address, Connected time and operations such as View, Details and Remote control as shown in the figure below:



[Stop] : Click on the button and all CMC services will be stopped, all connected sites will be dropped.

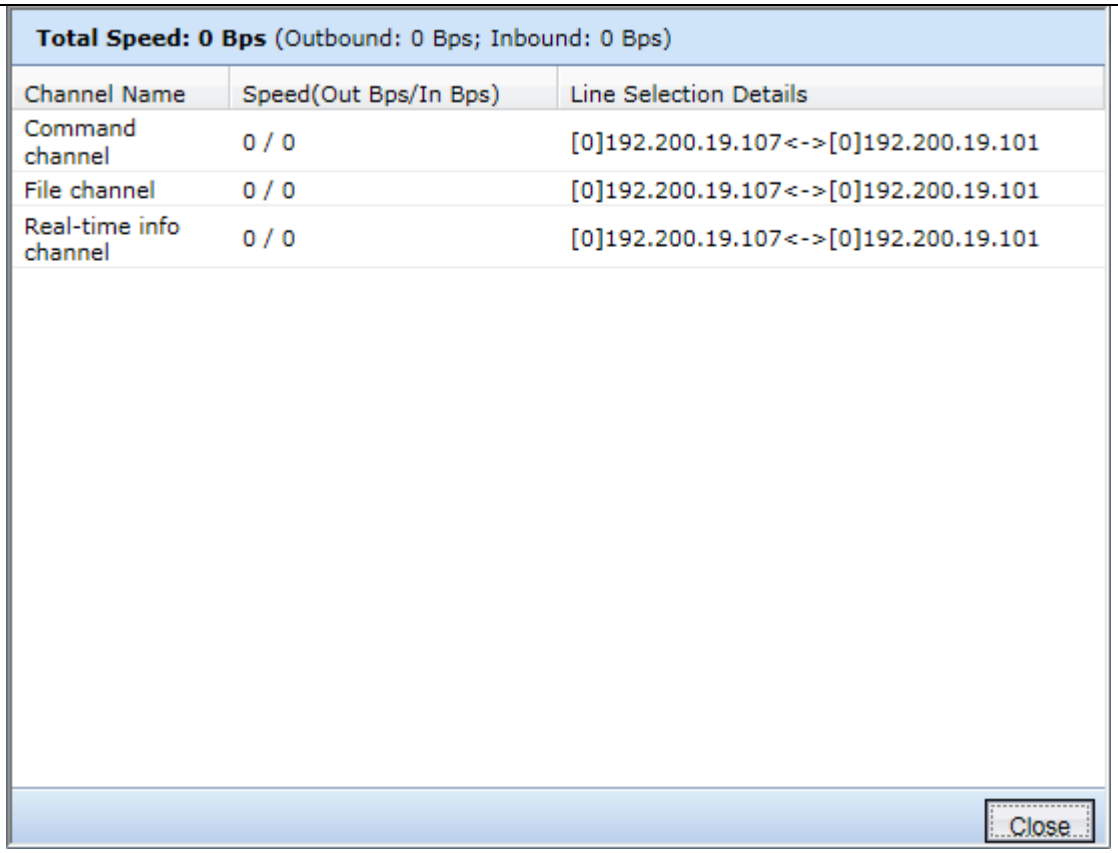
[Filter] : [Filter] : Use the filter feature when there are many sites in order to narrow down the sites resulted by using selected parameters. Click on the button and the following figure is shown:



Select the related group and click OK.

[Search] : Insert related group/sites name and click on Search, the search results will be displayed. Support fuzzy search but does not support wildcard search.

[View Details] : Click on the button to check on the details between CMC and sites as shown below:



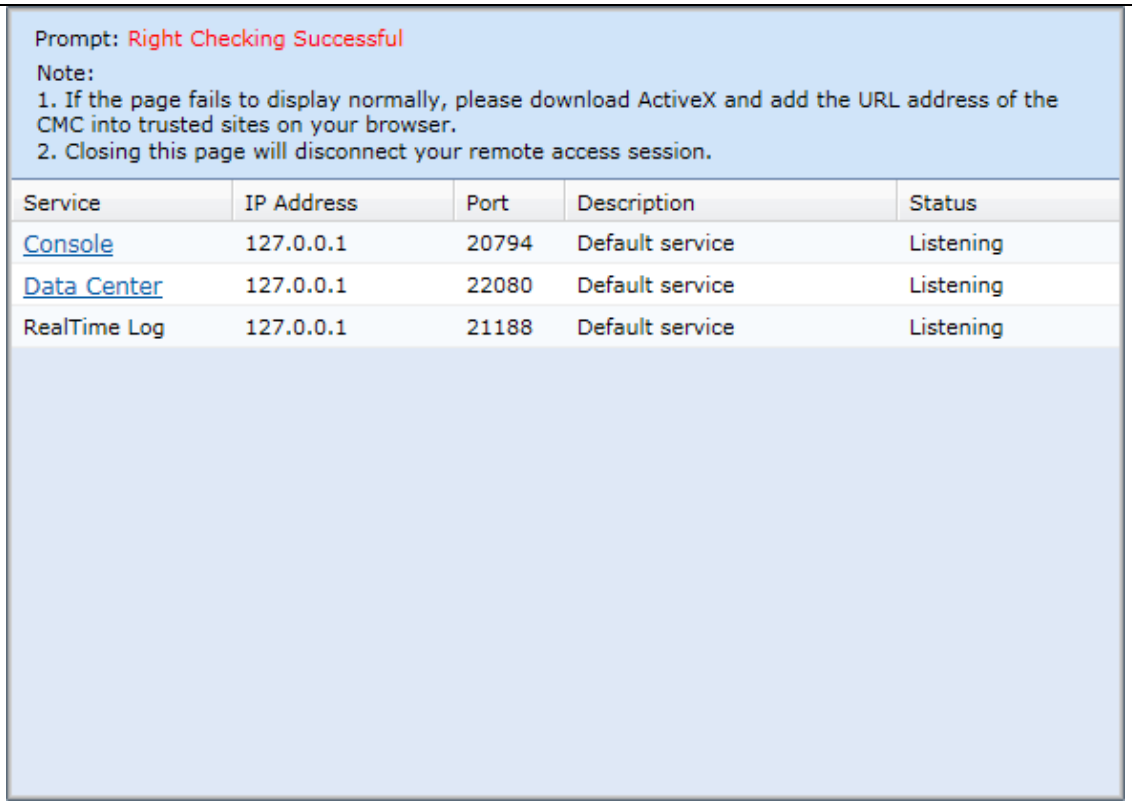
[Command Channel] : Channel used to transfer commands between CMC and NGAF, all command traffics will be forwarded via this channel.

[File Channel] : Use to transfer configurations traffics with NGAF during auto/manual distributing configuration.

[Real-time info channel] : Channel for CMC and NGAF to send information, such as real time status of NGAF is forwarded via this channel.

Click on Close to close the page.

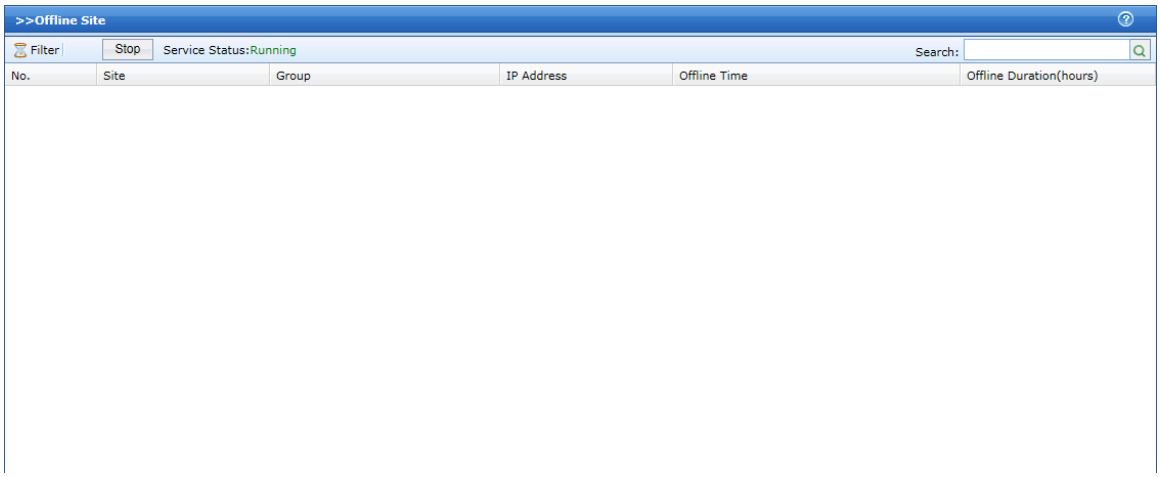
[Remote Control] : Click on the botton to control the NGAF via TCP proxy method as shown below:



Refer to section 4.2.3 for TCP proxy service details.

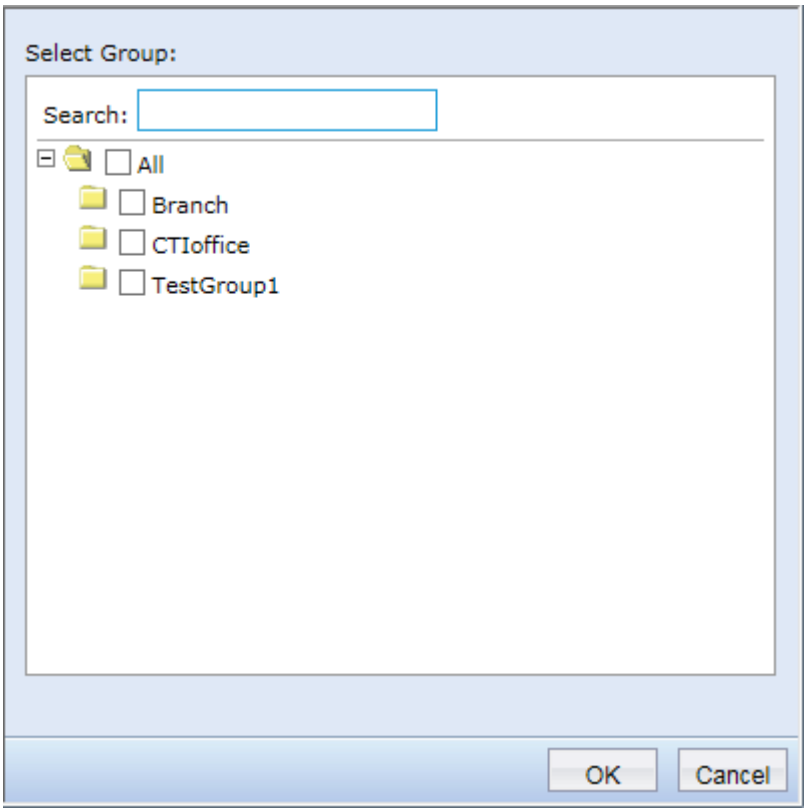
4.1.2.2 Offline Sites

[Offline Sites] includes [Stop Service], [Filter] and [Search] function module. This page also display all offline sites name, IP address, offline time and offline duration messages as in the following:



[Stop] : Click on the button and all CMC services will be stopped, all connected sites will be dropped.

[Filter] : Use the filter feature when there are many sites in order to narrow down the sites resulted by using selected parameters. Click on the button and the following figure is shown:

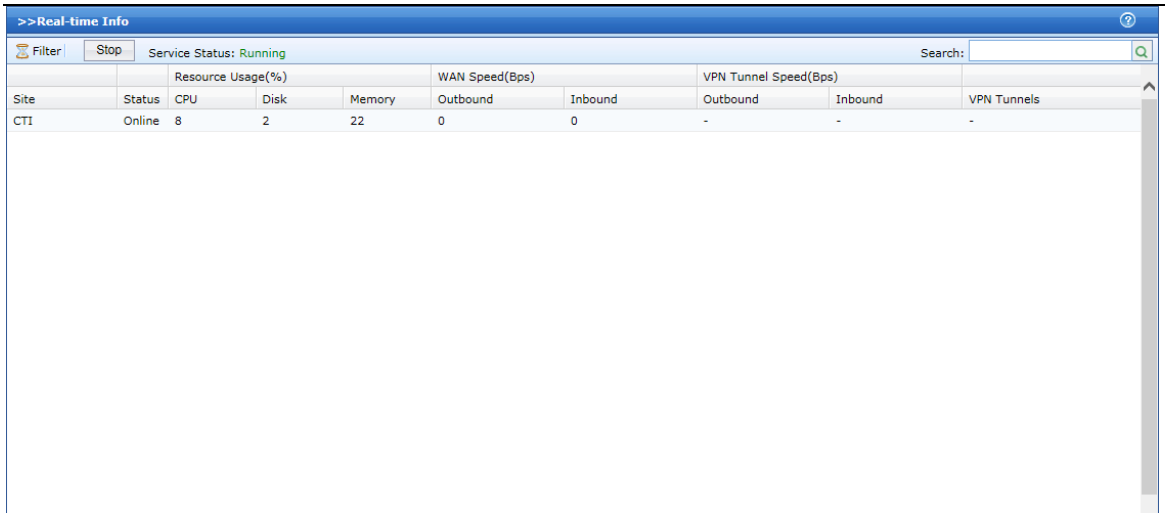


Select the related group and click OK.

[Search] : Insert related group/sites name and click on Search, the search results will be displayed. Support fuzzy search but does not support wildcard search.

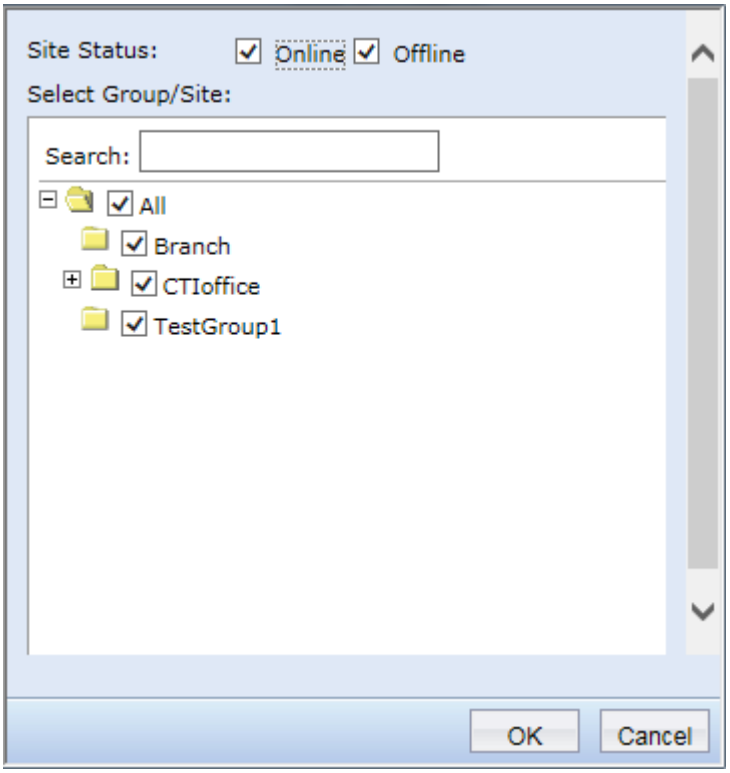
4.1.2.3 Real-Time Info

[Real-Time Info] includes [Stop] service, [Filter] and [Search] functions. This page displays all current connected NGAF status, CPU usage, hard dsk usage. Memory(RAM) usage, WAN inbound/outbound traffics flow and VPN tunnel inbound/outbound traffics flow information. The page is shown below:



[Stop] : Click on the button and all CMC services will be stopped, all connected sites will be dropped.

[Filter] : Use the filter feature when there are many sites in order to narrow down the sites resulted by using selected parameters. Click on the button and the following figure is shown:



[Site Status] : Include online and offline status, can view which are the sites online and which are offline. For example: if there are online and offline NGAF in group/sites, when both online and offline options are selected, online NGAF real time information is shown meanwhile for offline NGAF shows

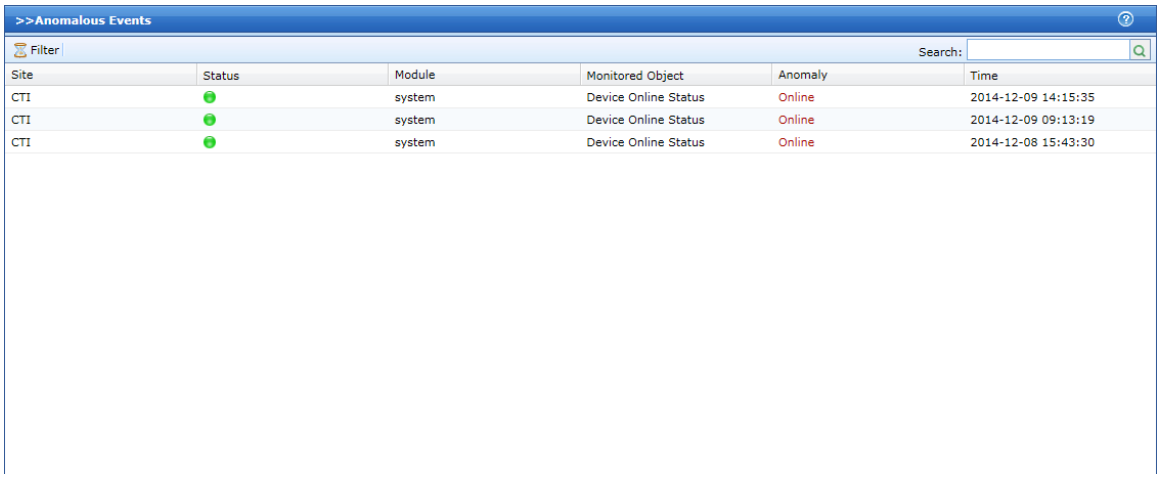
only device name without other information.

[Select Group/Site] : Choose the related group/site and click OK to get expected results.

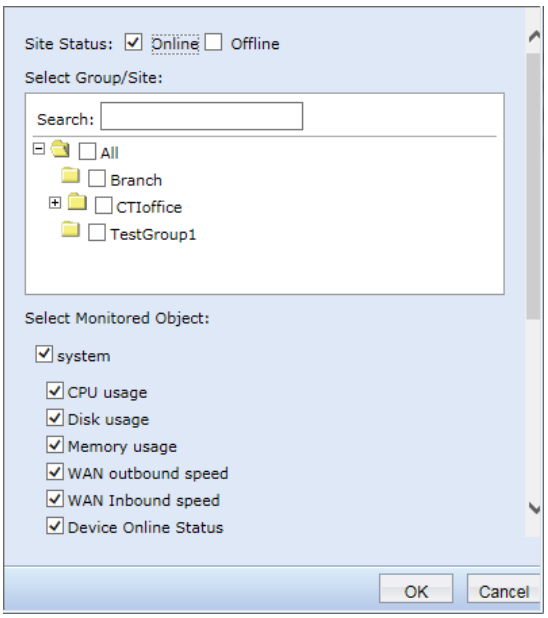
[Search] : Insert related group/sites name and click on Search, the related device's real time information will be displayed. Support fuzzy search but does not support wildcard search.

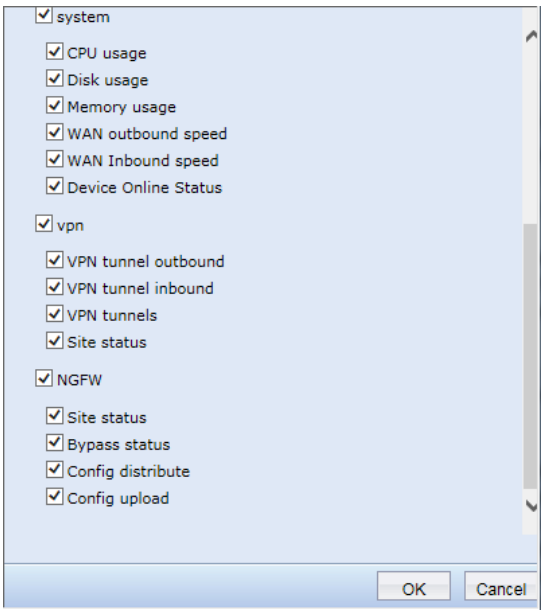
4.1.2.4 Anomalous Events

[Anomalous Events] includes [Filter] and [Search] function modules. This page display all site's anomalous message such as CPU usage 100%, memory usage 100% and etc as shown below:



[Filter] : Use the filter feature when there are many sites in order to narrow down the sites resulted by using selected parameters. Click on the button and the following figure is shown:





[Site Status] : Include online and offline status, can view which are the sites online and which are offline. For example : if there are online and offline NGAF in group/sites, when both online and offline options are selected, anomalous information of all NGAF devices will be shown.

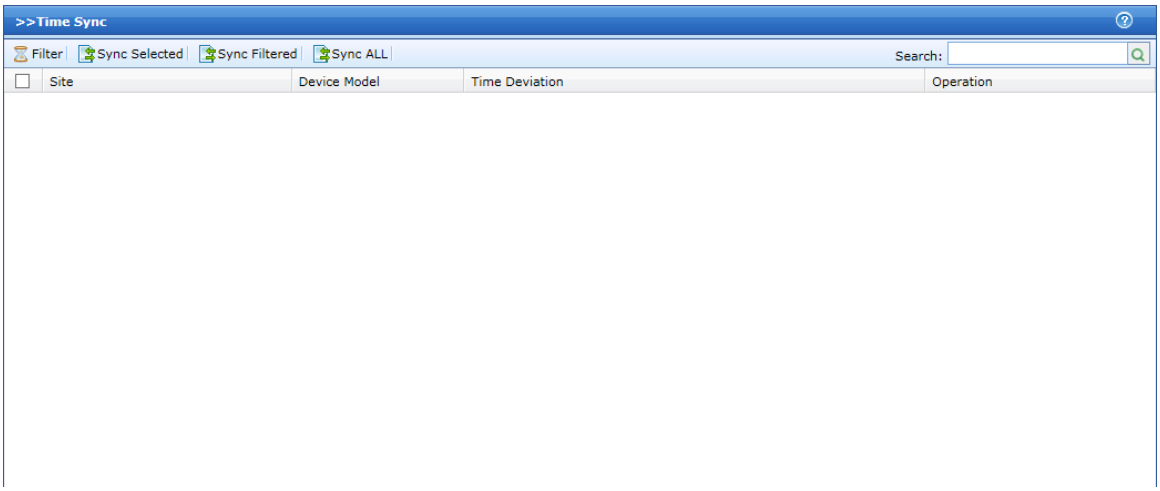
[Select Group/Site] : Choose the related group/site and click OK to get expected results.

[Select Monitored Object] :

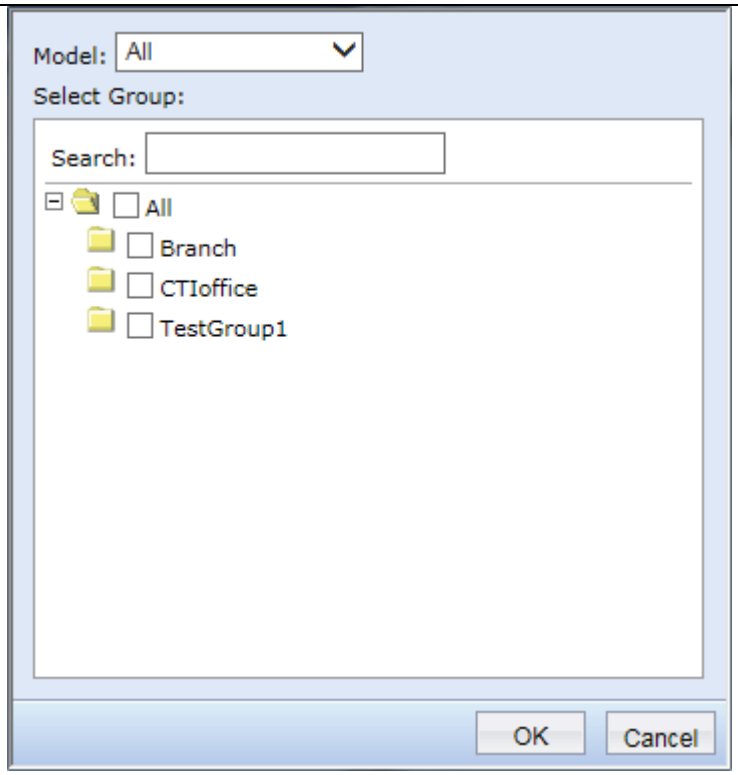
[Search] : Insert related group/sites name and click on Search, the related device's anomalous information will be displayed. Support fuzzy search but does not support wildcard search.

4.1.2.5 Time Sync

[Time Sync] includes [Filter], [Sync Selected], [Sync Filtered], [Sync ALL] and [Search] function modules. This page shows site's time deviation which include also site's name, device's model, time deviation and operation as shown below:



[Filter] : Use the filter feature when there are many sites in order to narrow down the sites resulted which has time deviation with CMC. Click on the button and the following figure is shown:



Search and select the related group and site, click on OK to get the result.

[Sync Selected] : Select Site and click on the button to synchronize site's system time with CMC system time.

[Sync Filtered] : Use Filter module to get the result sites and click on the button to synchronize filtered sites system time with CMC system time.

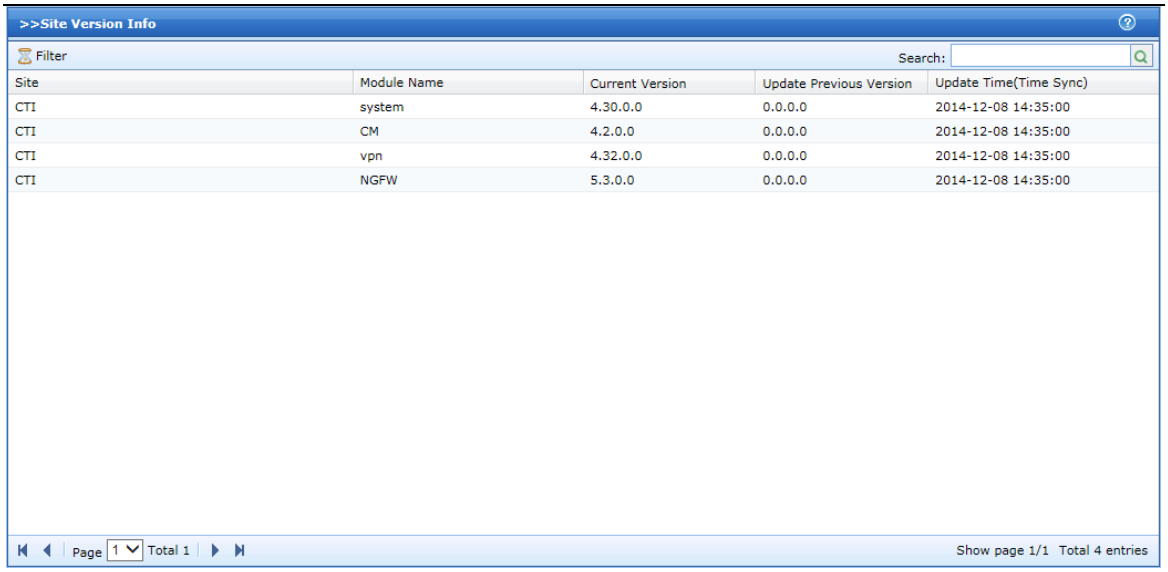
[Sync ALL] : Click on the button to synchronize all site's system time with CMC's system time.

[Search] : Insert related group/sites name and click on Search, the related sites information will be displayed. Support fuzzy search but does not support wildcard search.

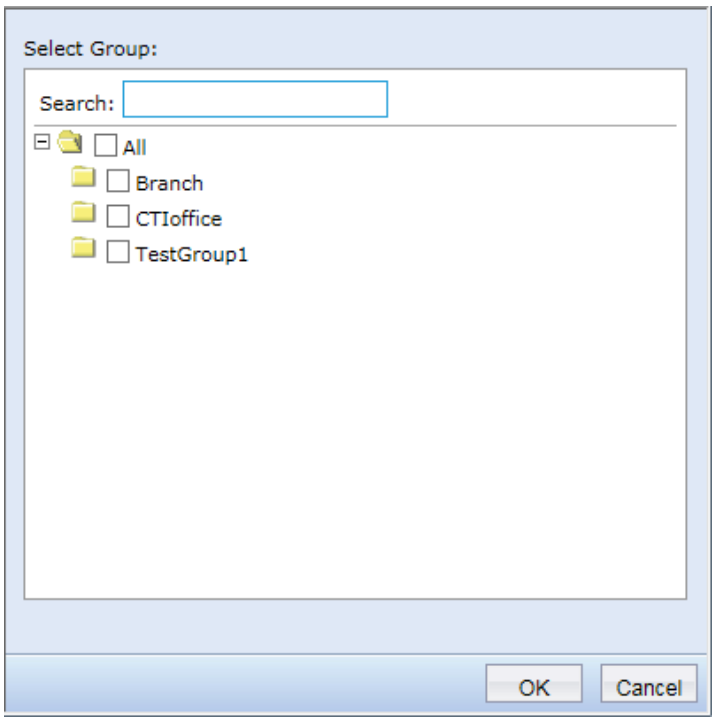
Time deviation is the time difference between site's system time and CMC's system.

4.1.2.6 Site Version

[Site Version] includes [Filter] and [Search] function modules. This page displays the name, module name, current version, update previous version and update time of all sites as shown below:



[Filter] : Use the filter feature when there are many sites in order to narrow down the sites resulted by using selected parameters. Click on the button and the following figure is shown:



Select the related group and click OK.

[Search] : Insert related group/sites name and click on Search, the search results will be displayed. Support fuzzy search but does not support wildcard search.

Update previous version shown as 0.0.0.0 means site's NGAF related module has not

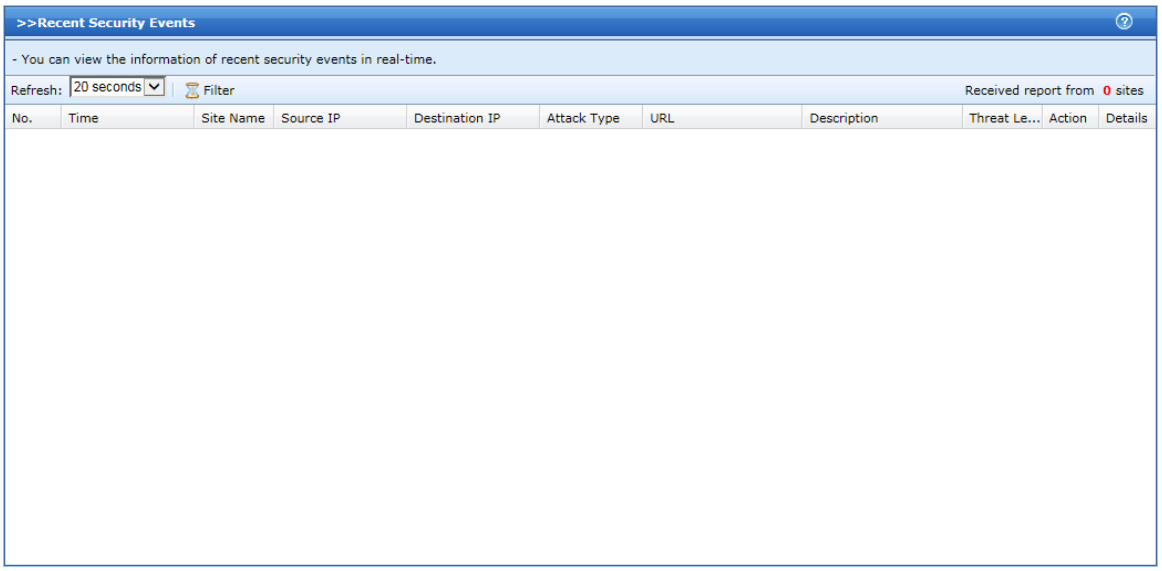
preform auto-update via CMC.

4.1.3. NGAF Site Summary

[NGAF Site Summary] content includes [Recent Security Events], [Security Event Ranking], [App Traffic Tanking] and [Internal database Status].

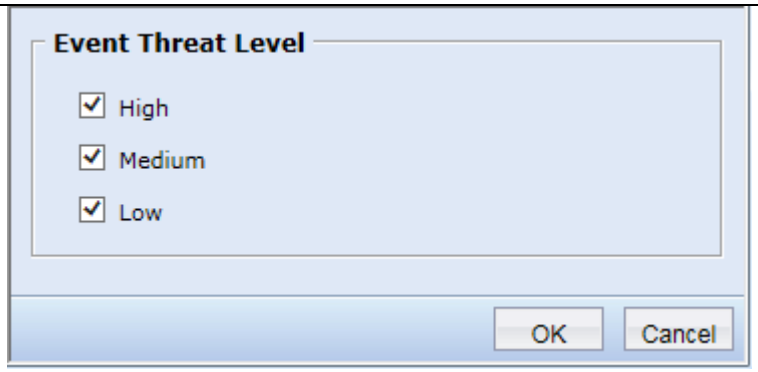
4.1.3.1 Recent Security Events

[Recent Security Events] includes [Refresh] interval and [Filter] modules. This page displays also NGAF's recent online security events and details which are time, site name, source IP, destination IP, attack type, URL, description, threat level, action and details. The page is shown as below:



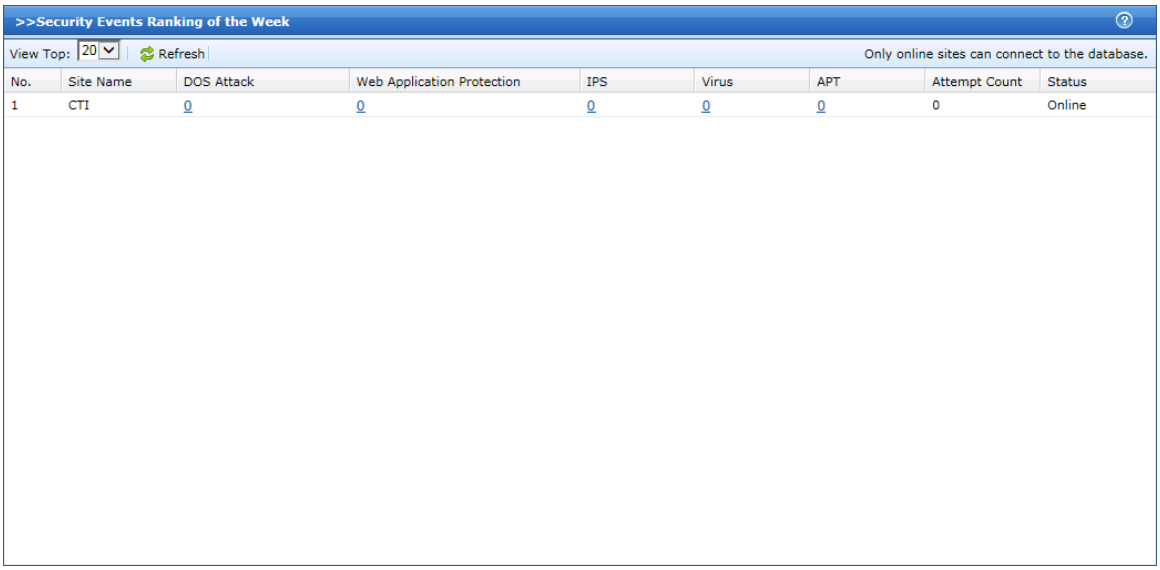
[Refresh] : Configure real time data page refresh period, available options are 10, 20 amd 60 seconds.

[Filter] : Select to view security events base on the threat level filtering, selectable options are high, medium and low level.



4.1.3.2 Security Events Ranking

[Security Events Ranking] used to show events of NGAF sites which involves DOS attack, web application protection, IPS, virus, APT and attempt count. The page is shown as below:

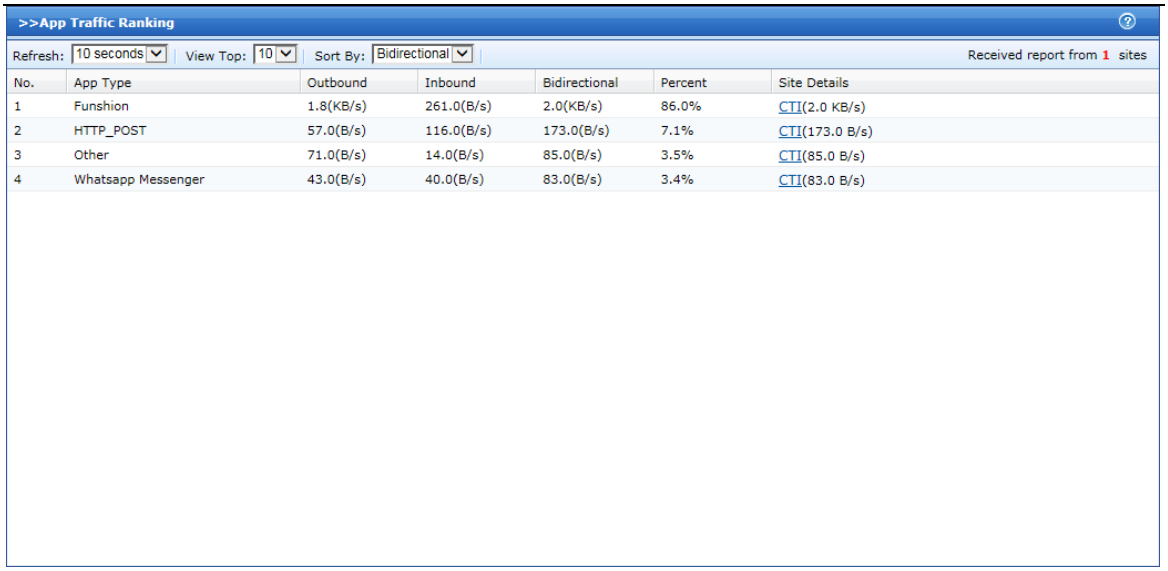


[View Top] : Display top 10-60 most security events happening sites.

[Refresh] : Refresh the result on display page.

4.1.3.3 App Traffic Ranking

[App Traffic Ranking] includes [View Top] and [Sort] function modules. This page shows Online sites with top traffics flow, application type, outbound, inbound and bidirectional flow speed, percentage and sites details. The page is shown below:

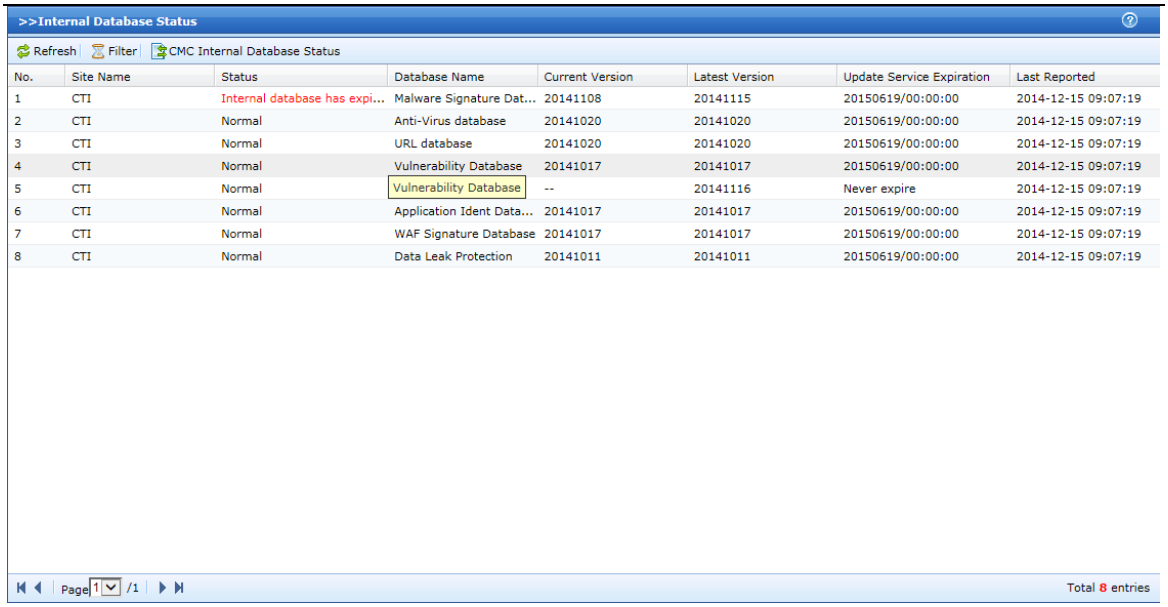


[View Top] : To show top 10/20/30 traffic flow on the online sites. Refresh the page and the top 10/20/30 applications of each site will be displayed and the previous display will be dumped.

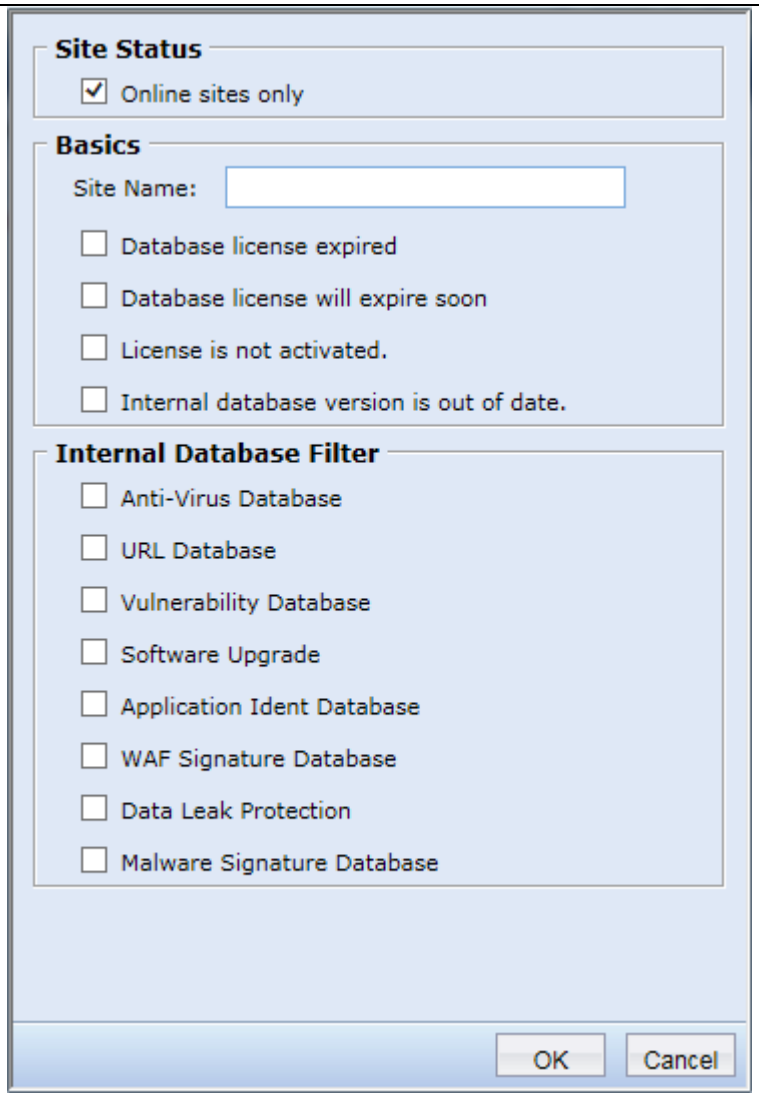
[Sort by] : Select applications display based on sorting of inbound/outbound/bidirectional traffic flow amount.

4.1.3.4 Internal Database Status

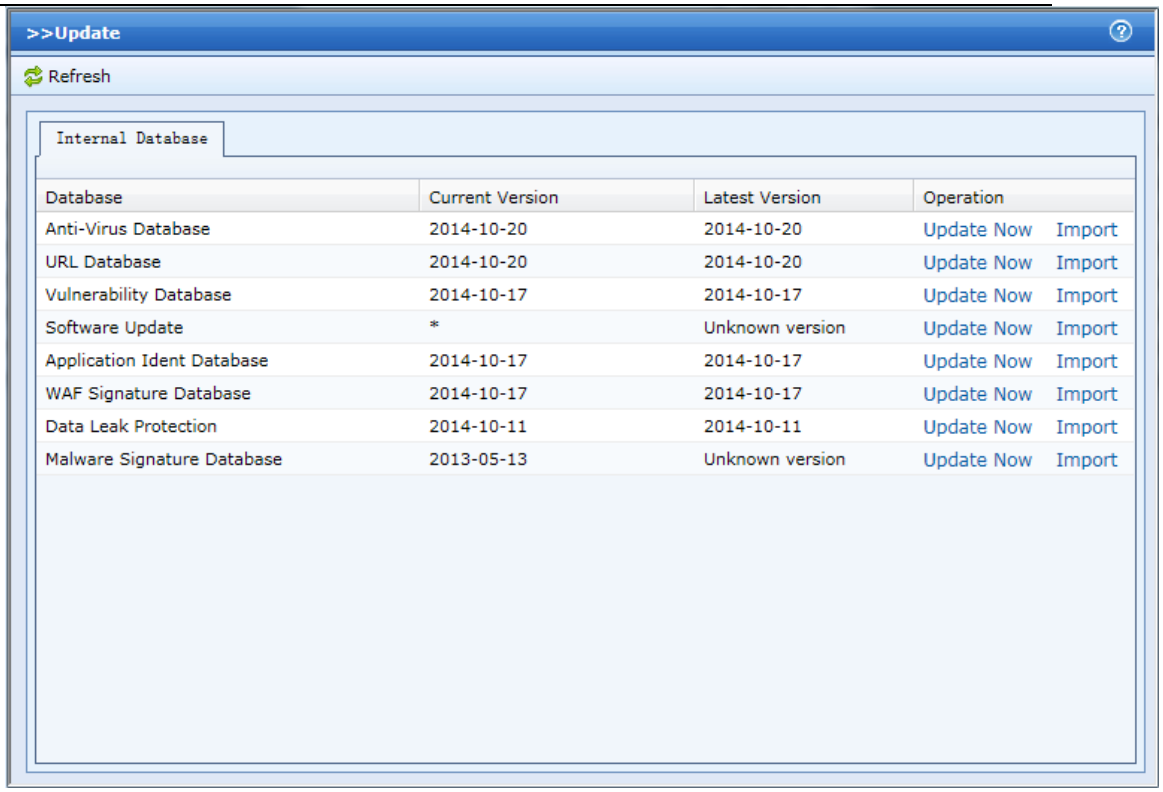
[Internal Database Status] includes [Filter] and [CMC Internal Database Status] function modules. This page display all NGAF sites internal database status, which includes name, status, database name, current version, latest version update service expiration and last reported. Date as shown below:



[Filter] : Filter sites by using selective options such as update status and etc. Click on Filter and the page below is shown:

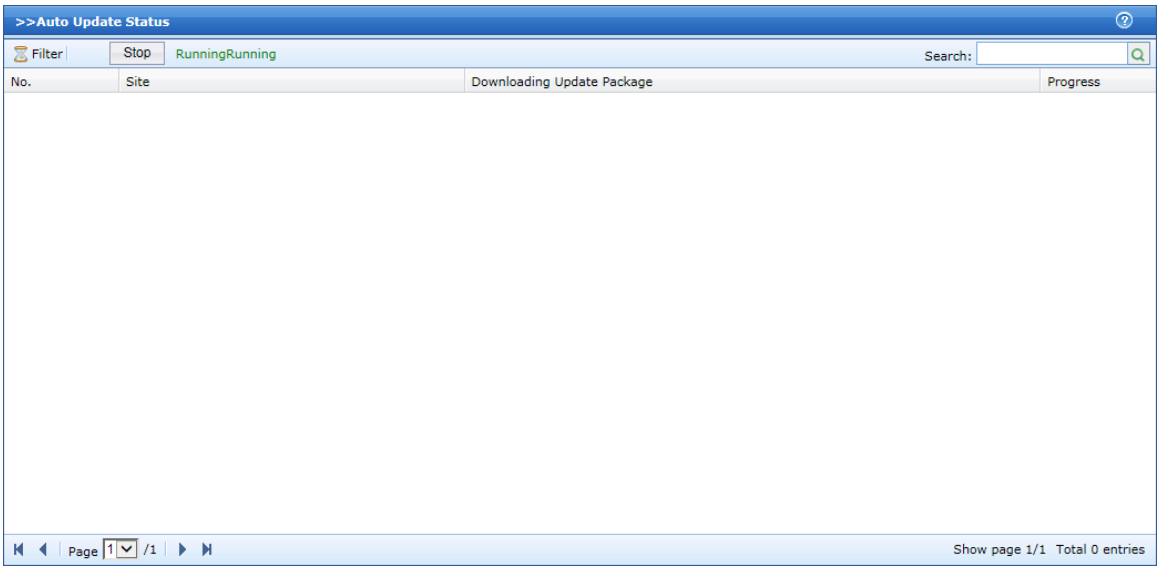


[CMC Internal Database Status] : This module is used to check CMC internal database status which the databases is exactly same with NGAF. Click on the button, the following page is displayed:



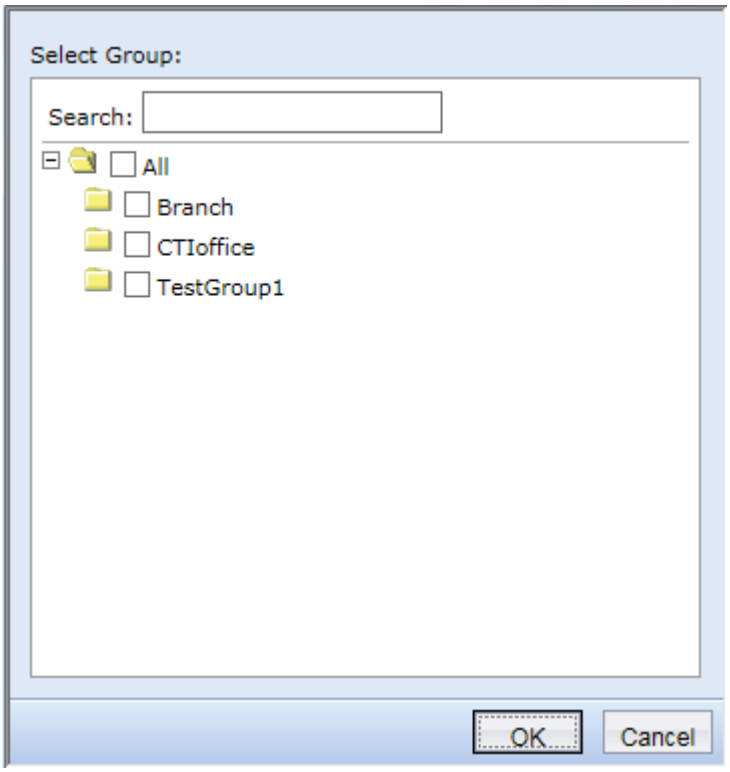
4.1.4. Auto Update Status

[Auto Update Status] includes [Stop] service, [Filter] and [Search] function modules. This page displays all status of NGAF sites download upgrade package via CMC. The page is shown below:



[Stop] : Click on the button to stop all auto-update services, all NGAF sites will not be able to update via CMC.

[Filter] : The filter feature is used when there are many sites in order to narrow down the sites resulted by using selected parameters. Click on the button and the following figure is shown:



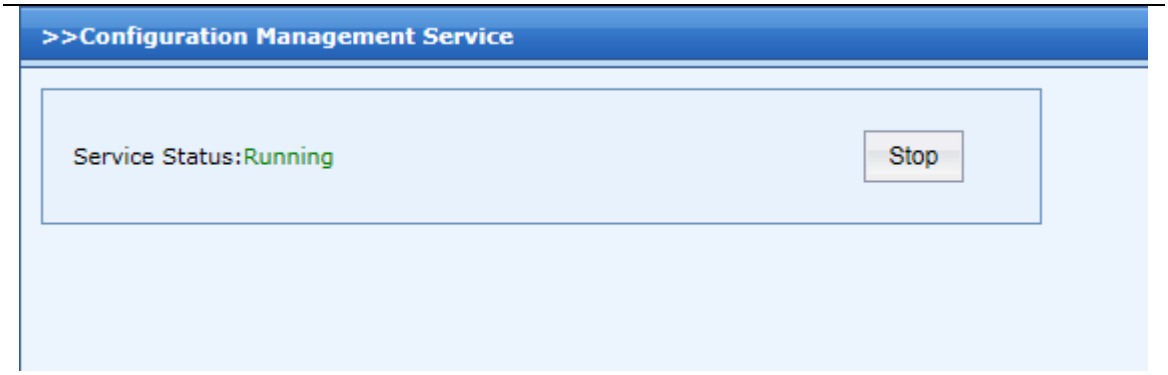
[Search] : Insert related group/sites name and click on Search, the search results will be displayed. Support fuzzy search but does not support wildcard search.

4.1.5. Services

[Services] includes [Configuration Management] and [TCP Proxy] function modules.

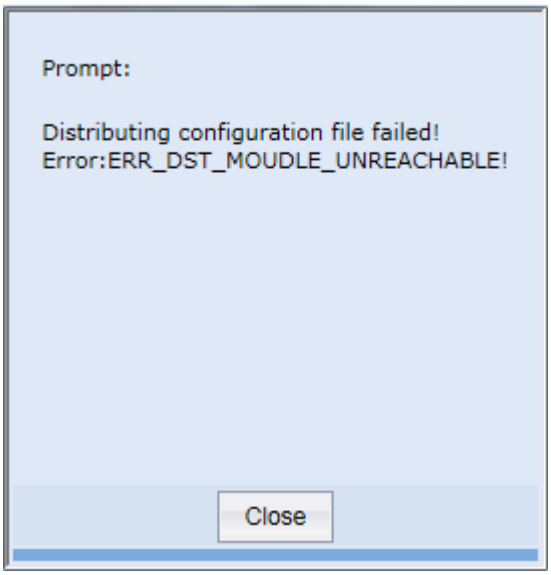
4.1.5.1 Configuration Management

[Configuration Management] is used to manage CMC database



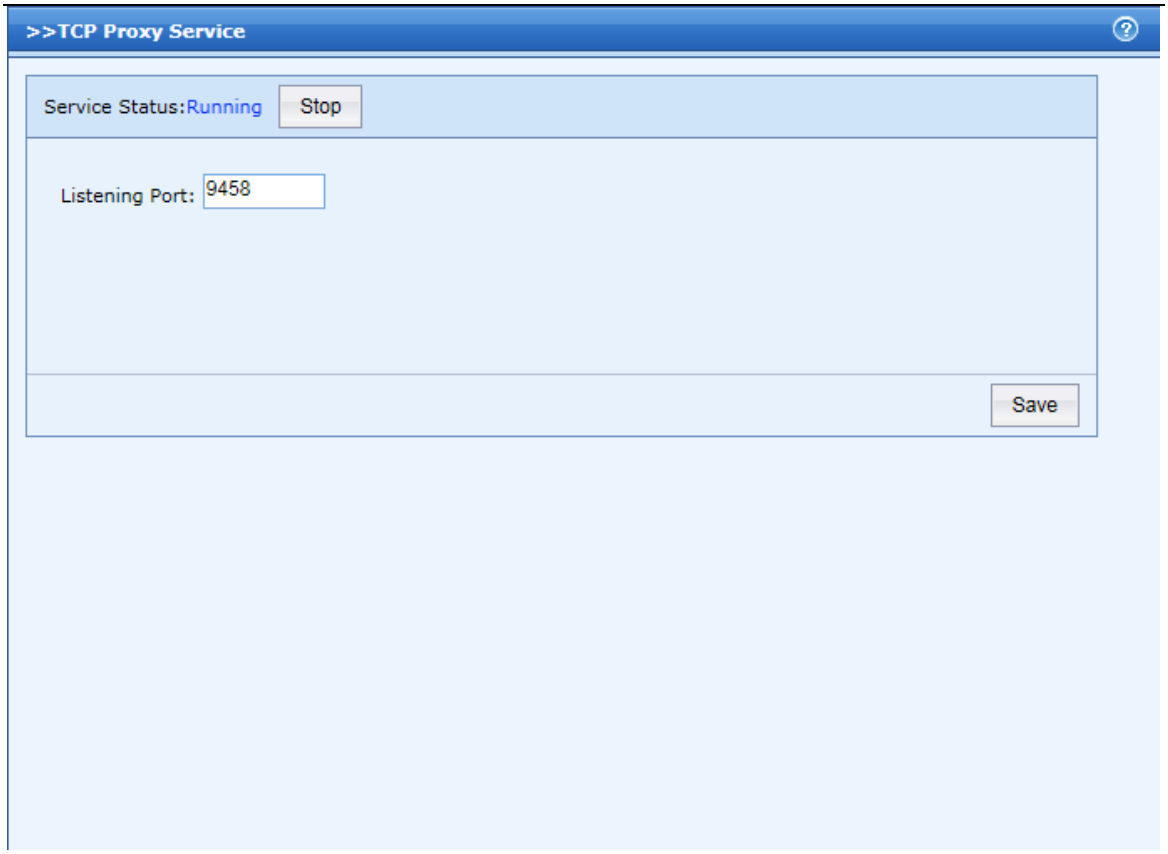
[Stop] : CMC will not able to distribute configuration to NGAF if the service is stop.

If the service is stop running, the error page below is prompted when distribute configuration to NGAF.



4.1.5.2 TCP Proxy

[TCP Proxy] is used for when NGAF connected to CMC, administrator select Remote Control via CMC's web console interface and browse to NGAF's related service with local 127.0.0.1 and proxy port. This enable administrator to remote control the NGAF even if the NGAF is not directly connected to CMC device (The process is similar to proxy service and thus is named as TCP Proxy). This feature does not need port forwarding or bypass in firewall but it requires only CMC device to open TCP port 9458(Factory default port) which is shown below:



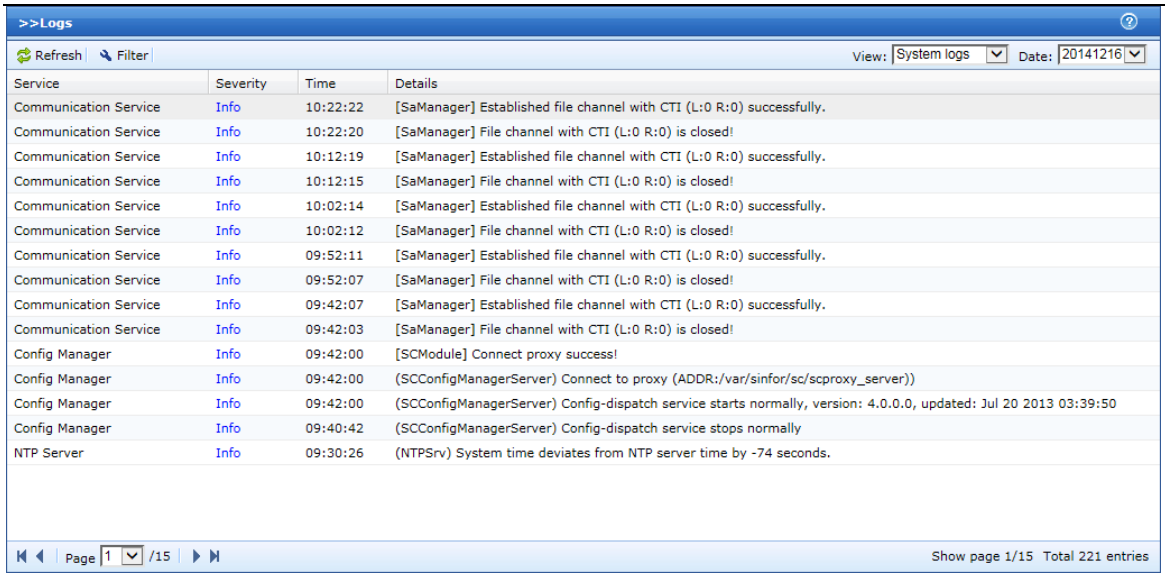
[Stop] : Press on the button to terminate the service, CMC will not be able to visit NGAF via TCP Proxy.

[Listening Port] : CMC's listening port, configurable to any ports (But not ports which are already using in CMC to avoid conflict)

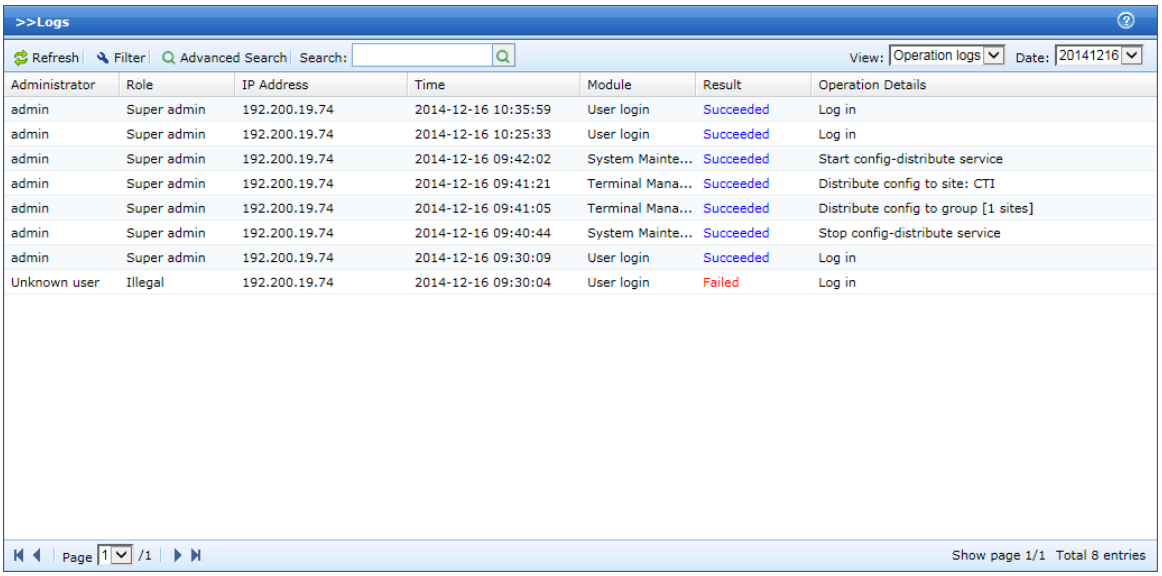
When CMC is deployed as single-arm mode, port forwarding need to be configured on the gateway device to port forward TCP 9458 (by default) to CMC device. If not, administrator will not be able to access to NGAF remote control sites via TCP Proxy in CMC's web console.

4.1.6. Logs

[Logs] includes [View] logs type, [Date] and [Filter] function modules. The feature is used to check on CMC's system logs and operation logs, the page is shown below:



[View] : Selectable options are system logs and operation logs. System logs show all CMC's services logs and Operation logs show the operations performed by CMC administrator.

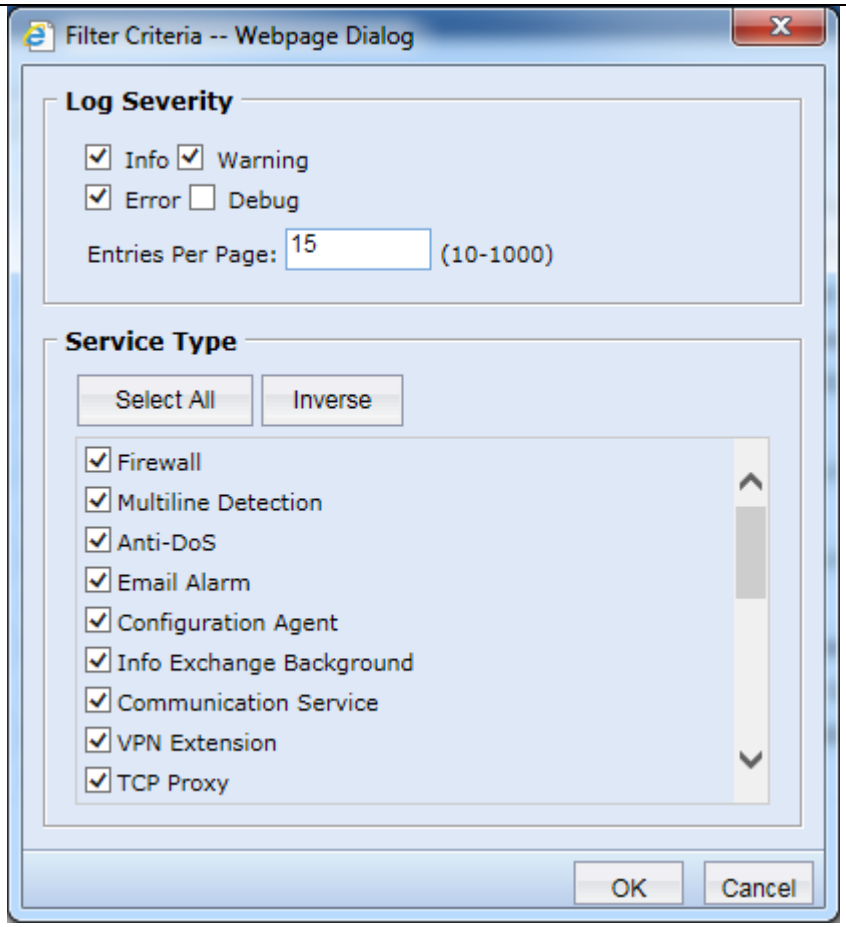


[Date] : Select date to view related logs on the particular day. By default, CMC can store up to 8 days for System logs and 90 days for Operation logs.

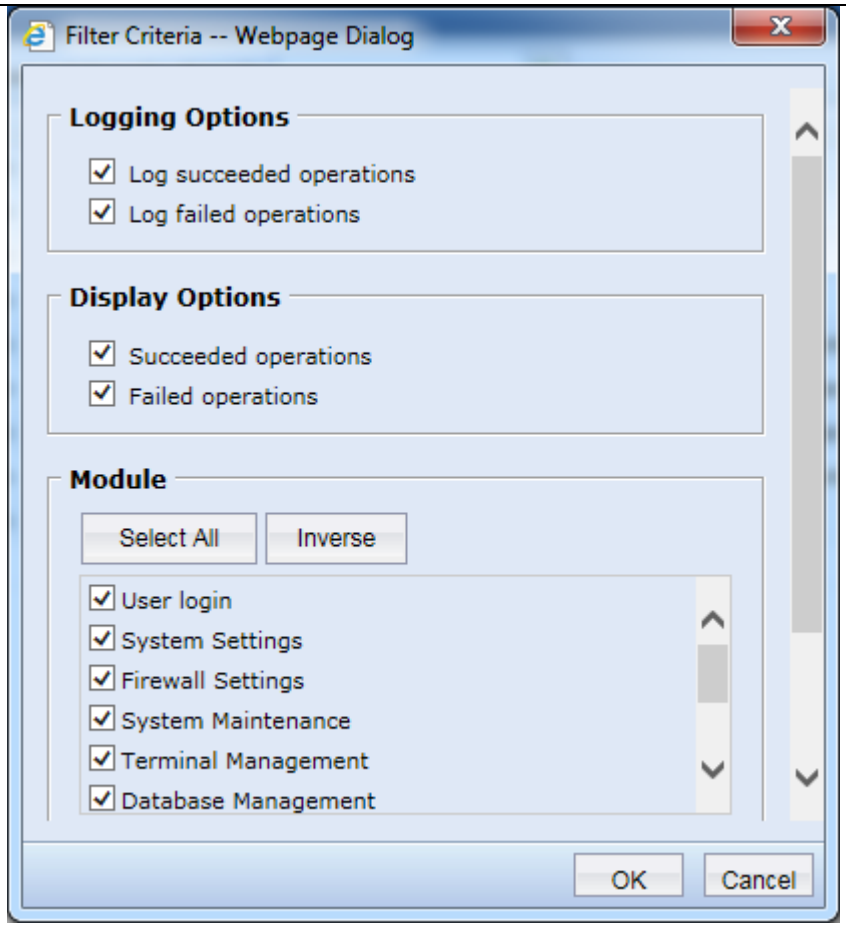
CMC's logs does not support synchronization or export to third party logging server.

[Refresh] : Click on the button to display the latest logs.

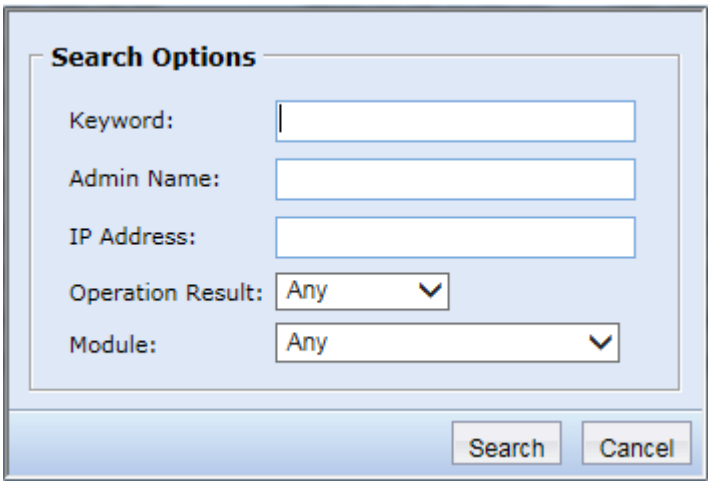
[Filter] : The feature is used to select logs based on filter options for both type of logs. The page are shown as below:



For Operation logs, please refer to following page:



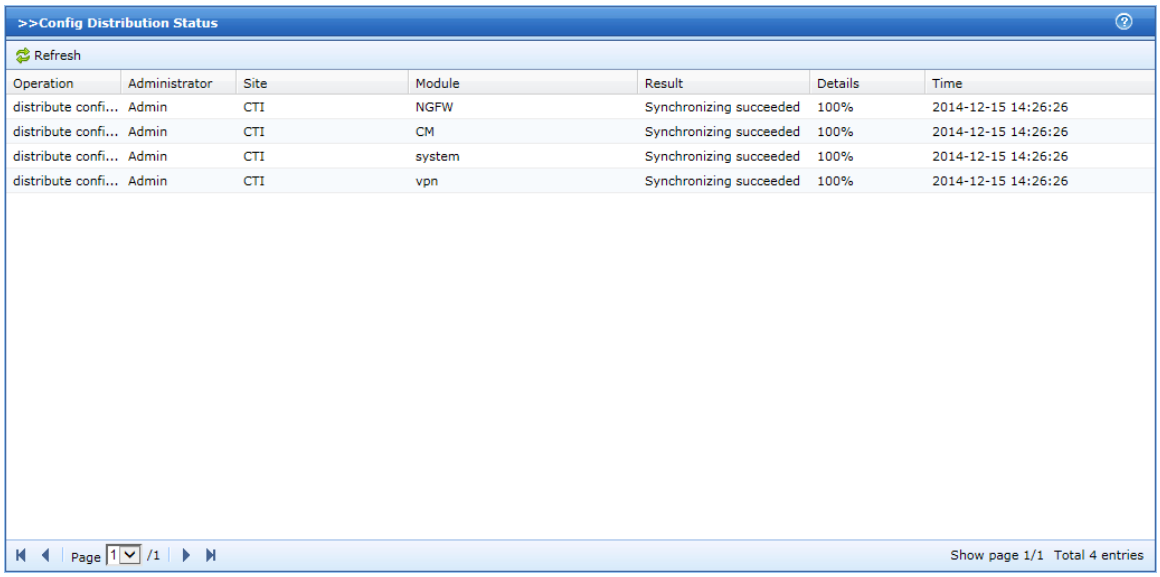
[Advanced Search] : Search method which is only available for Operation logs. Key in information in the related fields to narrow down the logs display. The page is shown below:



Users can choose to view different type of logs according to their need.

4.1.7. Config Distribution Status

[Config Distribution Status] is used to check the status when CMC distributing configuration, normally when editing NGAF sites configuration and click ok, the configuration will be distribute immediately to the remote control sites. If NGAF remote control sites are not connected to CMC or CMC's service is stopped, all synchronization logs will be displayed. The page is shown below:



[Refresh] : Click on the button to display the latest logs.

CMC's web console will prompt out a small windows which indicates synchonization/configuration distribution failure; meanwhile NGAF sites will pop up an icon to indicates the message during configuration upload.

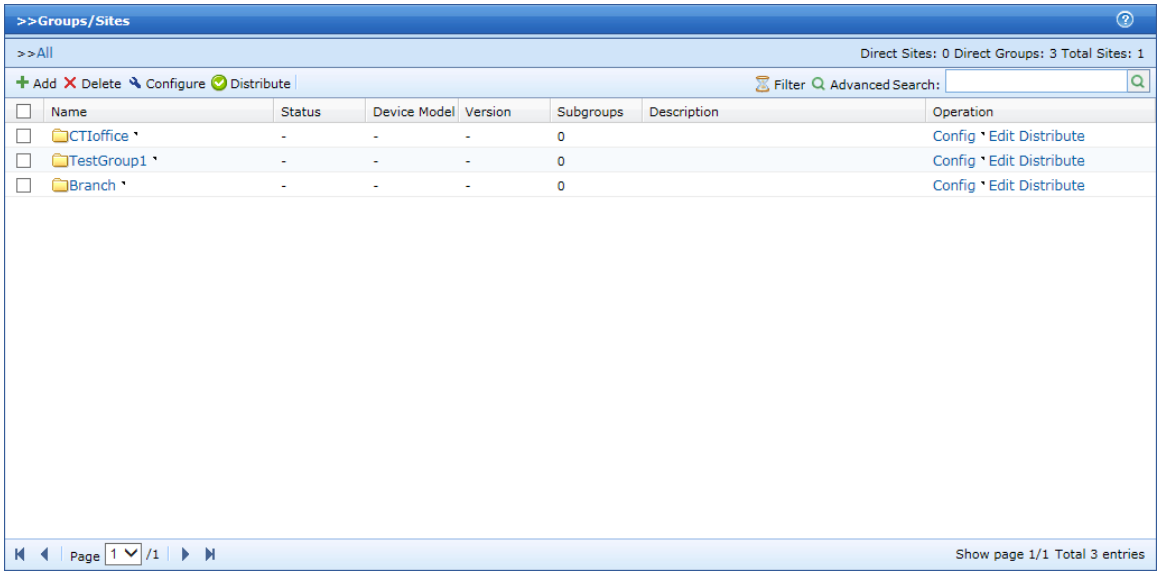
4.2. Site Management

This section include [Group/Sites], [TCP Proxy], [Scheduled Tasks], [Update Packages] and [Central Management] modules.

4.2.1. Groups/Sites

[Gourps/Sites] is used to differentiate groups and sites, can place NGAF devices into a group, group can include more groups. CMC administrator can manage NGAF devices via groups and sites

and this method can reduce the workload. The page is shown as below:



[Add] : Put the mouse cursor on the Add button, options [site], [Group], [Import site] and [Auto-generate site] is available. The page is shown below:

[Delete] : Click on Delete button to delete all selected groups/sites, unselected groups/sites will remain.

[Configure] : Click on the Configure button beside [Delete] can configure NGAF under ALL group which shown below:

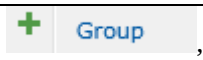
[Distribute] : Click on the Distribute button beside [Configure] to distribute configuration to all current groups and NGAF sites.

[Filter] : Can select single NGAF sites account for further actions.

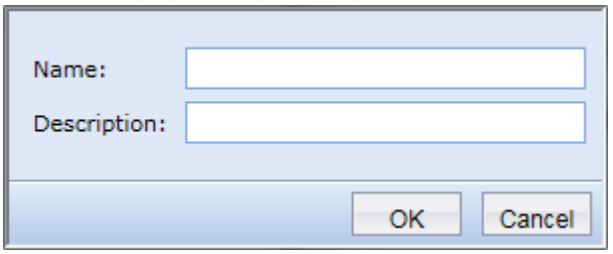
[Advanced Search] : Can insert sites account to perform searching, supports fuzzy search.

4.2.1.1 Add Group

When there are alot of sites, the sites can be managed by placing under group or several groups.

Move the mouse cursor to the Add button, click on 

, insert name and description to create a new group:

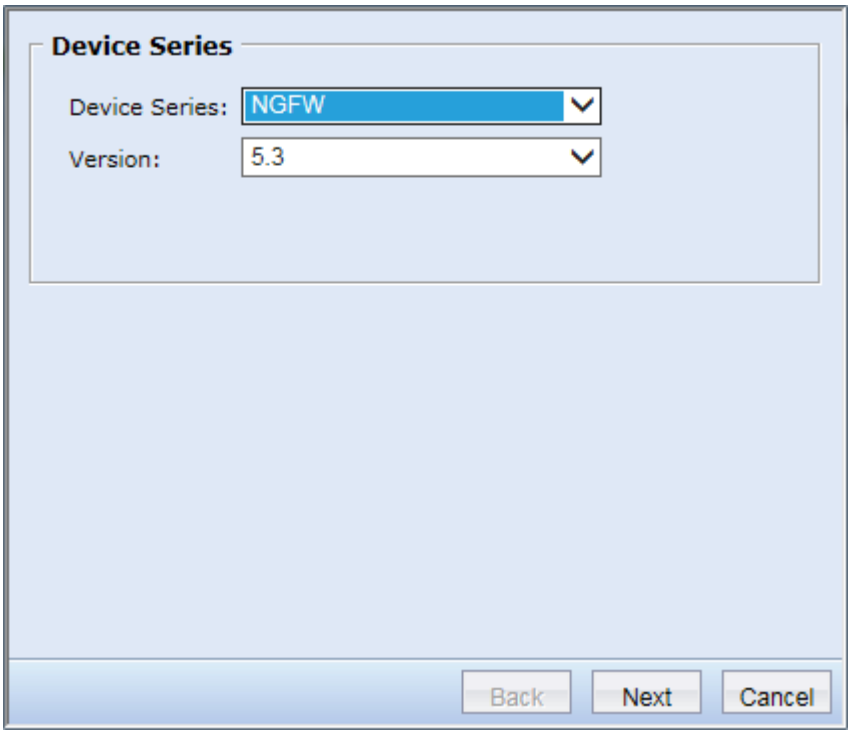


Group's details are not able to be modified after creation. If there is mistake found in group details, delete the group and re-create it.

By default, CMC device has only one ALL group, and it can not be deleted. Refer to Chapter 5 for more details

4.2.1.2 Add Sites

NGAF remote control sites can be created under ALL group or any other groups, it can be differentiate base on user's need. The page is shown below:



Refer to Chapter 5 for more details

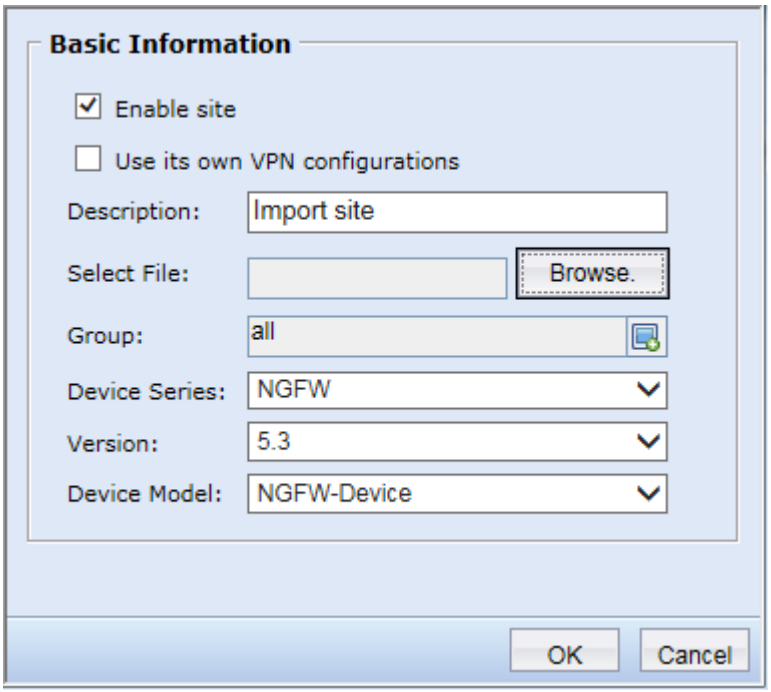
4.2.1.3 Import Site

Other than add groups/sites manually, we can use another method which is to import the sites from a file in order to reduce the workload if there are alot of sites to be added. The case below shows steps to import sites:

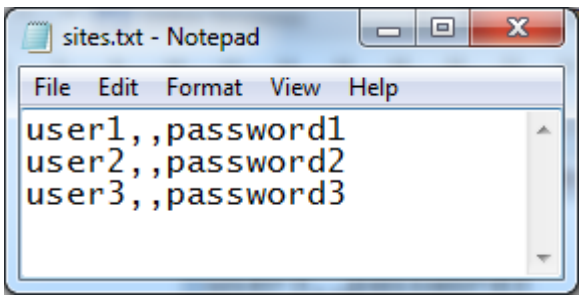
Case : How to import sites

This case will describe how to import 3 sites into CMC under group ALL.

Move the mouse cursor to Add and select [Import Sites], the page below is shown:

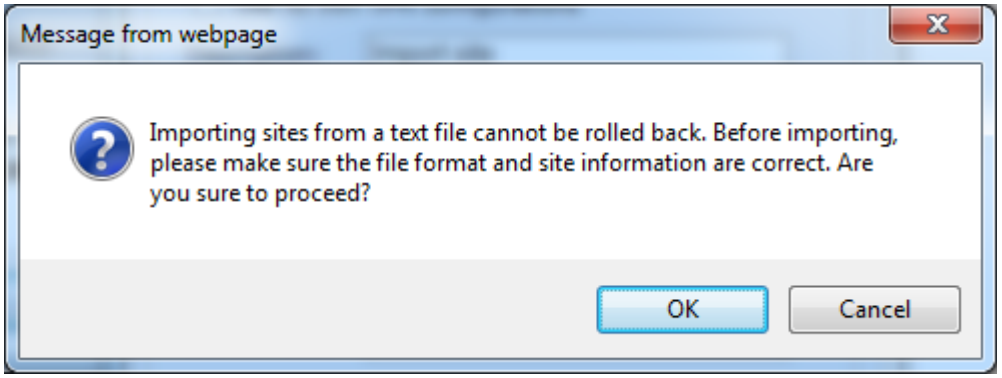


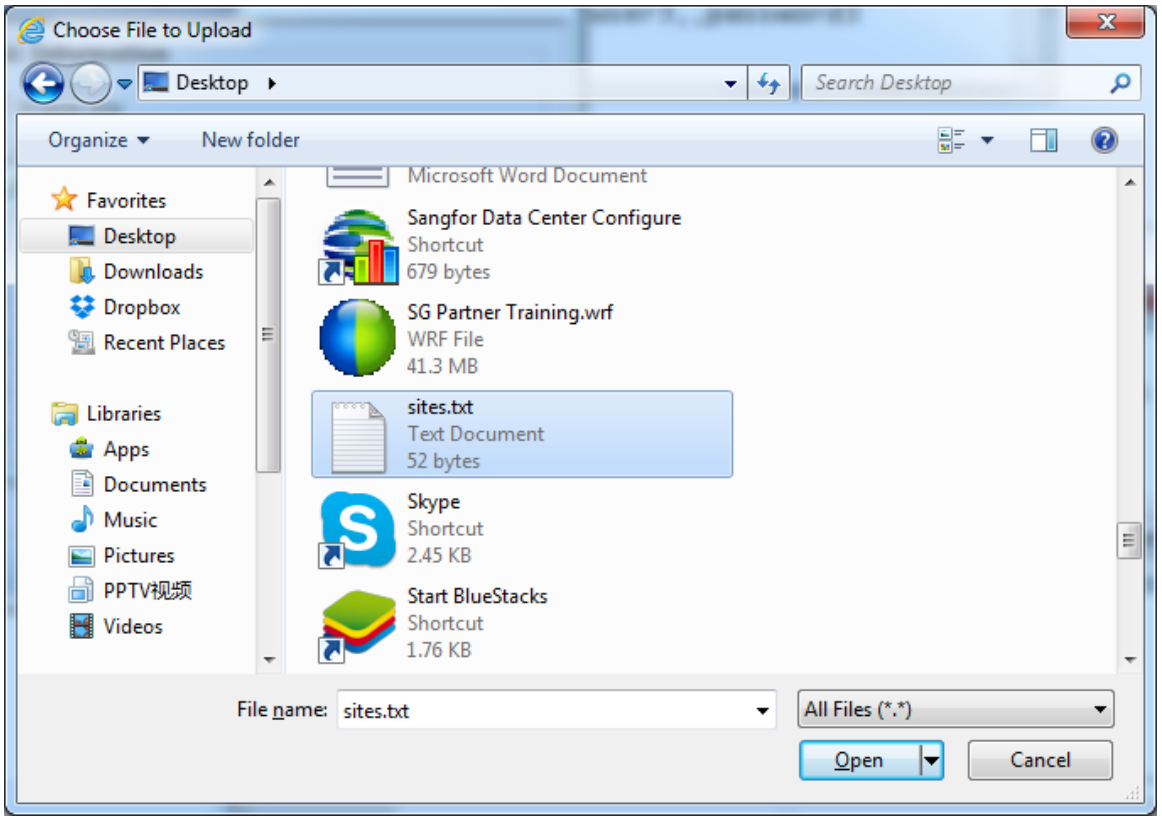
[Browse] : Choose related file via this button, txt or .csv file. The content in the file should be as below:



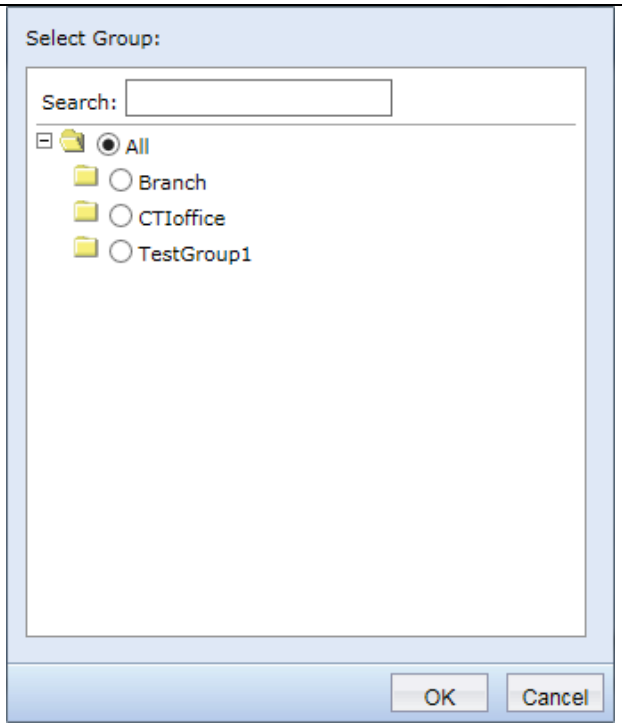
Warning :There are 2 commas between username and password.

Click on Browse and the page below is shown:





[Group] : Select the group which the sites import to. Click on  to select related group as shown below:



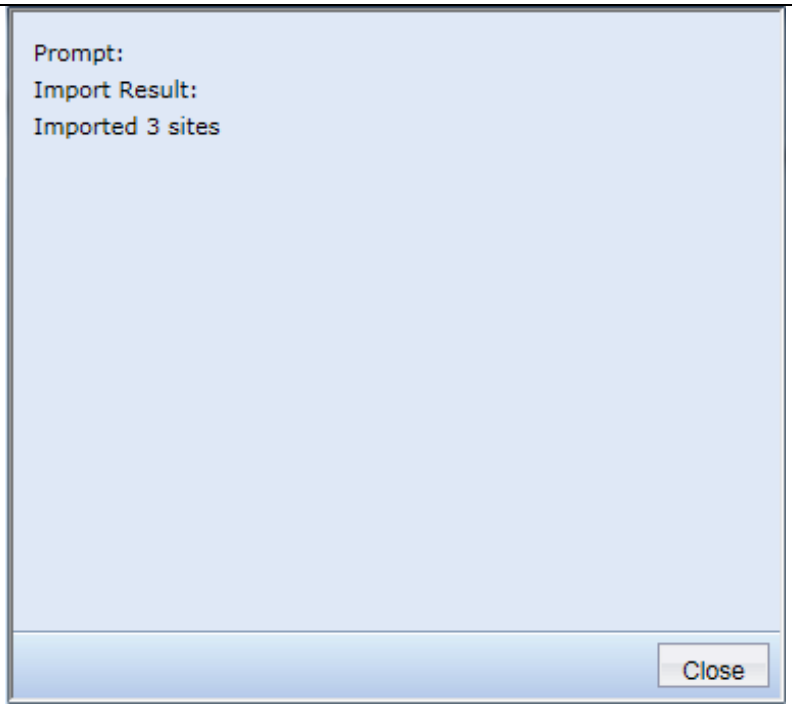
[Description] : Self-definable.

[Device Series] : remote control sites device

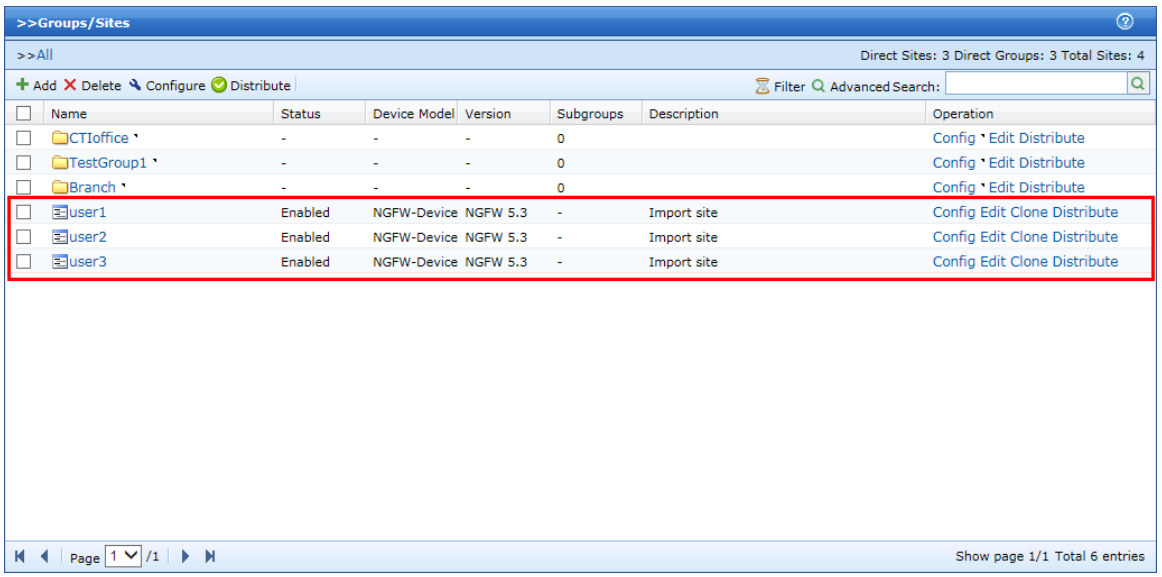
[Version] : The firmware version of remote control sites device.

[Device Model] : The hardware model of remote control sites device.

After done configuration, select OK to import the sites and the page below will be prompted if succeeded:



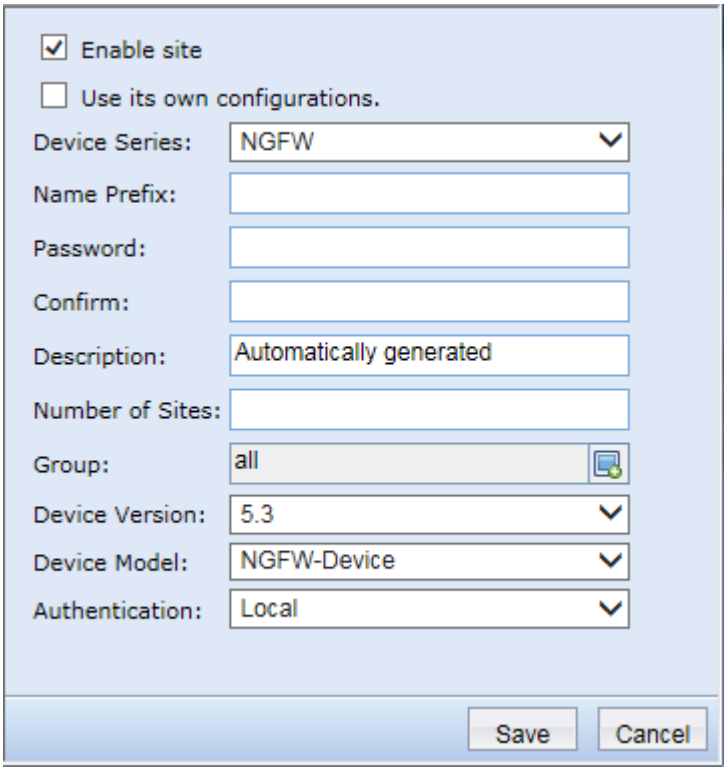
The sites will be shown in the related group (which is group ALL in this case) as below:



Warning :The devices imported for each time must belongs to a same group, same device series and same version.

4.2.1.4 Auto-generate Site

Other than the two methods mentioned above, CMC can also auto-generate site by itself. The site which is auto-generated, it's name are came with suffix. The page is shown below:



[Device Series] : remote control sites device

[Name Prefix] : Insert auto-generate sites name prefix

[Description] : Self-definable, default set to "Automatically generated"

[Number of sites] : The number of sites to be auto-generated.

[Group] : Select the group which the sites import to.

[Version] : The firmware version of remote control sites device.

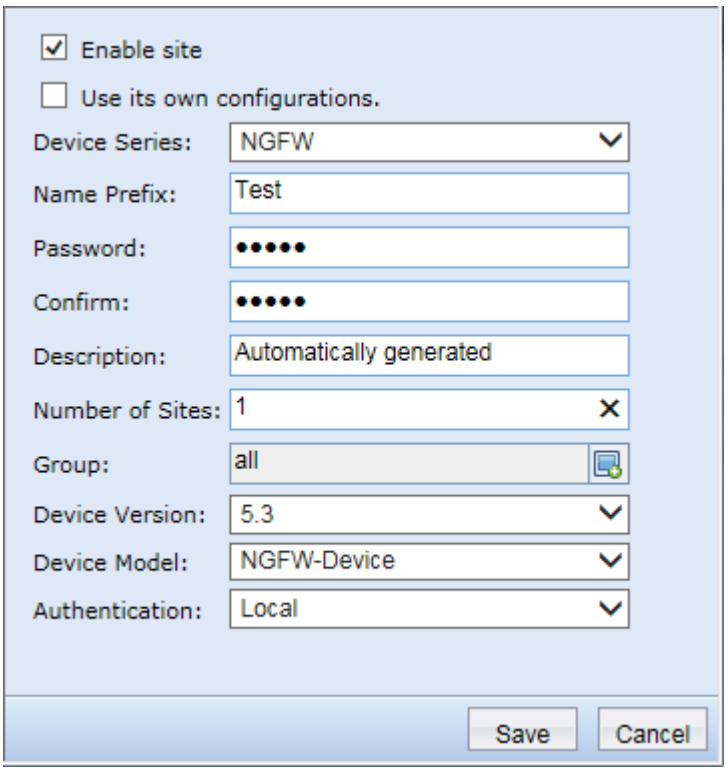
[Device Model] : The hardware model of remote control sites device.

[Authentication] : The authentication method using by auto-generate sites, select type Local normally unless there is LDAP or RADIUS server in local network, can synchronize with username and password in servers.

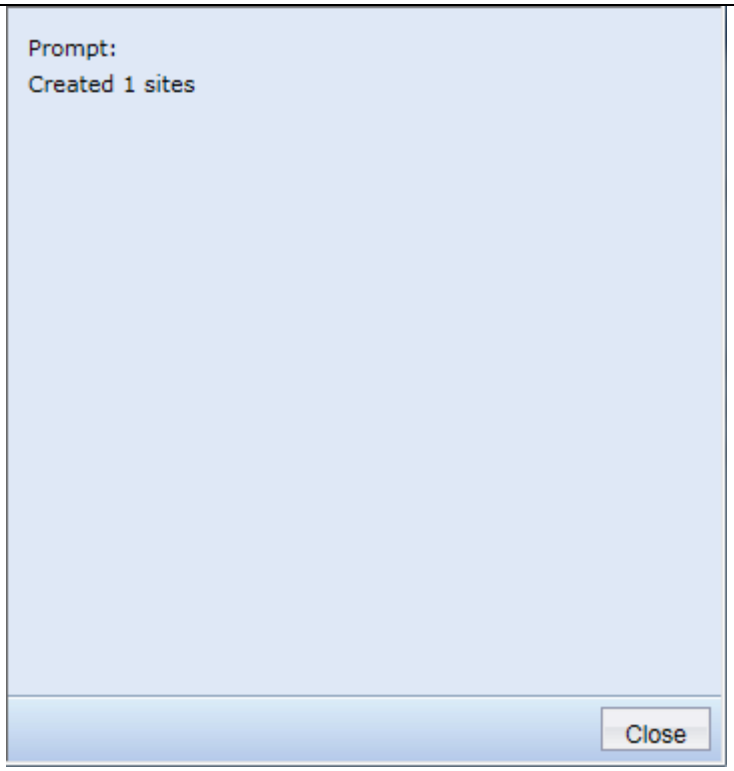
Case: How to configure auto-generate sites

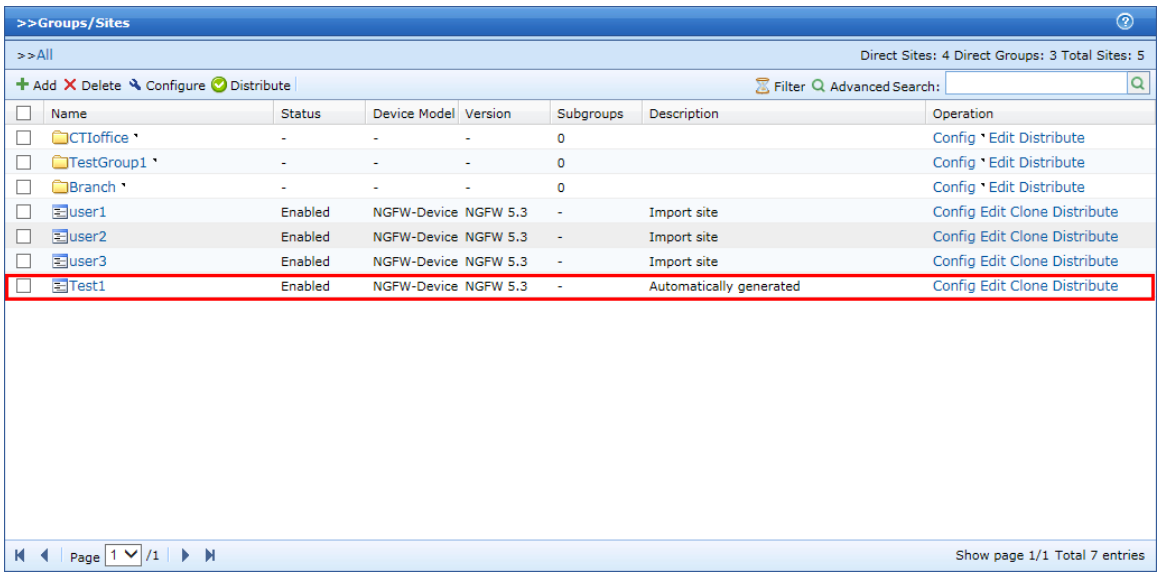
This case describe how to create 1 auto-generate site under group ALL.

Move the mouse cursor to Add and select [Auto-generate sites], the page below is shown:



This example need to create 1 auto-generated site under group ALL, refer to figure above for configuration, click on Save to create site Test1 as shown below:





Warning :The sites auto-generated for each time must belongs to a same group, same device series and same version.

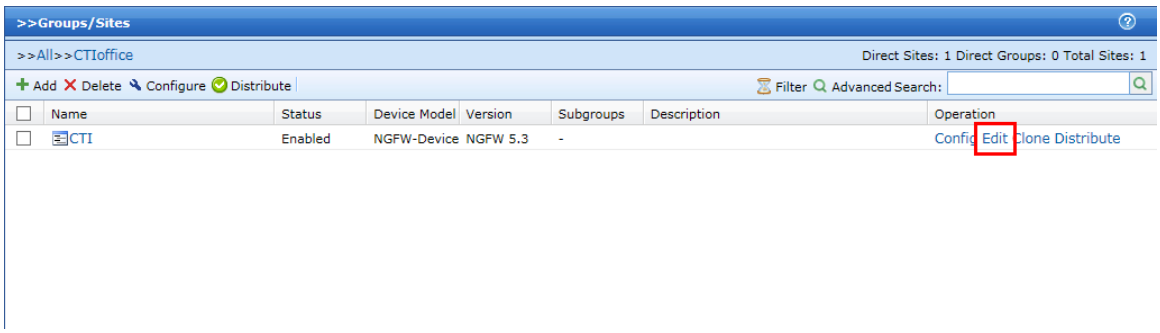
4.2.1.5 Edit Sites

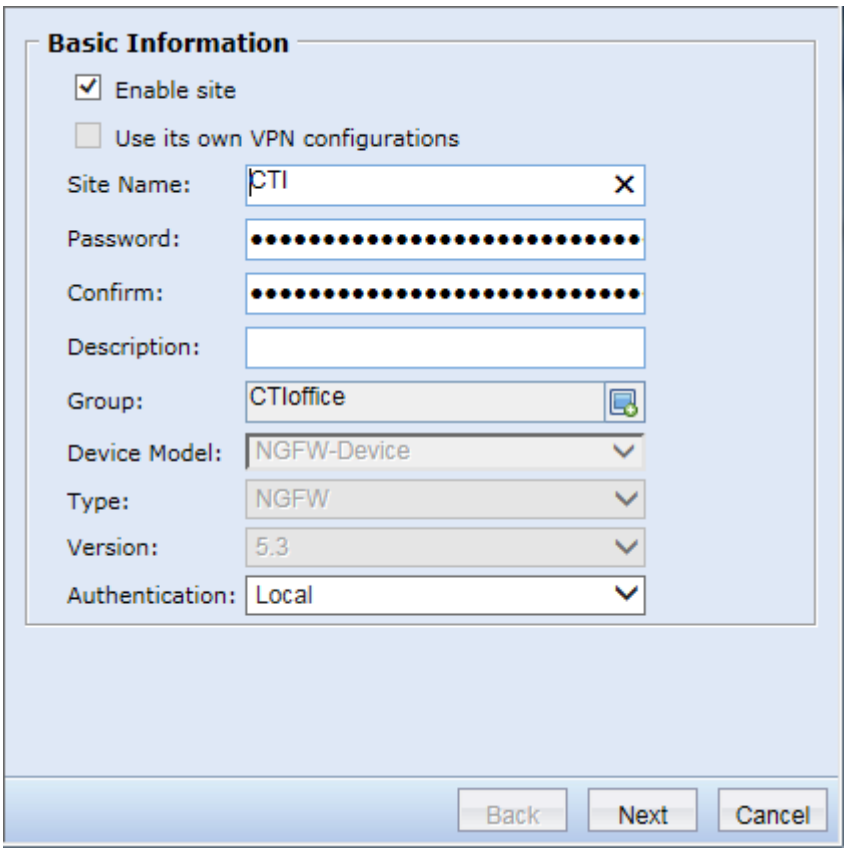
Sites can be edited base on password changes, site's name modification and group changes. Click on Edit on the site's right side to perform the changes.

Case : How to edit sites

This case describe how to change site's password.

Click on site's Edit button and the page below is shown:





Modify the password column in the dialog windows, then click on Next and OK .

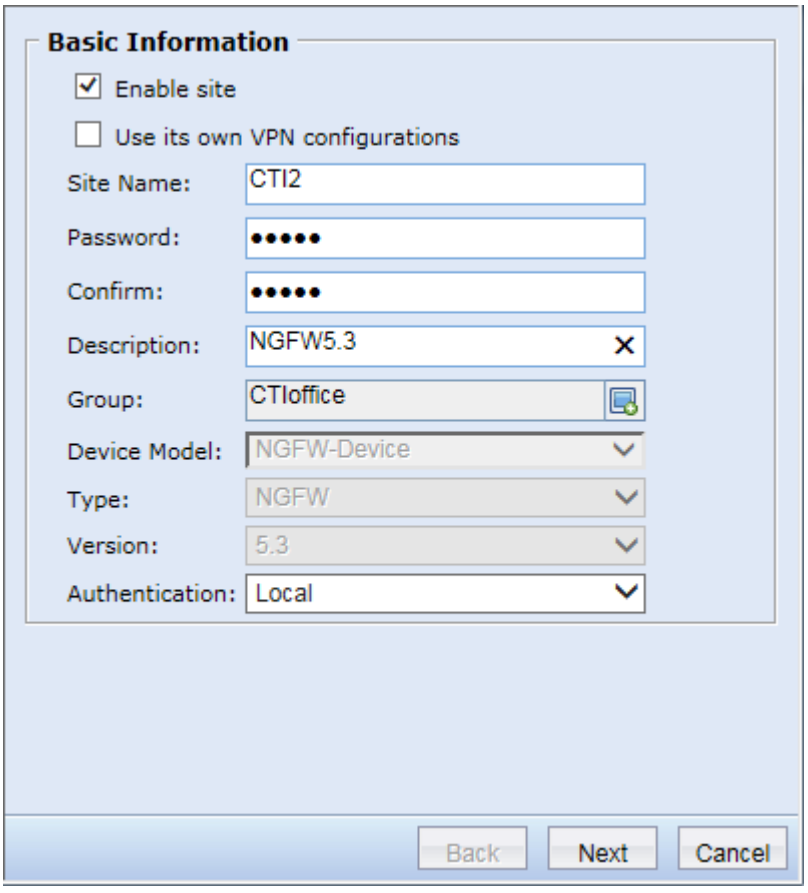
4.2.1.6 Clone Sites

When creating a new site, the site's group, device series and version same with another existing account, can use Clone to create the new site to ease user.

Case : How to clone sites

This case describe how to clone a NGAF site for another NGAF new site.

Click on Clone of the related site's right side and the following page is shown:



Insert all related information into the columns, then click on Next and OK .

4.2.1.7 Configure Sites

NGAF sites configurations divided into three types: Group NGAF configuration, Sites NGAF configuration and remote local NGAF configuration. When there are conflicts occur between config files, the sequence to prioritize is : Group NGAF Config > Sites NGWF Config > remote local NGAF Config.

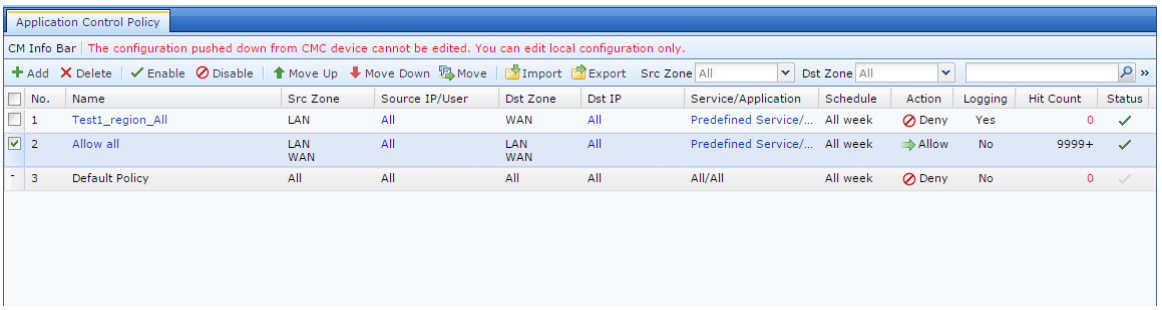
By refer to the configuration properties, we will categorize the configuration into three types and different manage policy is apply on each type:

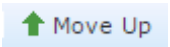
[Mergeable Config] : Group, Sites and remote local NGAF config are available in the CMC device. For example, NGAF's security policy module is merge type config, when Group configured with security policy A, remote local config is configured with security policy B, both policy A and policy B can be seen on the NGAF.

[Switchable Config] : The groups'/sites' config has higher priority compare to remote local config. For example: NGAF's anti-virus policy is a switchable configuration, when group NGAF enable anti-virus policy but remote local NGAF disable it, by default, the anti-virus policy is enabled.

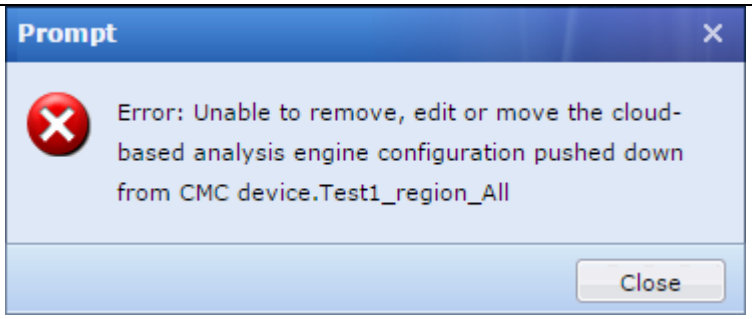
[Local Config] : Only a few configuration can be allowed in remote local config, for example, network zone configuration, real-time status and etc. The module which included in this config is [Real-time Status], [Bandwidth Management], [Virtual Line], [SNAT], [DNAT] and [Network].

Some Mergeable type config have priority order, these distributed config will work in order: Group > Site > local, the local config policy cannot take over the priority of group config policy.



If click on the 

when selecting local policy to re-order the policy, the system will prompt error message as shown below:



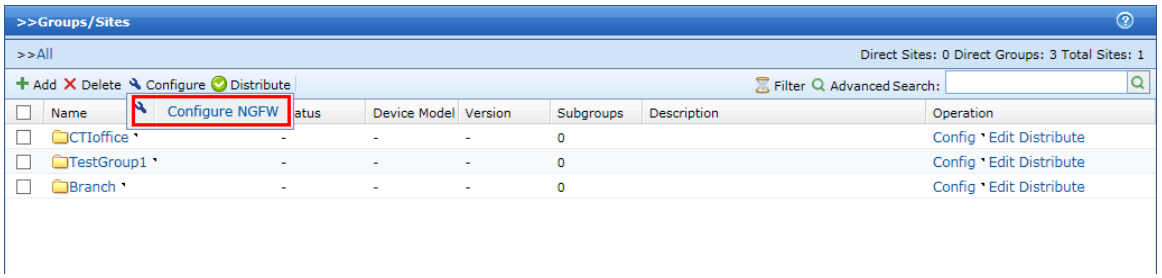
The following details describe the type of configuration and a variety of application scenarios for each configuration :

NGAF Group ALL Config access method

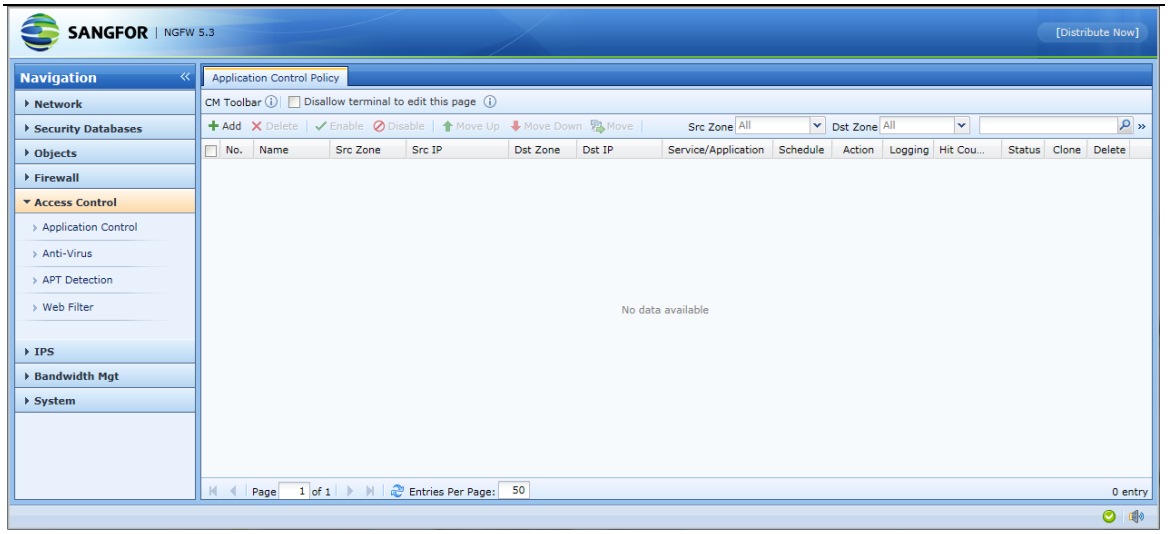
This config type has the highest priority among all other config types and will distribute to all groups and all sites.

Case : Configure NGAF in Group ALL

Move the mouse cursor to Configure and select [Configure NGAF] as shown in the following page:



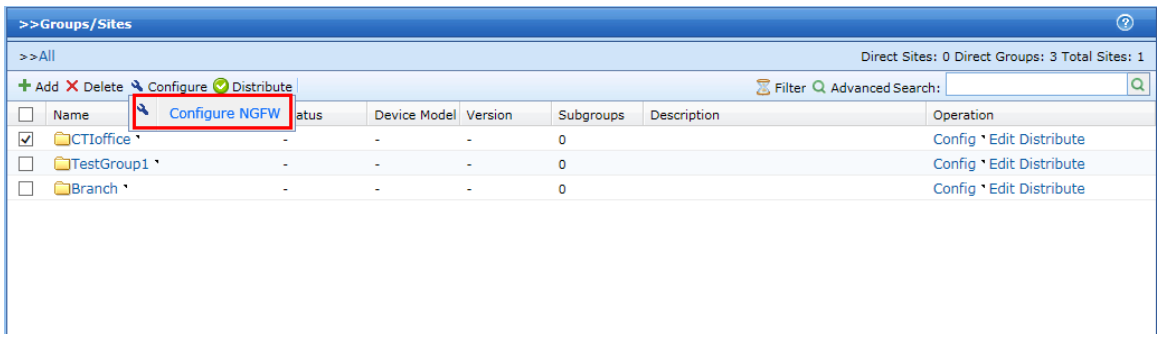
The page will be redirect to another page as shown below:



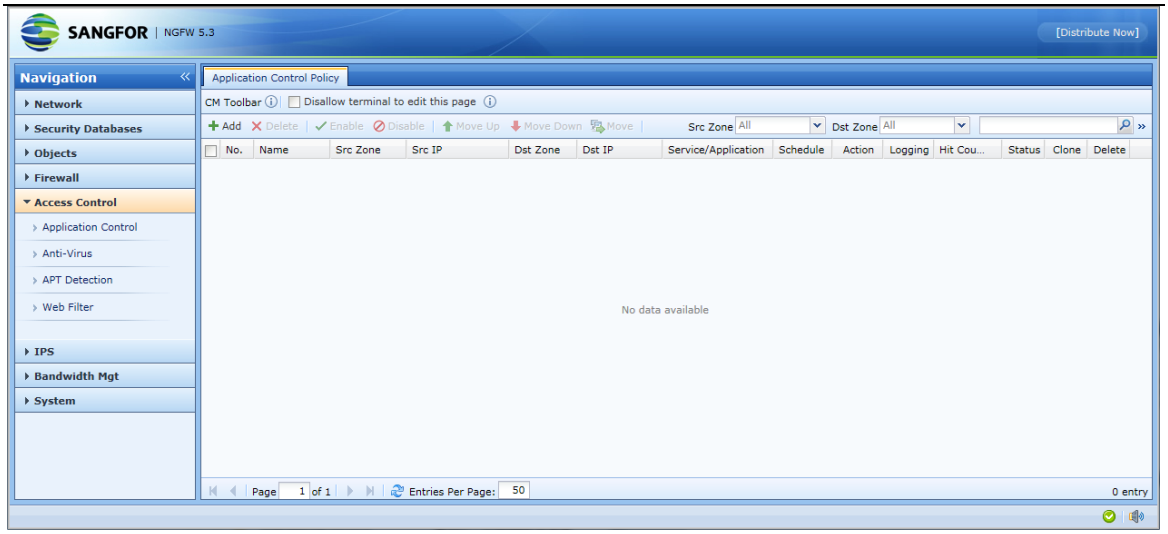
NGAF Group Config access method

Case : Configure NGAF in Group

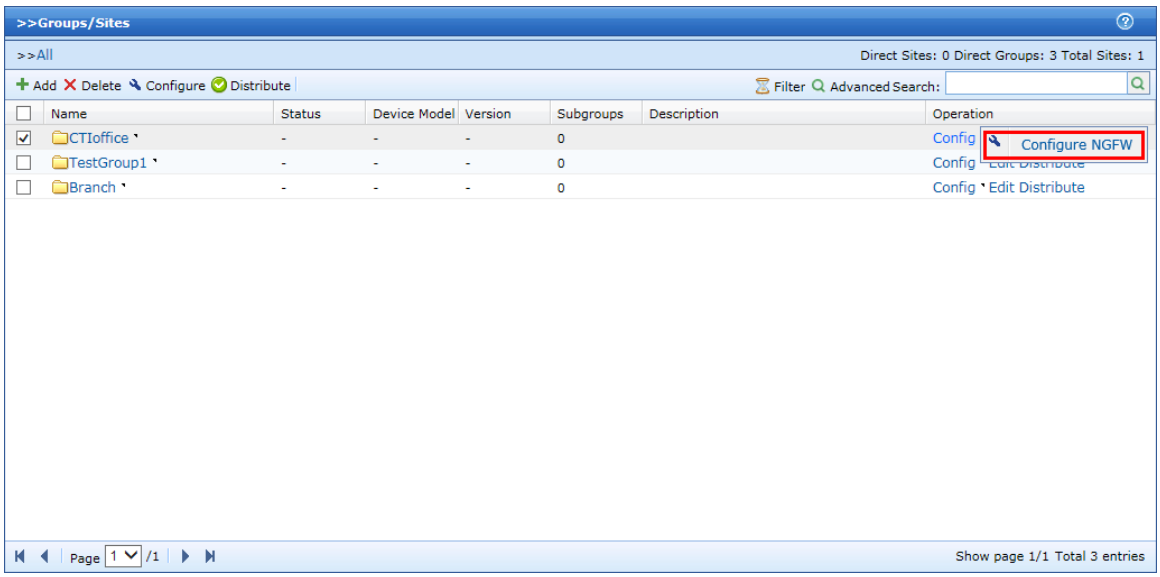
Method 1 : Move the mouse cursor to Configure and select [Configure NGAF] as shown in the following page:



The page will be redirect to another page as shown below:



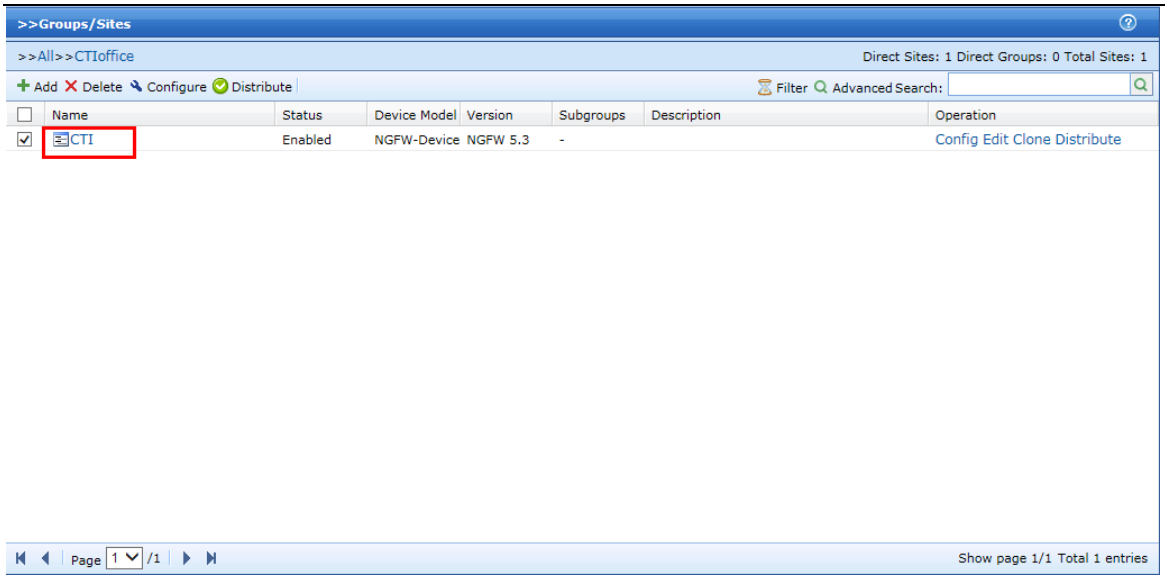
Method 2 : Move the mouse cursor to Configure and select [Configure NGAF] on the right side of Group as shown in the following page:



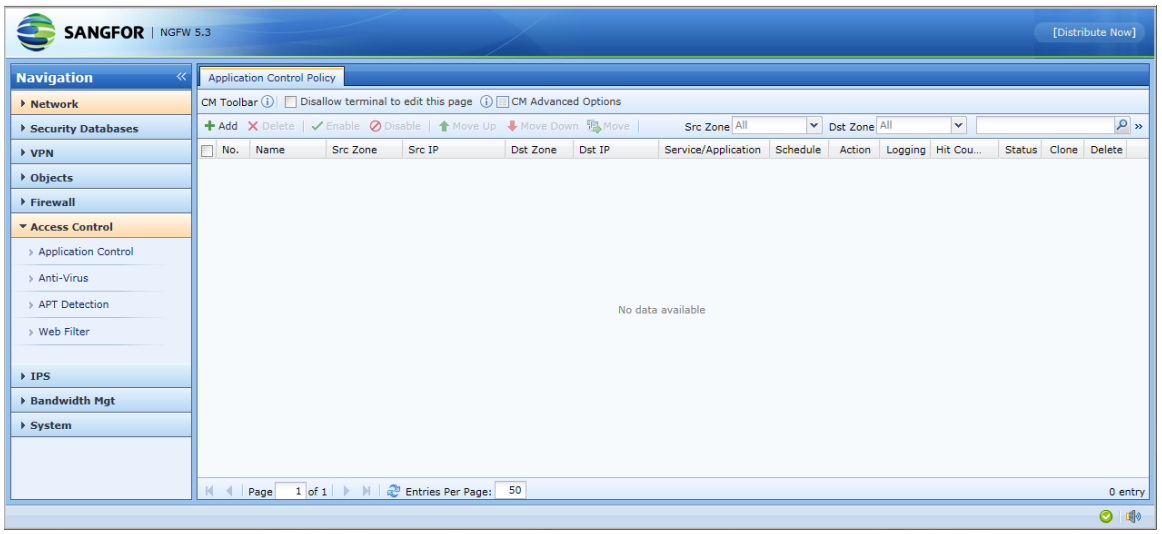
NGAF Sites Config access method

Case : Configure NGAF under NGAF sites

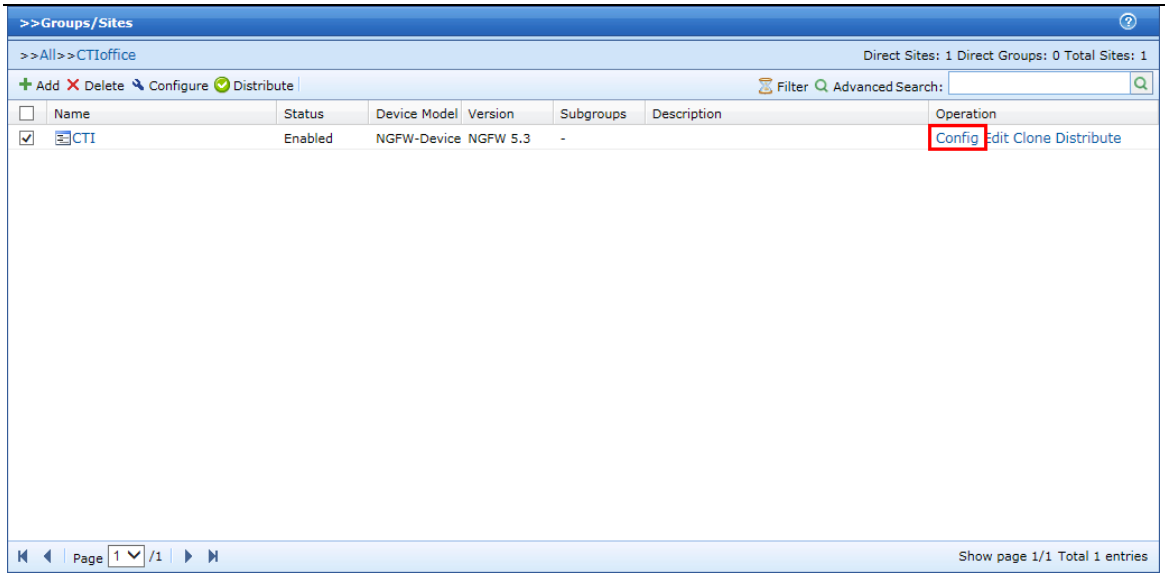
Method 1 : Move the mouse cursor to the related site and click on it as shown below:



The page will be redirected to page below:



Method 2 : Click on the Config on the right side of the site's name as shown below:



NGAF Sites Configuration Introduction:

Network Configuration

[Interface]

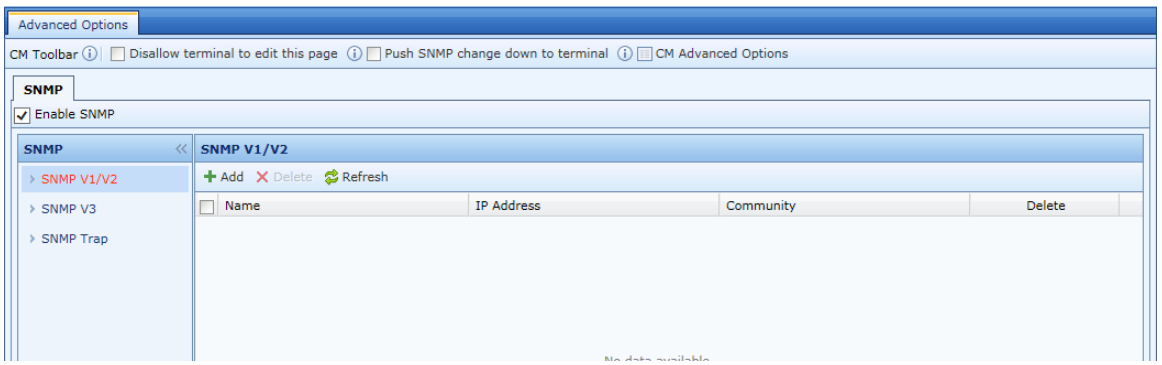
Module Description : The configuration in this page is local config, it has to be done by remote NGAF itself.

[Advanced]

Module Description : The configuration under this page is switchable config. User can configure SNMP and SNMP related switch option, only available in sites configuration, group configuration does not include this page.

CMC toolbar instructions:

NGAF Sites page in CMC is shown as below:



Check the [Push SNMP change down to terminal] to distribute the configuration of this page to

remote NGAF devices. Check the [High Priority] in CM Advanced Options, the configuration on this CMC page will have higher priority than the local configuration.

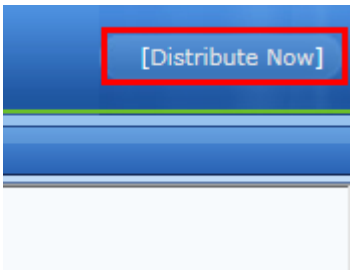
Security Databases

Module description : The configuration on this page is under local NGAF config category. The configuration is done in local devices. The page on CMC is used to check the content of these security databases which includes [Vulnerability], [WAF Signature], [Data Leak Protection] and [Malware Signature]. The menu is shown in figure below:

VPN

Module description : This module is used to configuration VPN for NGAF devices. The module includes functions such as [Basics], [Local Users], [VPN Connections], [Virtual IP Pool], [VPN WAN Interface], [VPN LAN Interface], [Multiline Policy], [Local Subnet], [Tunnel Route], [IPSec VPN], [Objects] and [Advanced].The page is shown as following:

Refer to NGAF User Manual 5.3 under VPN section for configuration details. After done configured this section, select [Distribute Now] on the top right of the page to distribute the configuration to related NGAF device as shown in the figure below:



Objects

Module description : This module describe the objects used in access control policy or any related policy in NGAF device config. For details, refer to NGAF5.3 User Manual under section Objects.

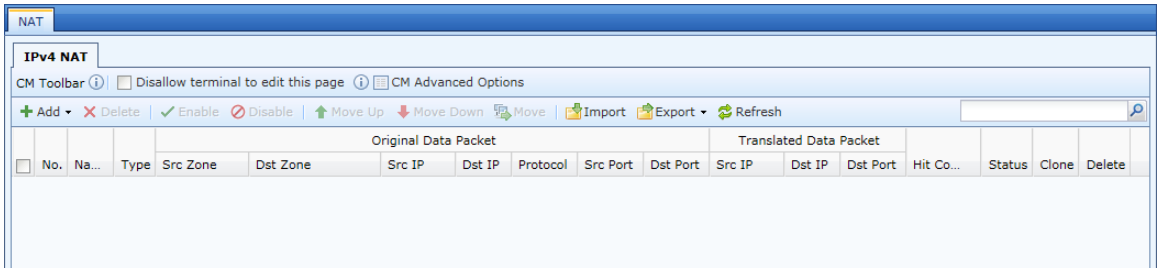
Firewall

[NAT]

Module description : This module only visible in site's user interface and belongs to Mergeable type NGAF config. The final configuration is consisted of both CMC and NGAF local config.

CMC toolbar instructions:

NGAF Sites page in CMC is shown as below:



Check the option [Disallow terminal to edit this page] to disable the local terminal to change configuration for this page in the NGAF device. Select the [Do not push configuration down to terminal] under [CM Advanced options] to prevent the current configuration on this page to be distributed to the local NGAF device.

Access Control

Module description : Network security issues come in when local users has unlimited access control to any website or any source, therefore NGAF can protect local resource via [Application Control], [Anti-Virus], [APT Detection] and [Web Filter] modules. The page is shown as below:

[Application Control] : Mergeable type NGAF config, filter traffics base on application layer and also port used.

[Anti-Virus] : Switchable type NGAF config, is used to detect virus and block if necessary; protect traffics and data from/to configured zone in NGAF.

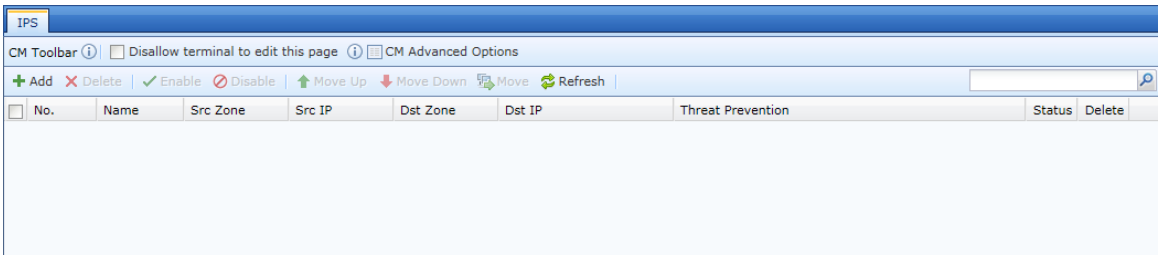
[APT Detection] : Mergeable type NGAF config, is used to detect local malware, trojan and harmful application/software. Block and logging (base on user's configuration) if infected software trying to communicate with public network.

[Web Filter] : Mergeable type NGAF config, this module is used to filter website browsing data which mainly are [URL Filter] and [File Filter].

IPS

Module description : Mergeable type NGAF config, can be configured only in site's config and

remote local config. Intrusion Prevention System rely in the packets detection to discover potential threats to the internal network systems. IPS will check internal network packets to ensure the real purpsoe of the packets, then it will decide whether to allow or deny these packets to internal network base on user's configuration.



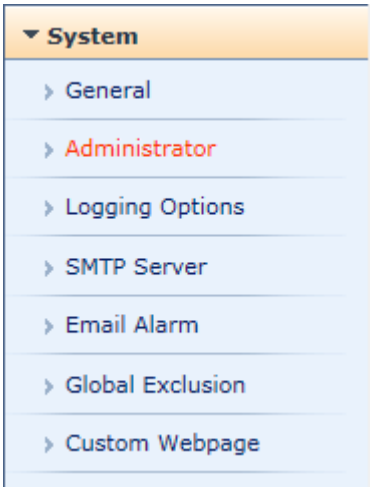
Refer to NGAF User Manual 5.3 under IPS section for configuration details.

Bandwidth Management

Module description : The main usage for this module is to control the bandwidth usage in NGAF. For details, refer to NGAF User Manual 5.3 under Bandwidth Management section.

System

Module description : Include all basic system configuration, the page is shown as following:



[General] : Switchable NGAF config, used to configure network settings.

[Administrator] : Switchable NGAF config, used to configure administrator account, CMC can only change administrator account's password.

[Logging Options] : Switchable NGAF config, used to configure settings for internal data center, syslog and logging options in NGAF.

[SMTP Server] : Switchable NGAF config, used to configure mail server which send warning or alarm email.

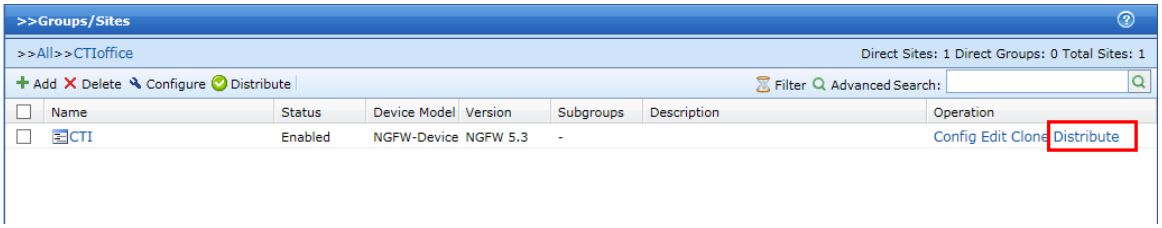
[Email Alarm] :Switchable NGAF config, used to inform admin via alarm email.

[Global Exclusion] : Mergeable NGAF config, used to exclude target host from being monitor, traffic filtering or any policies/bypass the host's traffic.

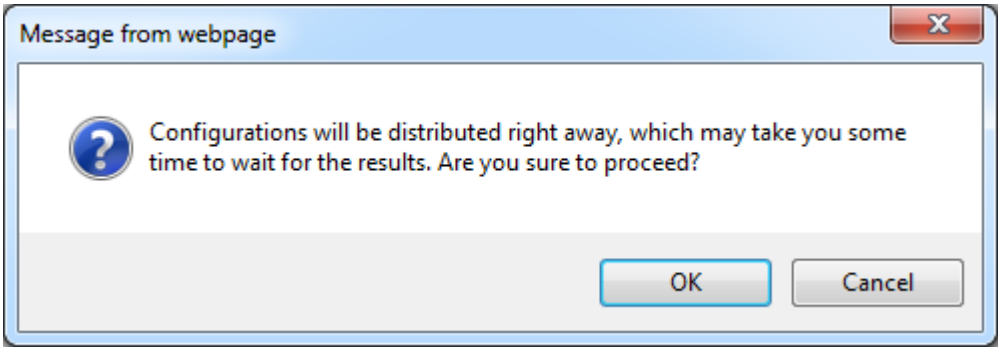
[Custom Webpage] : Switchable NGAF config, used to customize the webpage which redirect to host which include authentication result page, access denied page, virus found page, change password page, notice board page, web authentication page and user locked page.

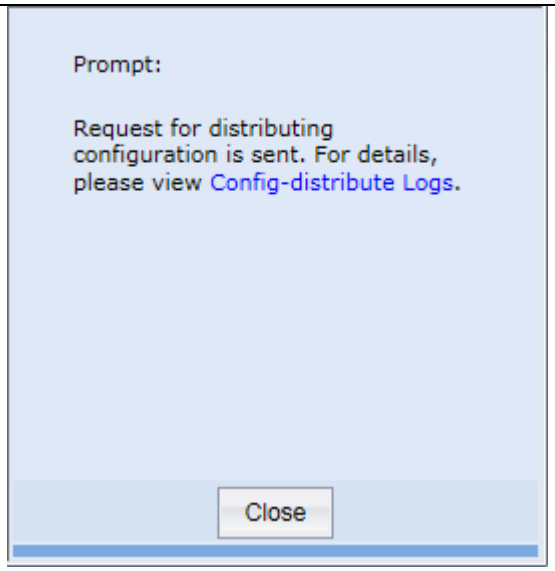
4.2.1.8 Distribute

After done configuration for NGAF sites/groups, by default CMC will distribute the configuration to all sites and groups for every 10 minutes. However, admin can click on Distribute if wanted to push the configuration to NGAF immediately. The page is shown below:

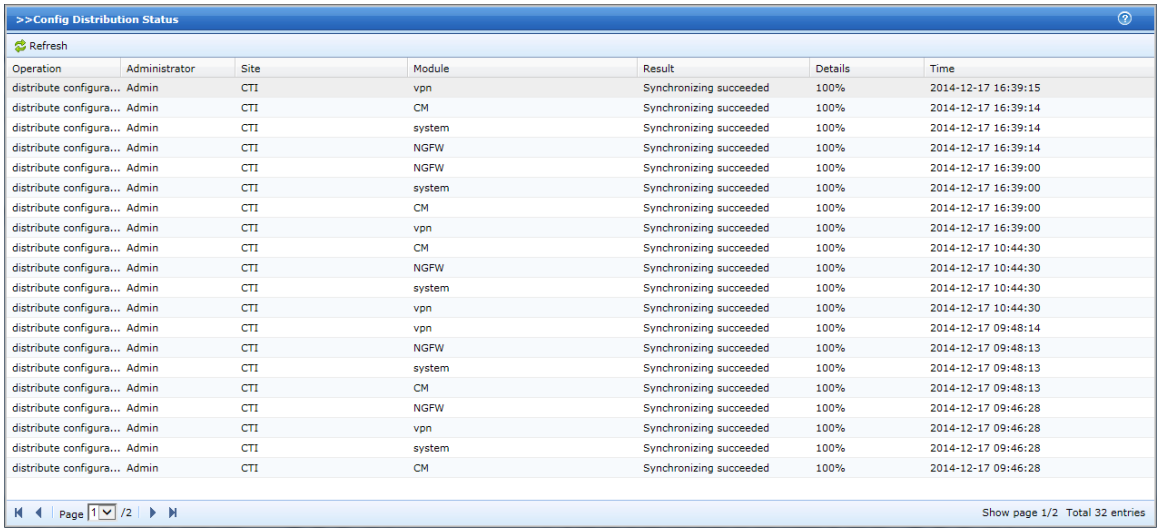


After click on the button, the following windows will prompt out:





After that, the result can be checked on the [Config-distribute Logs] as shown in the figure below:

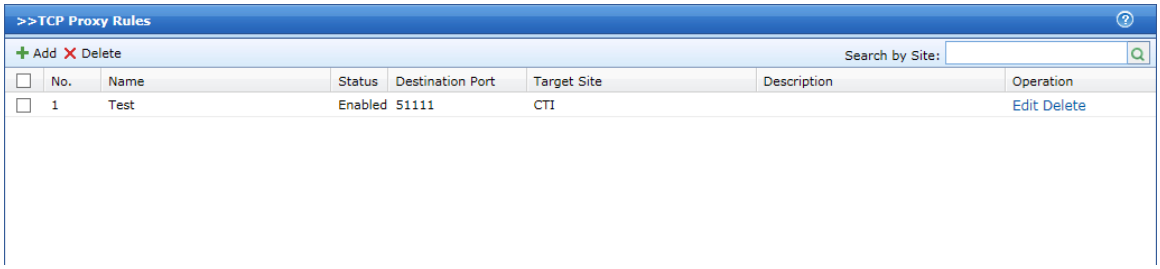


Ensure the databases of CMC and NGAF are having the same version, distribute opration might fail if the requirement does not met.

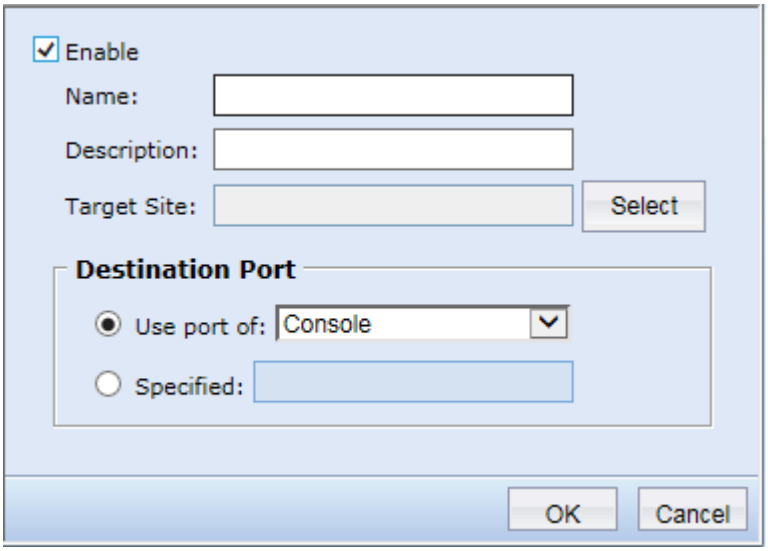
4.2.2. TCP Proxy

[TCP Proxy] module is used to enable connection between CMC and NGAF even though both devices are not connected directly (The process is similar to proxy service and thus is named as TCP Proxy). This feature does not need port forwarding or bypass in firewall but it requires only CMC

device to open TCP port 9458(Factory default port) and the port is changeable which is shown in the figure below:

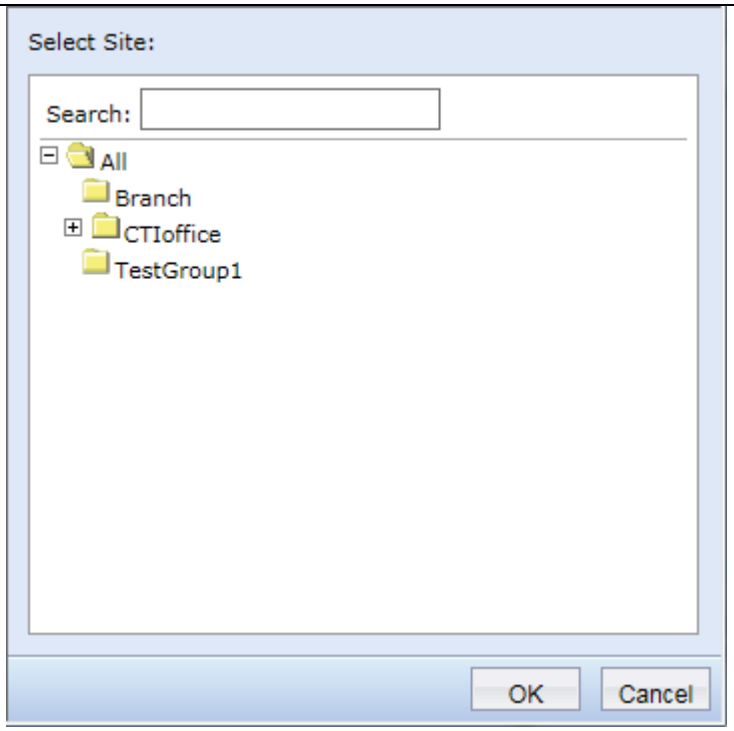


[Add] : Click on Add to create a new TCP proxy, the page is shown below:



[Name] and [Description] can be Self-define.

[Target Site] : Select related sites to apply TCP Proxy on, as shown below:



[Destination Port] : Select related services/ports for the NGAF sites which include known service ports and Self-define ports.

[Use port of] : Include Console and remote helping.

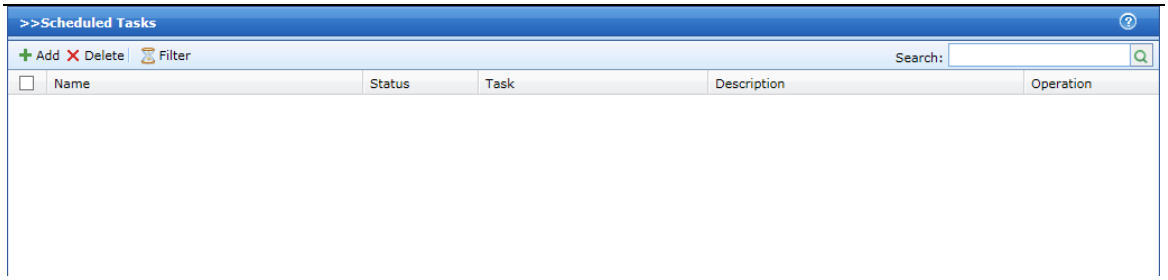
[Specified] : Self-define ports for selected NGAF sites.

[Delete] : Click on Delete to remove the created TCP Proxy entry.

The real-time logs and remote maintenance in TCP Proxy service are reserved for commissioning services and the usage is not significant for user.

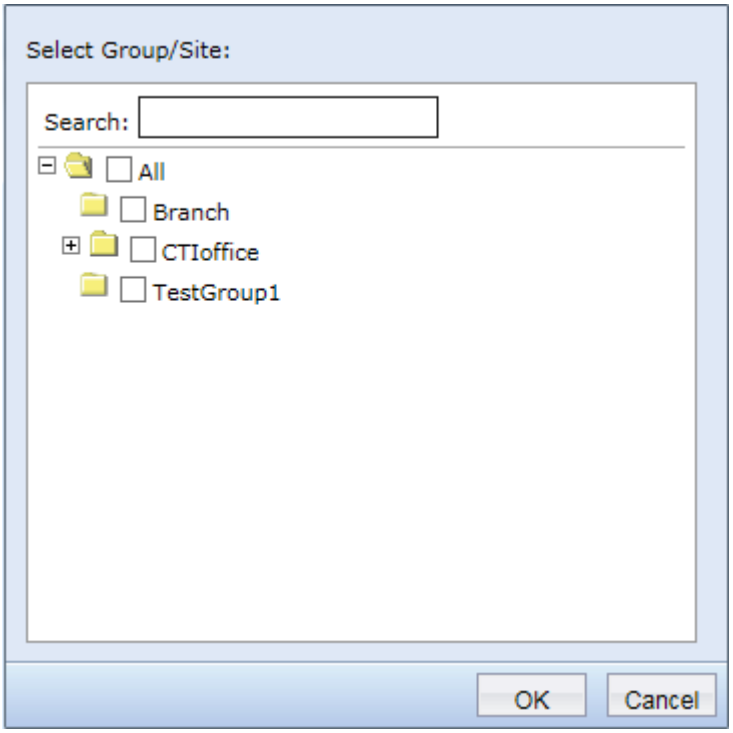
4.2.3. Schedule Tasks

[Schedule Tasks] module is used to add auto-update task for NGAF sites, the page is shown below:



[Delete] : Click to remove the created task.

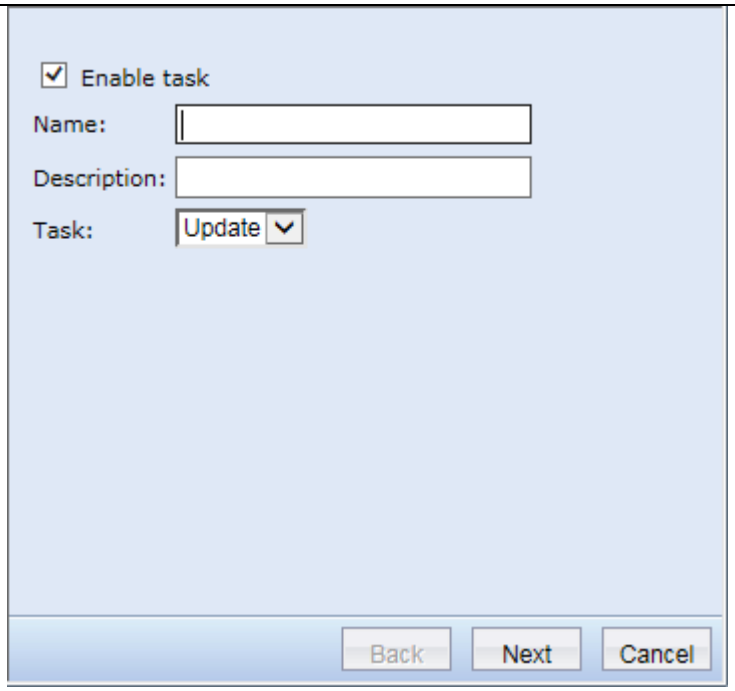
[Filter] : Use the filter feature when there are many sites in order to narrow down the sites resulted by using selected parameters. Click on the button and the following figure is shown:



Select the related group and click OK.

[Search] : Insert related group/sites name and click on Search, the search results will be displayed. Support fuzzy search but does not support wildcard search.

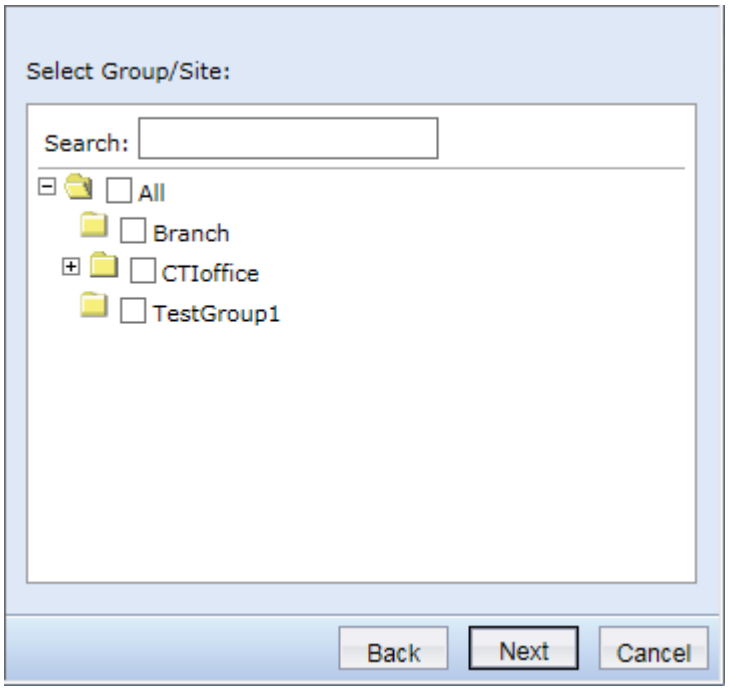
[Add] : Create a new task for site's auto-update, page is shown below:



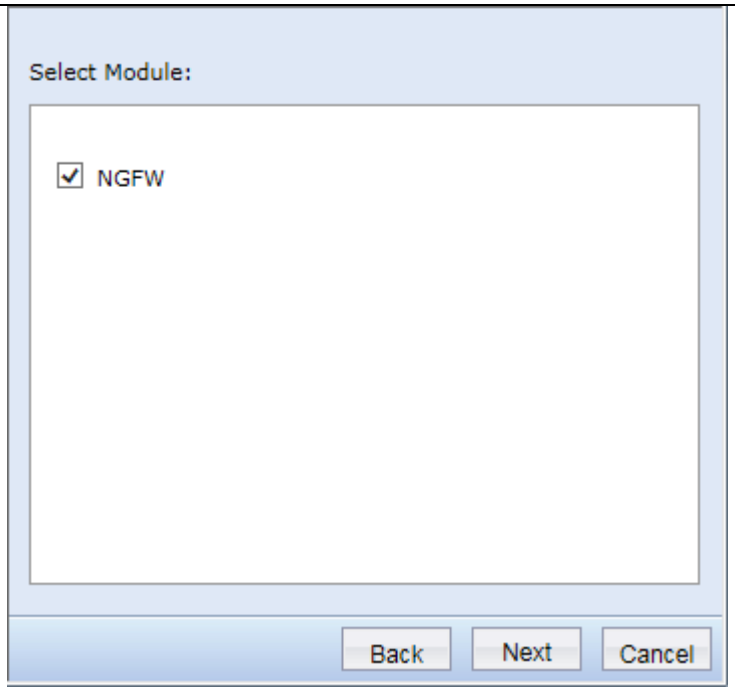
[Name] and [Description] can be Self-define.

[Task] : Update

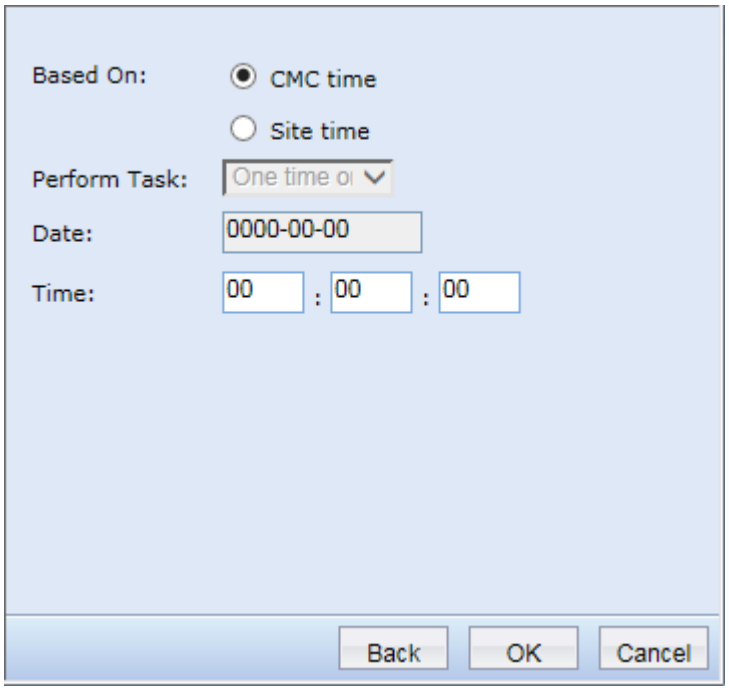
Click on Next and the next page is shown as following:



Select the target sites and click on Next:



Select [NGAF] and proceed to next page:



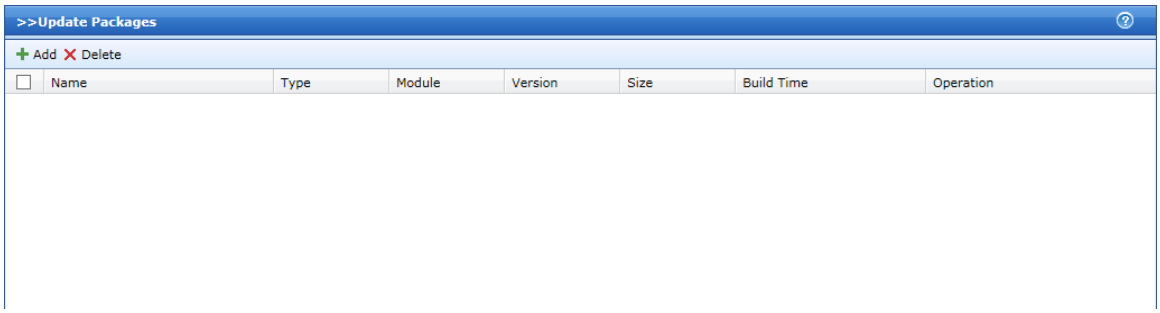
Choose the proper date and time to perform the update, able to select base on [site time] or [CMC time and click on OK to complete the configuration.

Warning : Task configuration will be checked by NGAF sites for every minute,

therefore, it is recommended to configure the task execution time to at least after 5 minutes to prevent task expiry issue.

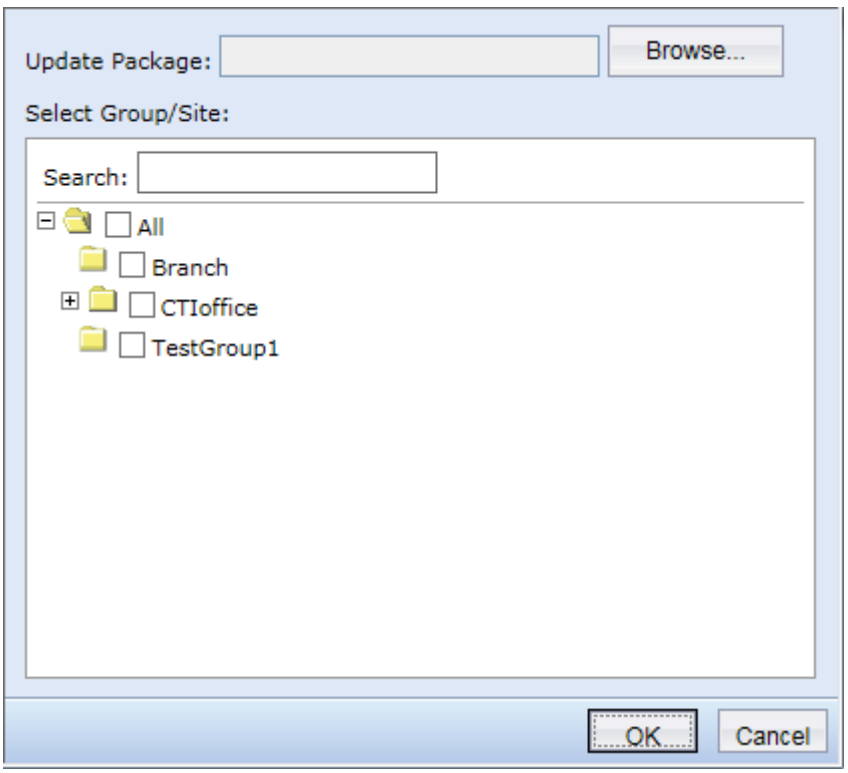
4.2.4. Update Packages

[Update Packages] is used to manage all auto-update packages. The page is shown in the figure below:



[Delete] : Click to remove selected update package, unselected packages will remain in the CMC.

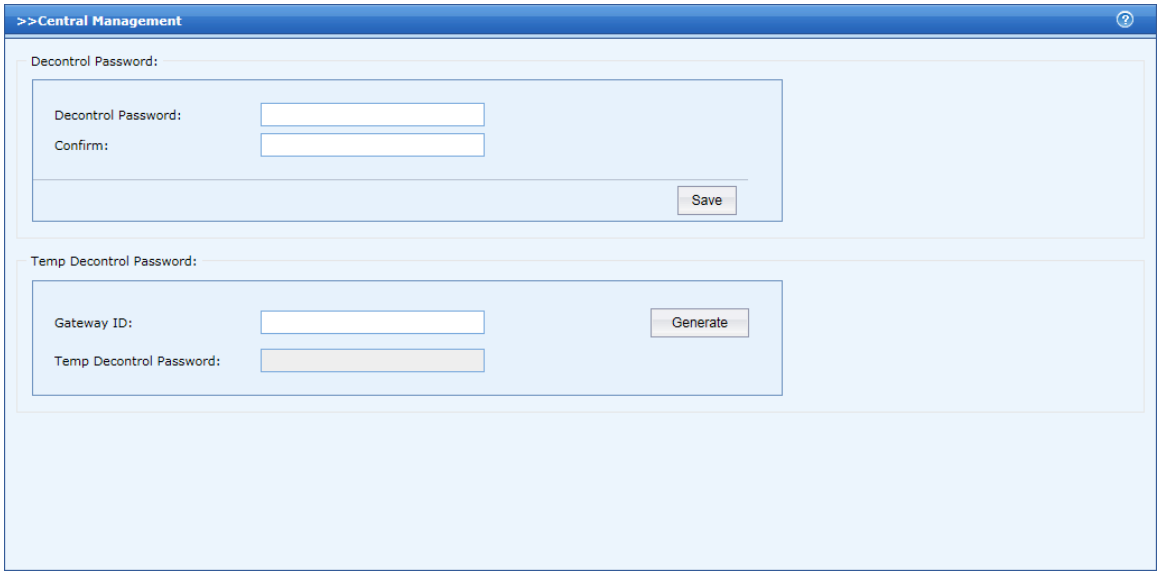
[Add] : Add a new update package, page is shown in the figure below:



Click on Browse button to import the related upgrade package, select the target Group/Site and click on OK to complete the configuration.

4.2.5. Central Management

After NGAF device joined to CMC sites, admin must use password to quit from CMC control. Use CMC's generated Temp Decontrol Password to remove the NGAF from CMC sites. The page is shown below:



[Decontrol Password] : Configure a password here and the password is working for all connected NGAF sites without expiry time unless admin change it.

[Temp Decontrol Password] : Require to insert NGAF gateway ID then CMC will generate a tempoary password for the particular NGAF, valid until 24.00 of creation day.

4.3. System

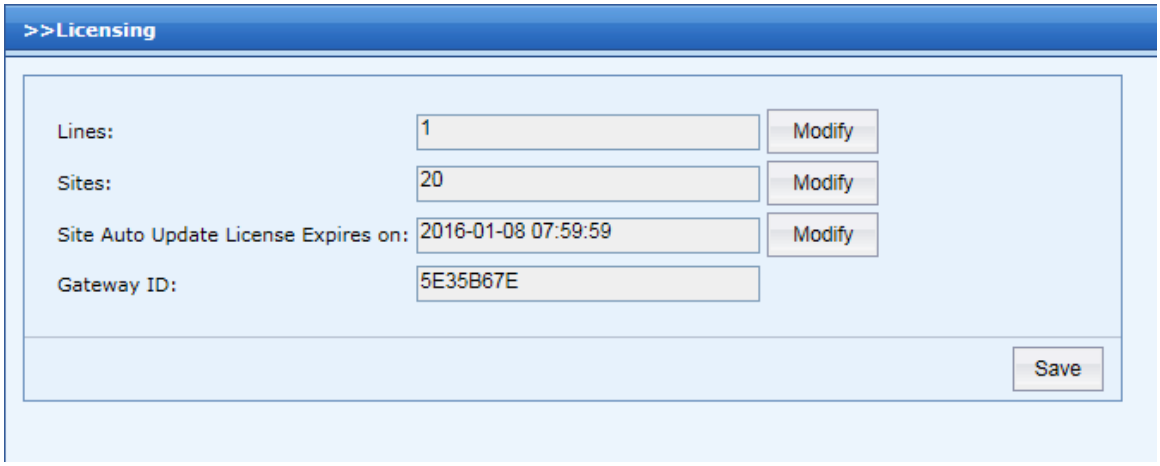
[System] include [Basics], [Network], [NGAF Central Mgt], [Administrators], [Database Management], [Advanced], [Firewall], [Backup/Restore], [Email Alarm Options], [Email Alarm Service], [Auto Update Server] and [Time Deviation Reminder] functions modules.

4.3.1. Basics

[Basics] include [Licensing], [WebAgent] and [System Time] function modules.

4.3.1.1 Licensing

[Licensing] is used to control CMC's lines and sites amount, sites auto-update expiry date as shown in the figure below:



[Lines] : The amount of WAN interface can be connected to CMC device.

[Sites] : The number of sites that can be connected to CMC device.

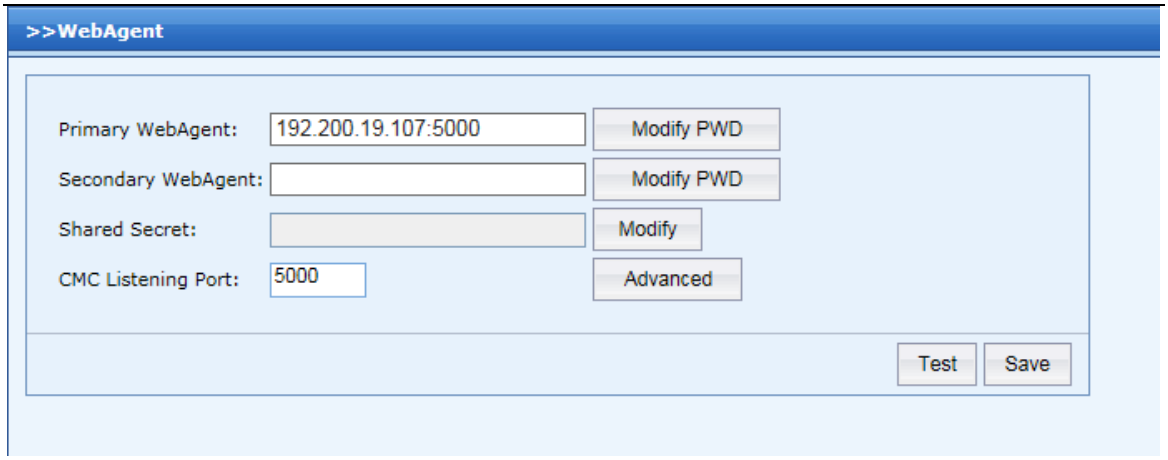
[Site Auto Update License Expires on] : CMC auto-update sites service expiry date.

[Gateway ID] : The unique ID for each CMC device, not changable.

Mobile users and device gateway need authorization to connect to CMC device.

4.3.1.2 WebAgent

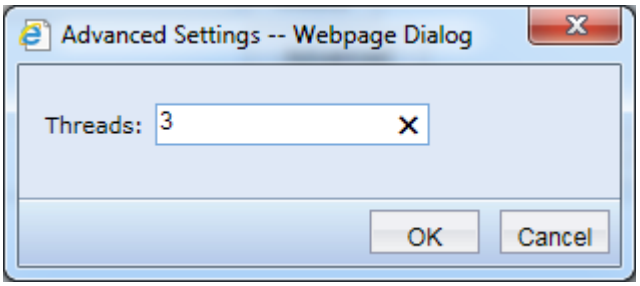
[WebAgent] is used to configure CMC's web agent address which include primary and secondary web agent, shared key and listening port, the page is shown as below:



If the web agent address is dynamic IP address, kindly insert web agent webpage address (usually end with .php extension). After fill in the web agent, users can click on Test to check the validity of the address. Meanwhile if the web agent address is static IP, kindly fill in web agent address with "IP address:port" format, for example 202.96.122.23:5000. Click on Modify PWD to configure password for web agent to prevent misuse purpose but this only works for webpage address. Click on Modify to configure shared key to prevent unauthorized access.

[CMC Listening Port] : This port is used by NGAF to connect to CMC, the port can be modified to another port number, however, need to ensure that the port used by NGAF is same with CMC.

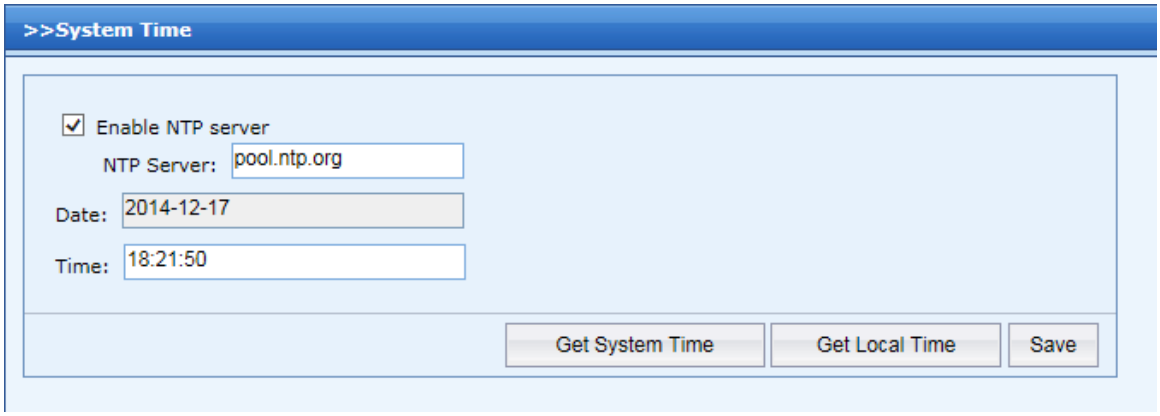
[Advanced] : CMC's threads number as shown in the page below:



Warning : The maximum threads number can be configured in CMC is calculated as: Each threads can receive up to 1024 socket, each NGAF connecting to CMC need 2 sockets for single line connection; If both devices are using multiline socket number = line number of CMC x line number of NGAF x 2. Configure the number of threads based on the calculation to prevent waste of resources.

4.3.1.3 System Time

[System Time] is used to configure CMC system time, date and NTP server. The page is shown as below:



[Enable NTP Server] : After enabled this option, CMC will synchronize with NTP server for the date and time.

[Date] : Current CMC date

[Time] : Current CMC Time

Get System Time : Click to refresh the current page time.

Get Local Time : Set the CMC system time same to the PC system time which is used to log in to web console.

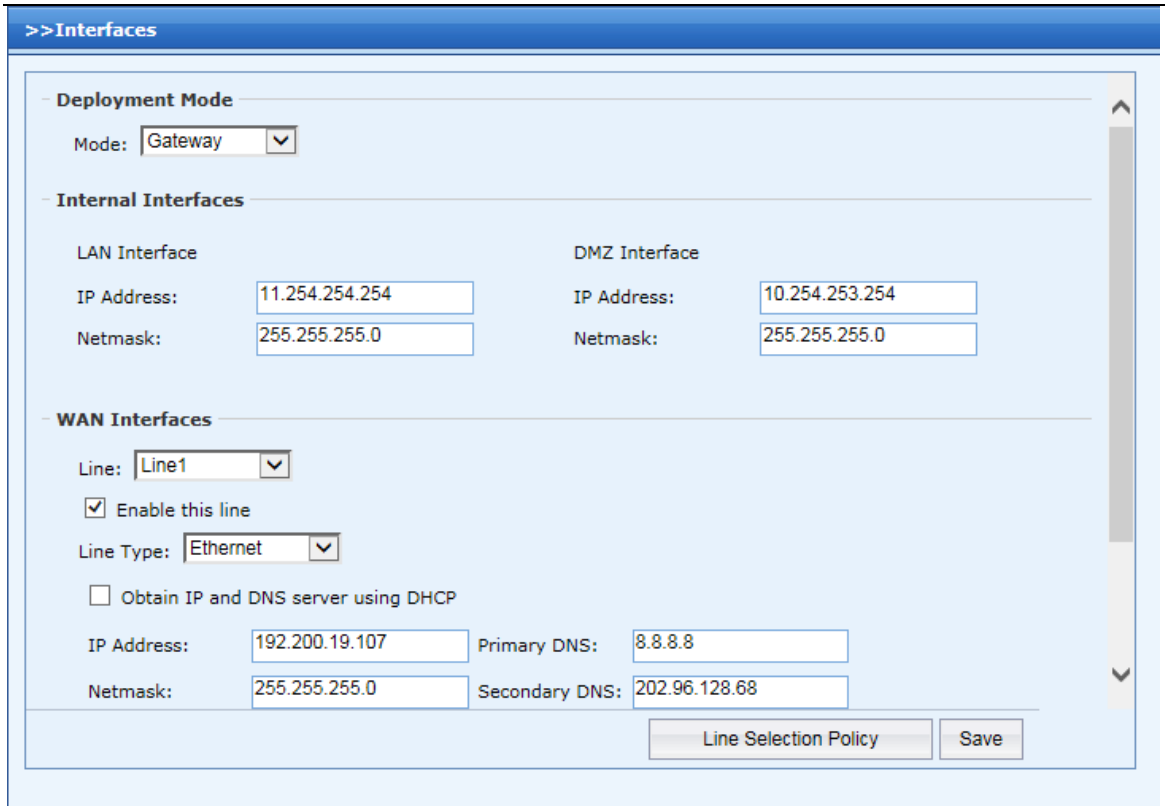
Click on Save to save the configuration.

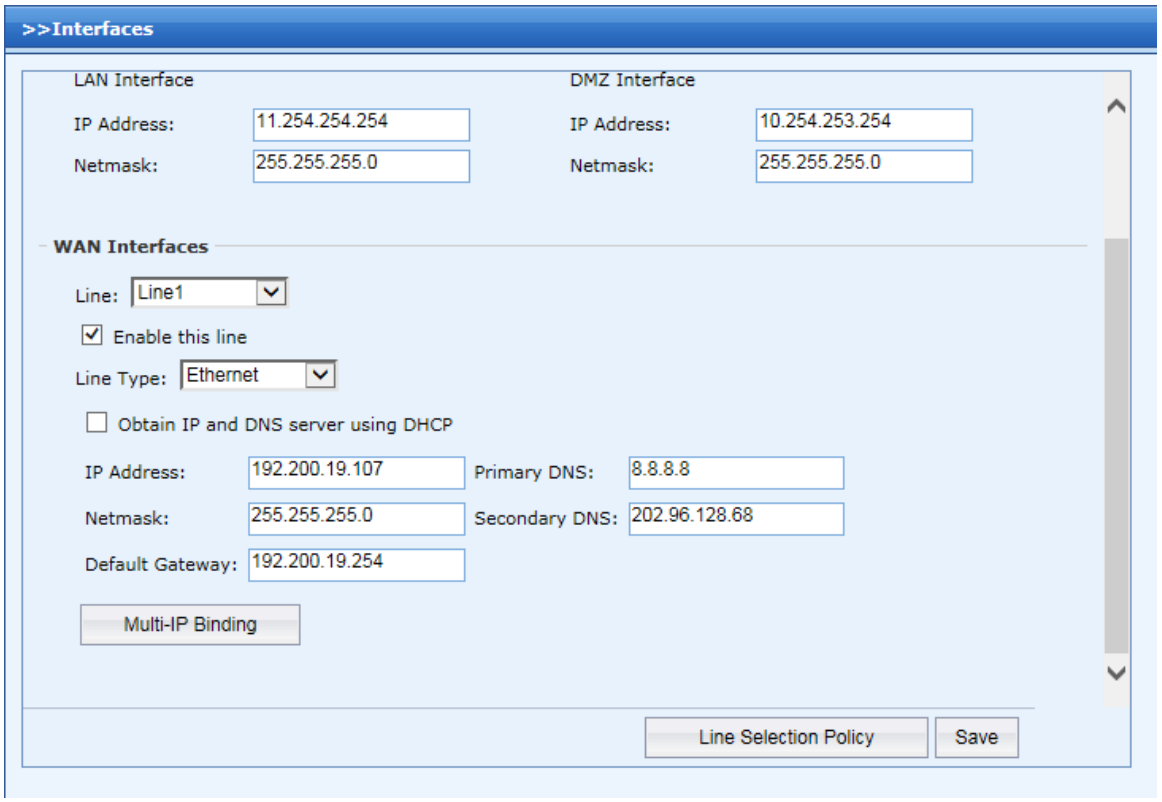
4.3.2. Network

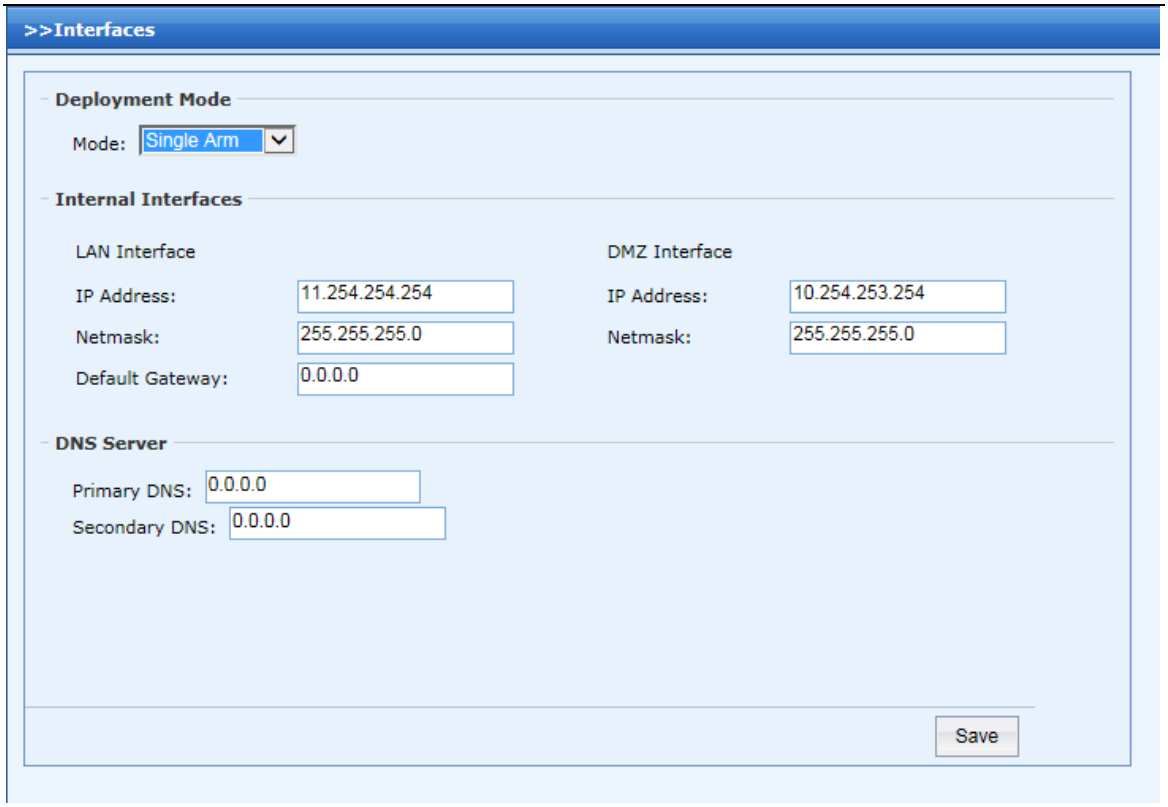
[Network] includes [Interface], [System Route] and [Multiple Lines] function modules.

4.3.2.1 Interface

[Interface] is used to configure CMC deployment and all interface's details such as IP adress and etc. The page is shown below:


>>Interfaces
Deployment Mode
Mode: Gateway
Internal Interfaces
LAN Interface
IP Address: 11.254.254.254
Netmask: 255.255.255.0
DMZ Interface
IP Address: 10.254.253.254
Netmask: 255.255.255.0
WAN Interfaces
Line: Line1
Enable this line
Line Type: Ethernet
Obtain IP and DNS server using DHCP
IP Address: 192.200.19.107
Netmask: 255.255.255.0
Primary DNS: 8.8.8.8
Secondary DNS: 202.96.128.68
Line Selection Policy
Save


>>Interfaces
LAN Interface
IP Address: 11.254.254.254
Netmask: 255.255.255.0
DMZ Interface
IP Address: 10.254.253.254
Netmask: 255.255.255.0
WAN Interfaces
Line: Line1
Enable this line
Line Type: Ethernet
Obtain IP and DNS server using DHCP
IP Address: 192.200.19.107
Netmask: 255.255.255.0
Primary DNS: 8.8.8.8
Secondary DNS: 202.96.128.68
Default Gateway: 192.200.19.254
Multi-IP Binding
Line Selection Policy
Save



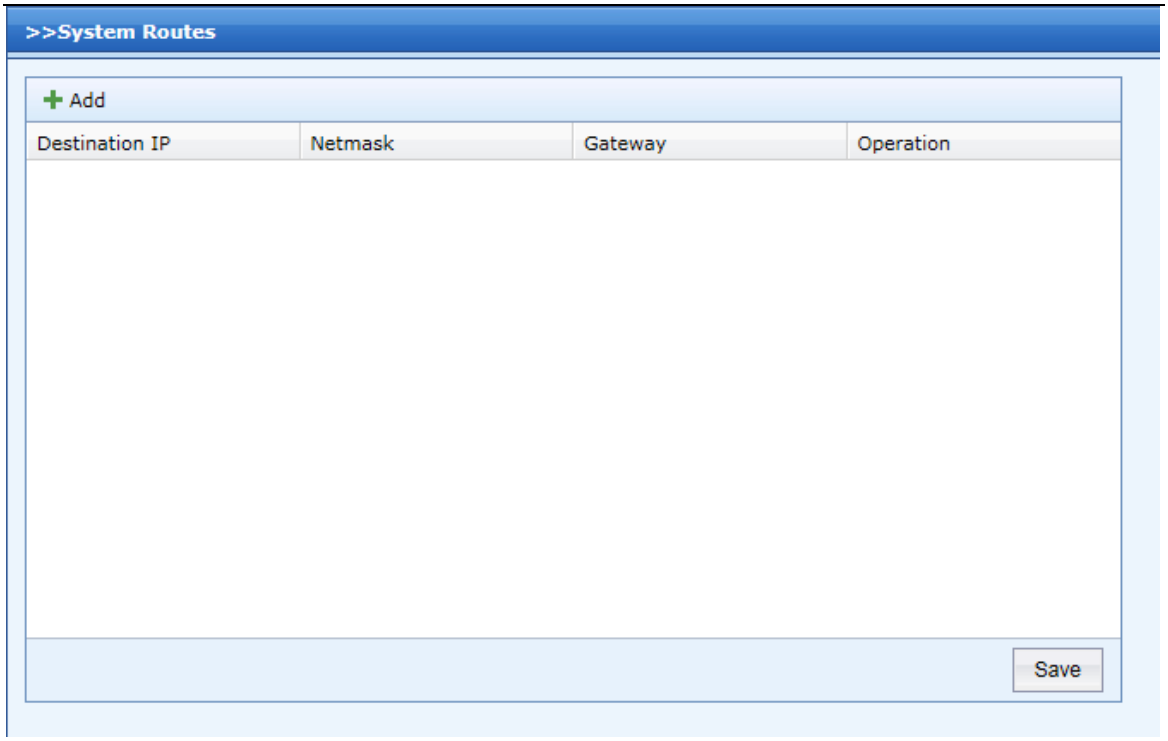
[Deployment Mode] : Includes Gateway mode and Single arm mode. Gateway mode indicates CMC device as gateway, Other than CMC related features, gateway mode CMC also include firewall, NAT and other functions. Single arm mode CMC need only a LAN interface for connection. CMC device online via NAT configuration on gateway device , this type of CMC has only basic CMC related features but not other features which available in gateway CMC.

[Internal Interface] : CMC's LAN and DMZ interfaces IP address and subnet mask configuration.

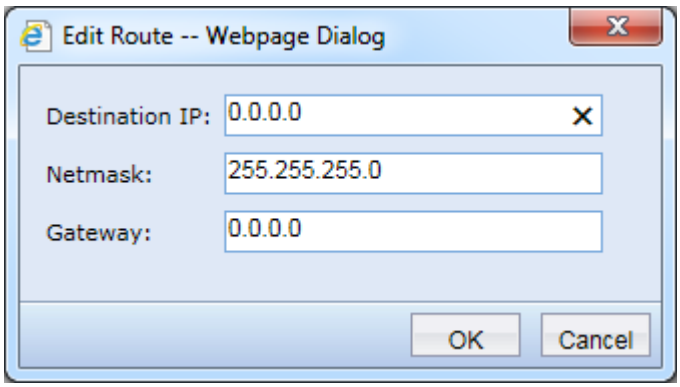
[WAN Interface] : Under Gateway mode deployment and is used to configure WAN interface related information such as lines type, IP address, subnet mask, default gateway and DNS.

4.3.2.2 System Route

[System Route] is used to configure static route in CMC device, this feature is needed when there are remote networks in user's local network. The page is shown as below:



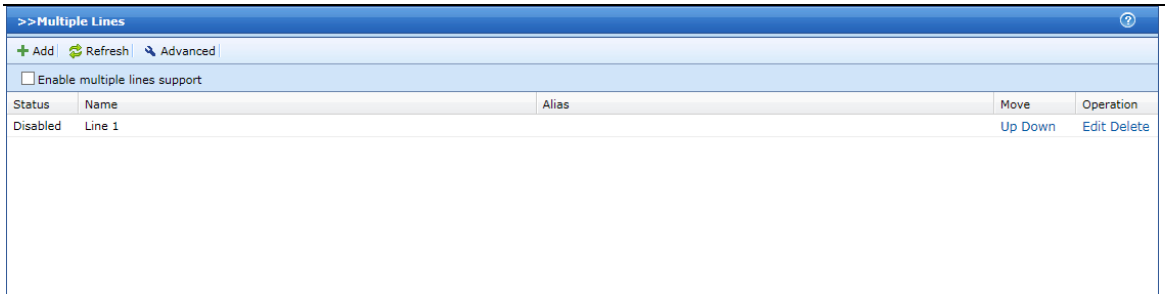
Click on Add button and the page in the figure below is shown:



Need to fill in related network address, subnet mask and gateway IP address and click OK to complete the configuration.

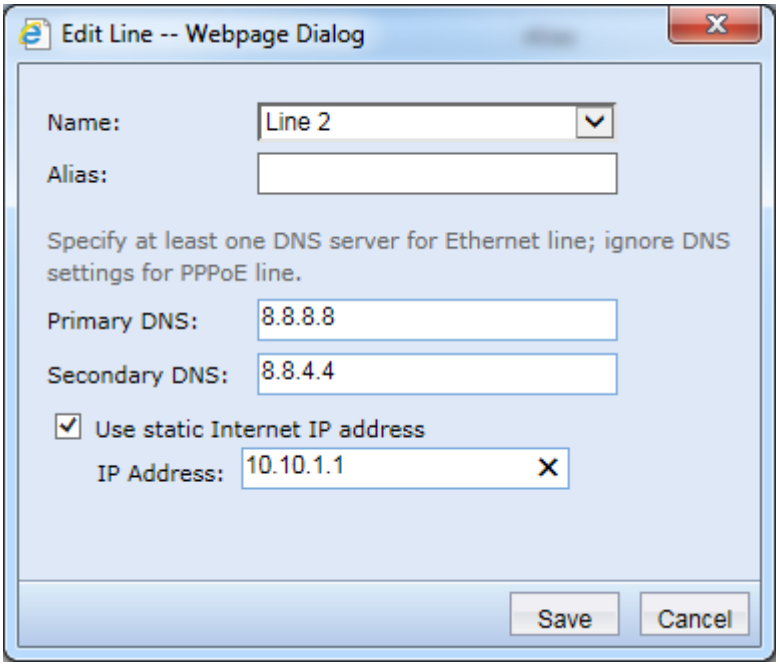
4.3.2.3 Multiple Lines

[Multiple Lines] is used during CMC gateway deployment mode and there are multiple lines connect to WAN interface, the page is shown below:



[Enable multiple lines support]: This option is used to enable/disable the multiple lines feature.

[Add] : Click on Add to create a new lines as shown in the figure below:



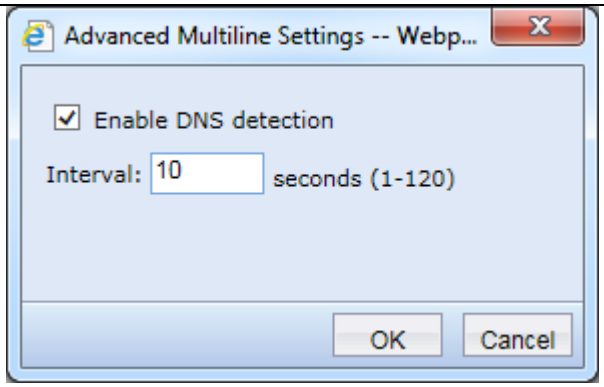
[Name] : Select on which line to used.

[Alias] : Self-define

[Primary DNS][Secondary DNS] : Fill in if public static IP address, if not just leave it blank.

[IP address] : Insert if the lines is using static public IP , else leave it blank.

[Advanced] : To determine whether enable/disable DMS detection, when DNS detection is enabled, the line will be treated as not functioning if not able to detect DNS. Click on the button and page below is shown:



Warning : If [lines type] is ethernet, DNS detection must be enabled and the DNS inserted must be valid. If ADSL dialup, DNS detection feature must be disabled.

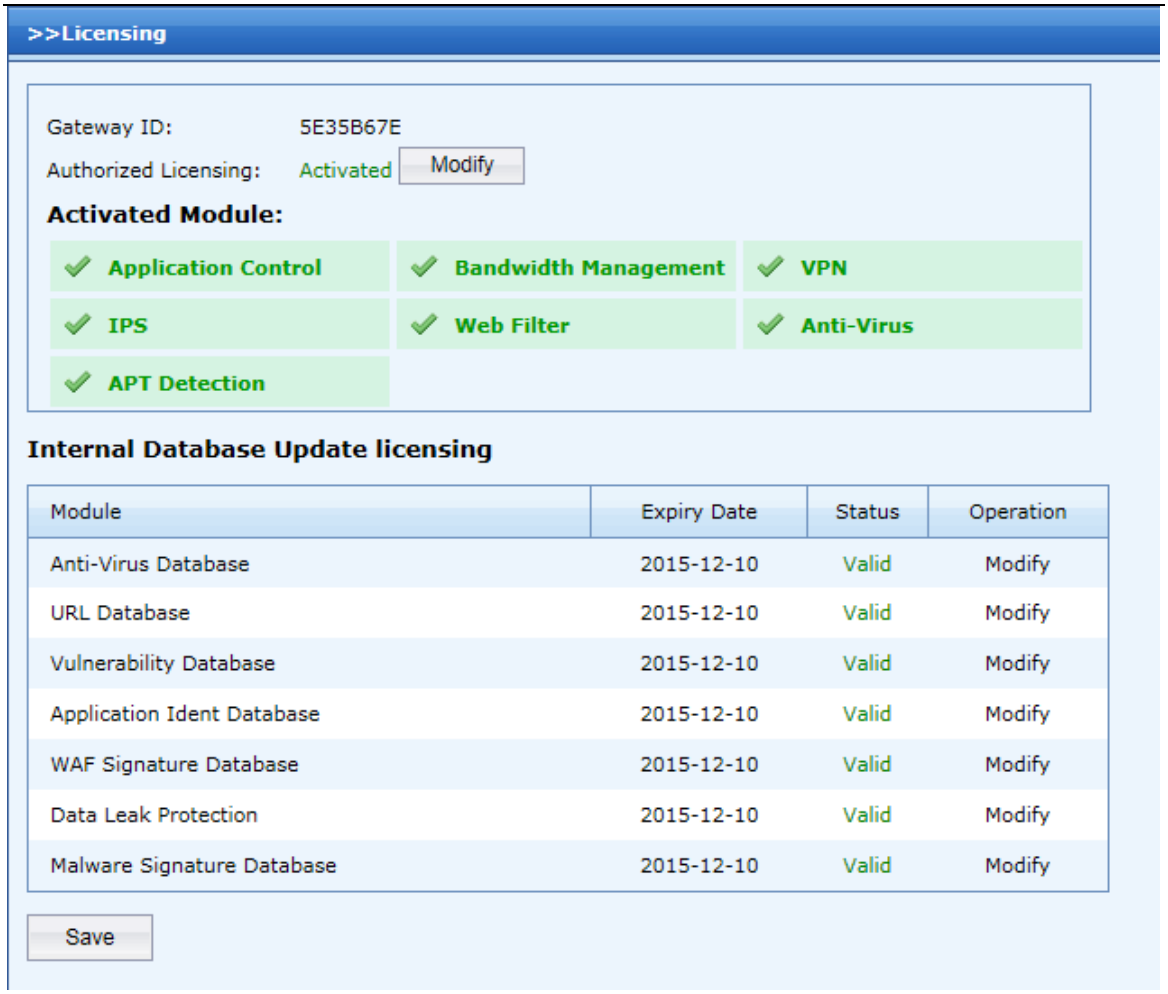
Warning: After enable multiple lines support feature, the configuration under [multi line configuration] must be configure to use multiples lines.

4.3.3. NGAF Central Mgt

NGAF Central Mgt is used to manage rules database updates and auto-update status of internal datacese.

4.3.3.1 Licensing

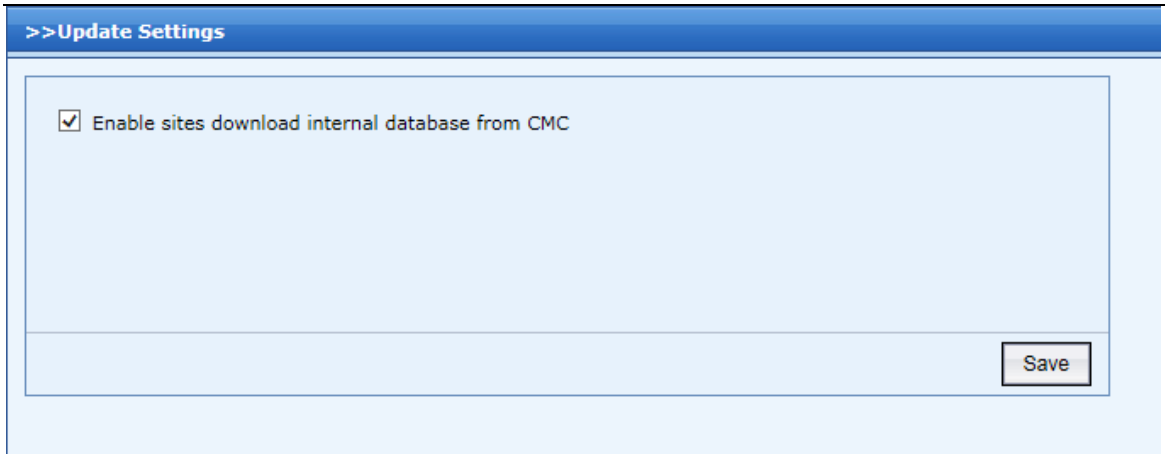
[Licensing] use to activate internal database rules which include Anti-virus, URL, IPS, Software update, application control, web application protection, and data leak protection databases;



[Internal Database Update licensing] shows all the database expiry date and the validity status. Click on Modify to change the license keys to validate the related database status.

4.3.3.2 Update Settings

Check on the [Enable sites download internal database from CMC] to allow NGAF device to download and update it's database via CMC but not via public.

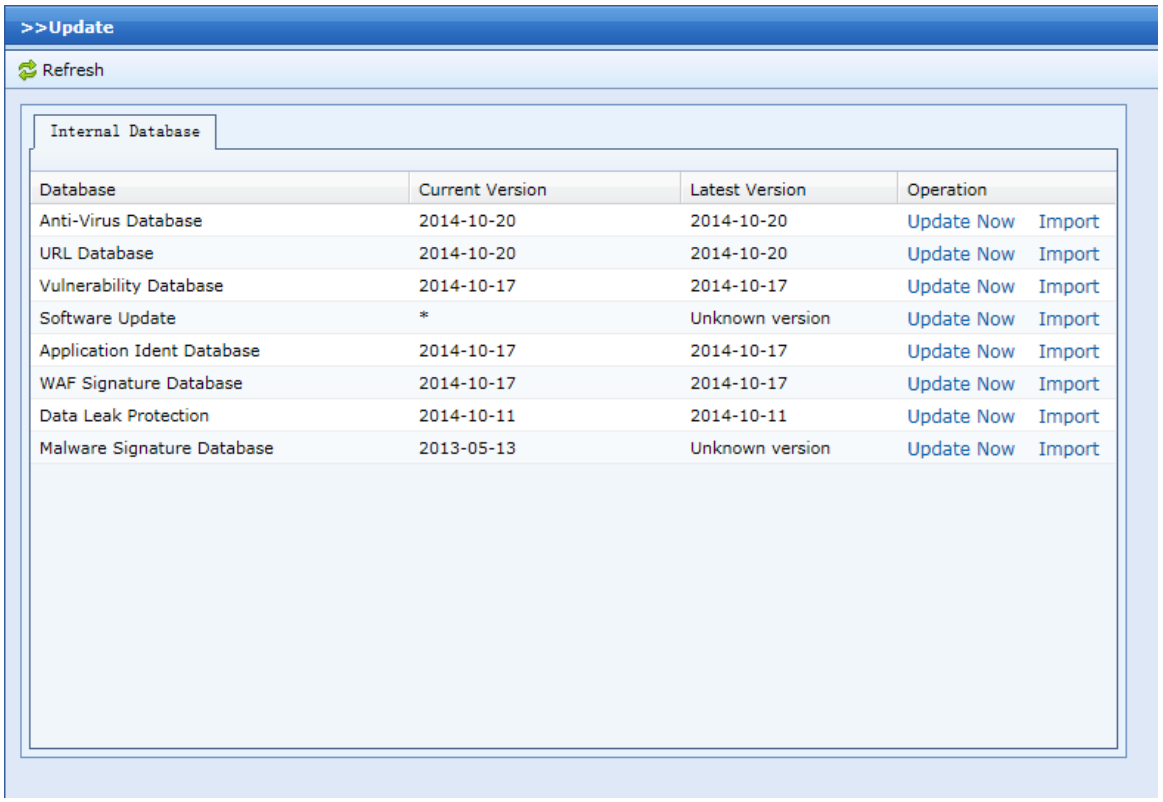


4.3.3.3 Update

[Update] page display current and latest NGAF internal database version details.

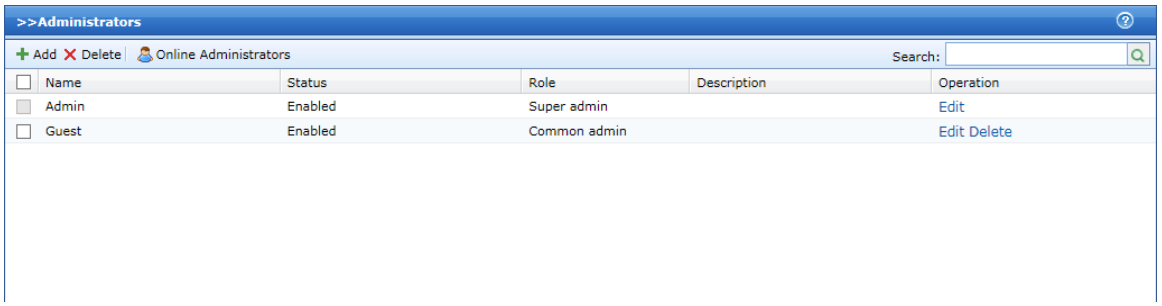
Click on Update Now , CMC will download related packages from official sites when CMC is able to access to internet.

Click on Import to upgrade the database to latest version manually.

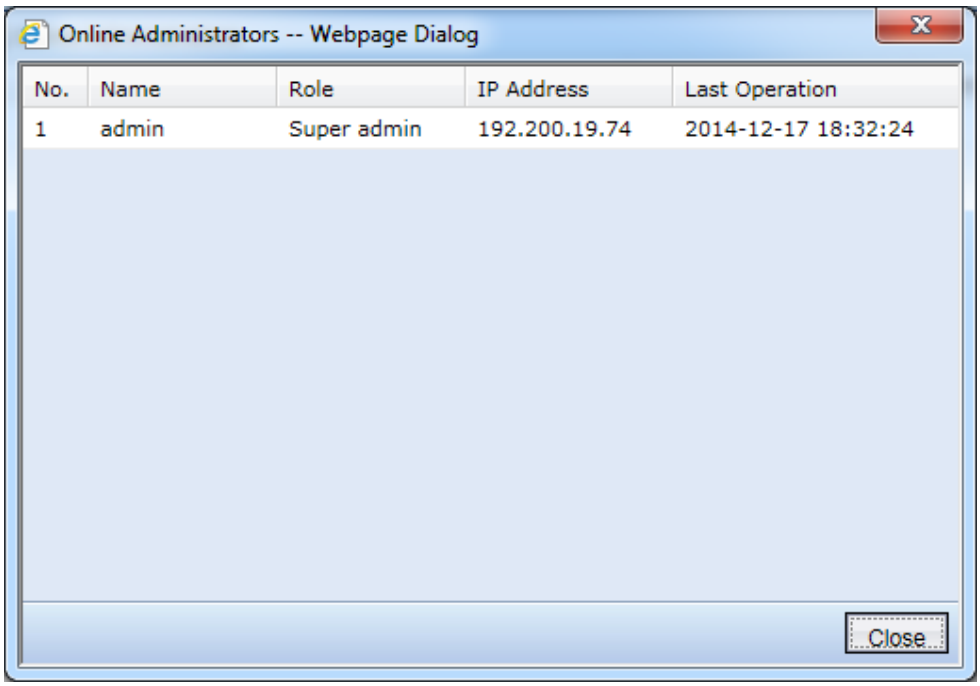


4.3.4. Administrators

[Administrators] page is used to configure CMC administrator account as shown below:

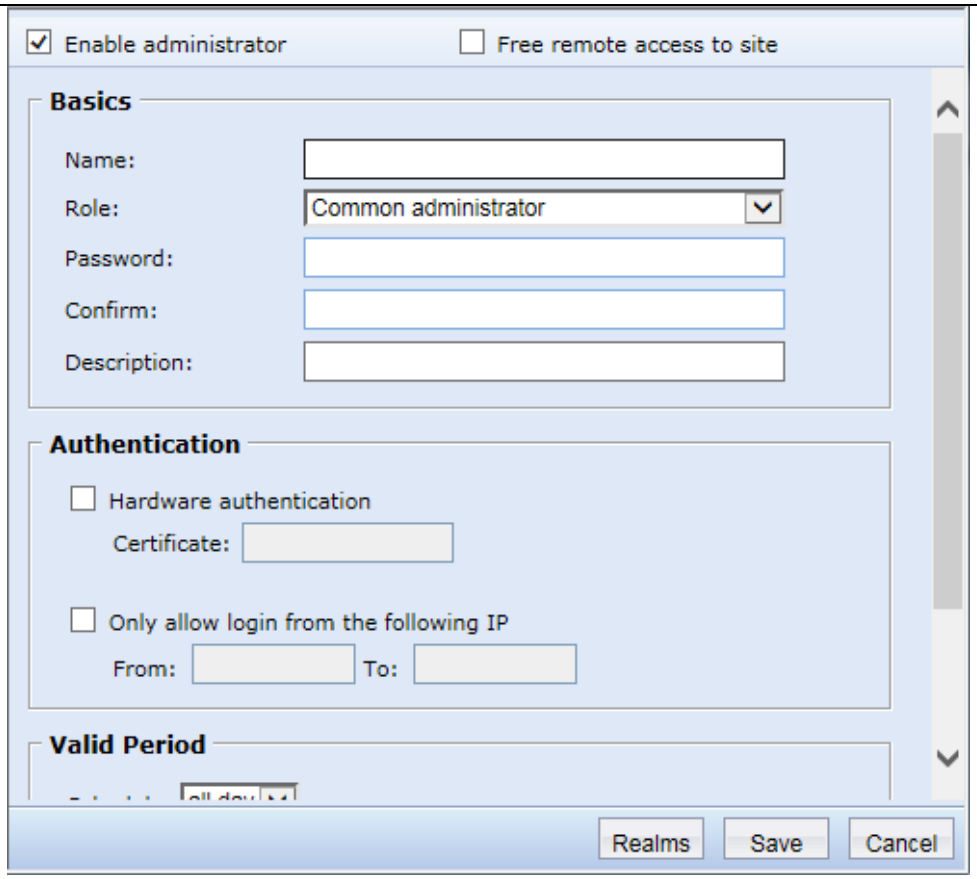


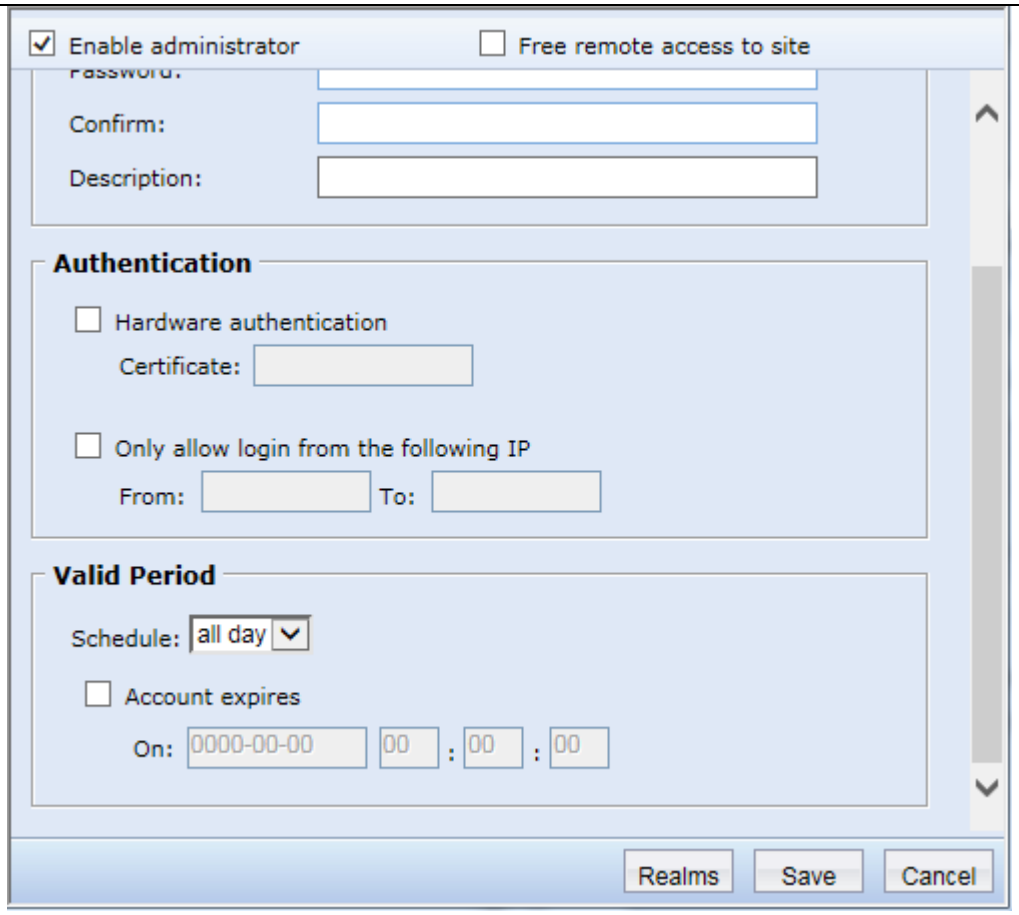
[Online Administrators] : Can check on the admin who already logon to CMC device. The page below is displayed after click on the button.



[Delete] : Click to delete selected administrator accounts, it will not affect unselected accounts.

[Add] : Add new administrator account, the page below is shown after click on Add button:


Enable administrator
Free remote access to site
Basics
Name:
Role:
Common administrator
Password:
Confirm:
Description:
Authentication
Hardware authentication
Certificate:
Only allow login from the following IP
From:
To:
Valid Period
Realms
Save
Cancel

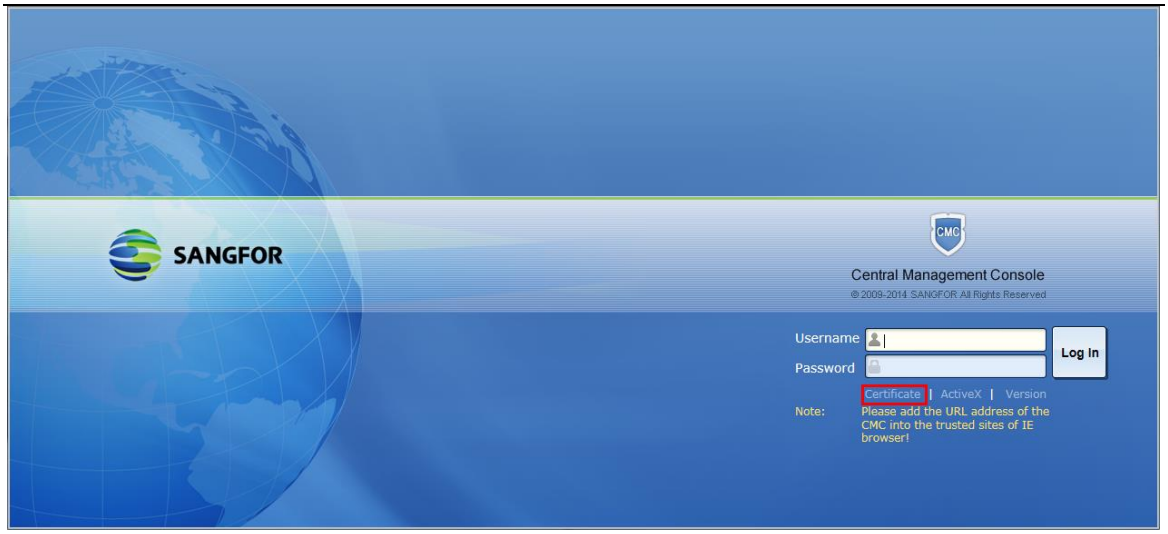


[Name], [Password], [Description] : Self-define/

[Role] : There are 3 types : common administrator, group administrator and super administrator. All of the roles have their own privilege which might be different from each and another.

[Hardware Authentication] : After enable this feature, when admin login to CMC web console, apart of inserting username and password, CMC device hardware certificate is needed also. If the certificate is different from certificate configured during account creation, the user will not be able to login to CMC web console.

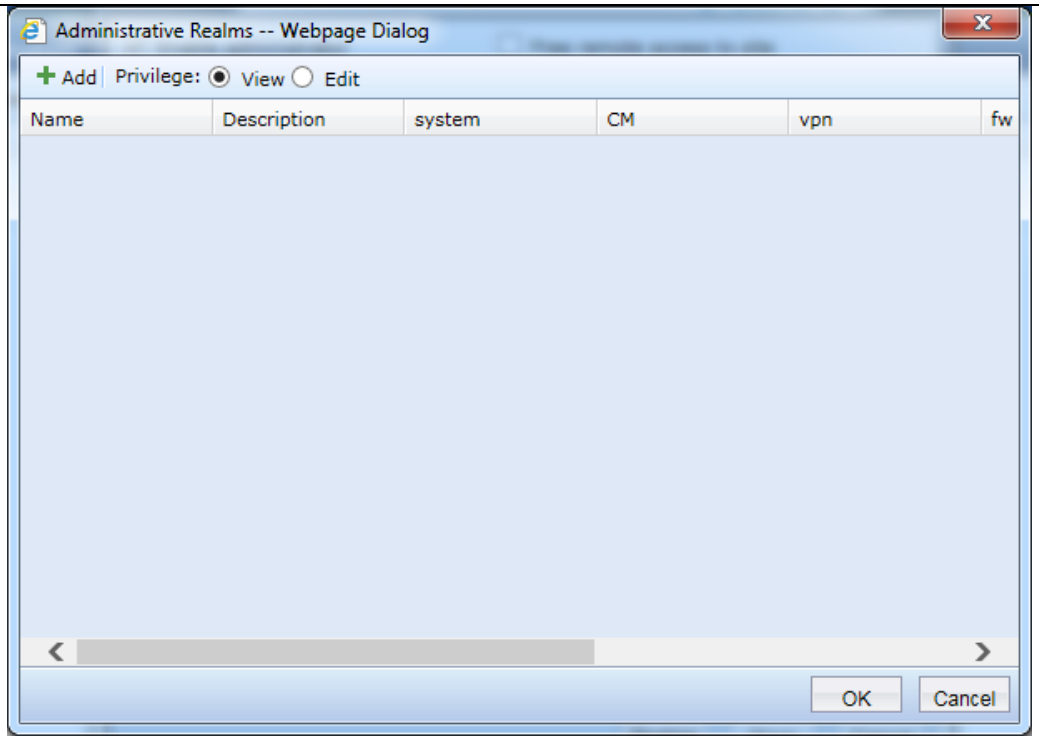
How to generate the hardware certificate? When user access CMC login page, there is a link connected to current hardware certificate as shown in the figure below:



[Only allow login from following IP] : When admin login to CMC web console, if the IP address of the PC using is not same with the IP address configured earlier in thi section, the user cannot access into CMC web console.

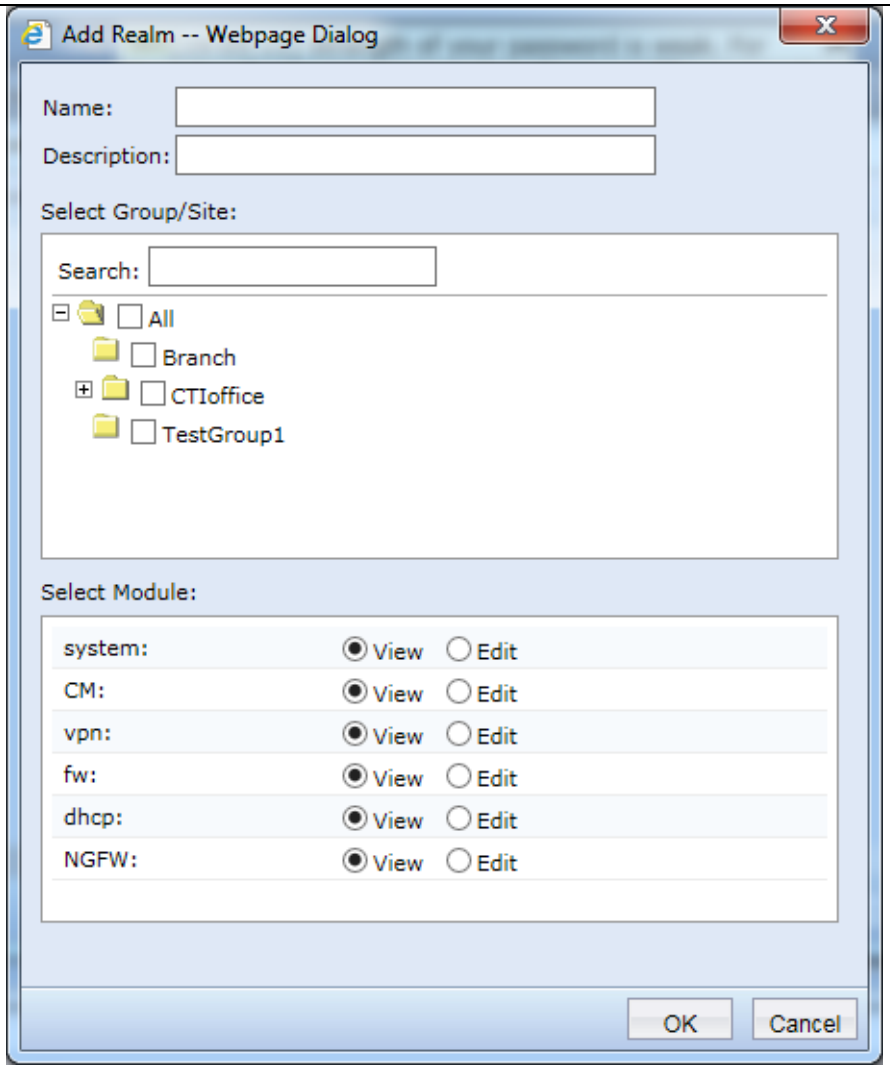
[Valid Period] : The valid period for administrator accounts created. If expired, user not able to access web console.

[Realms] : Admin user account privilege is configured here. If it is super administrator, the user account has super admin privilege which not able to be configured. If it is common administrator, click on Realms button and the page below is shown:



[Privilege] : Default is set to [View], can change to [Edit] manually.

Click on Add and the page below is prompted :

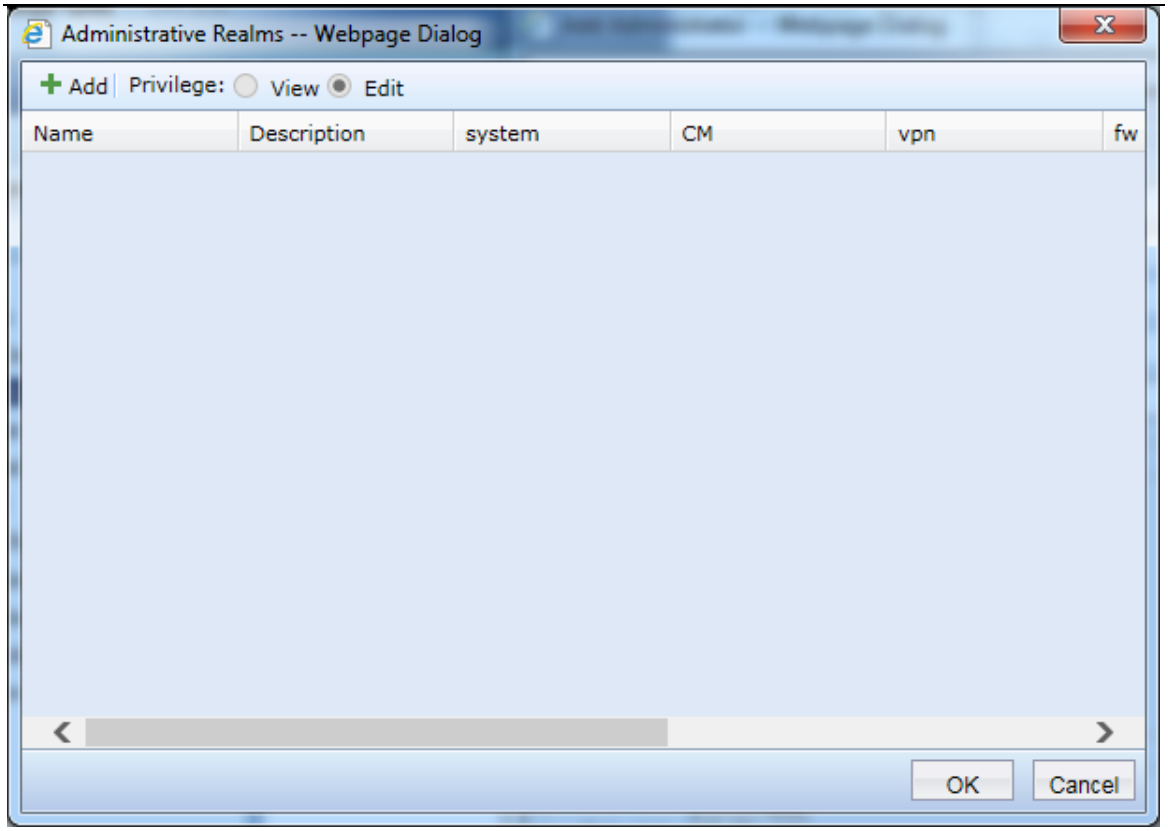


[Name] and [Description] : Self-define.

[Select Group/Site] : Choose the Group/Site which to be managed by the current administrator user account.

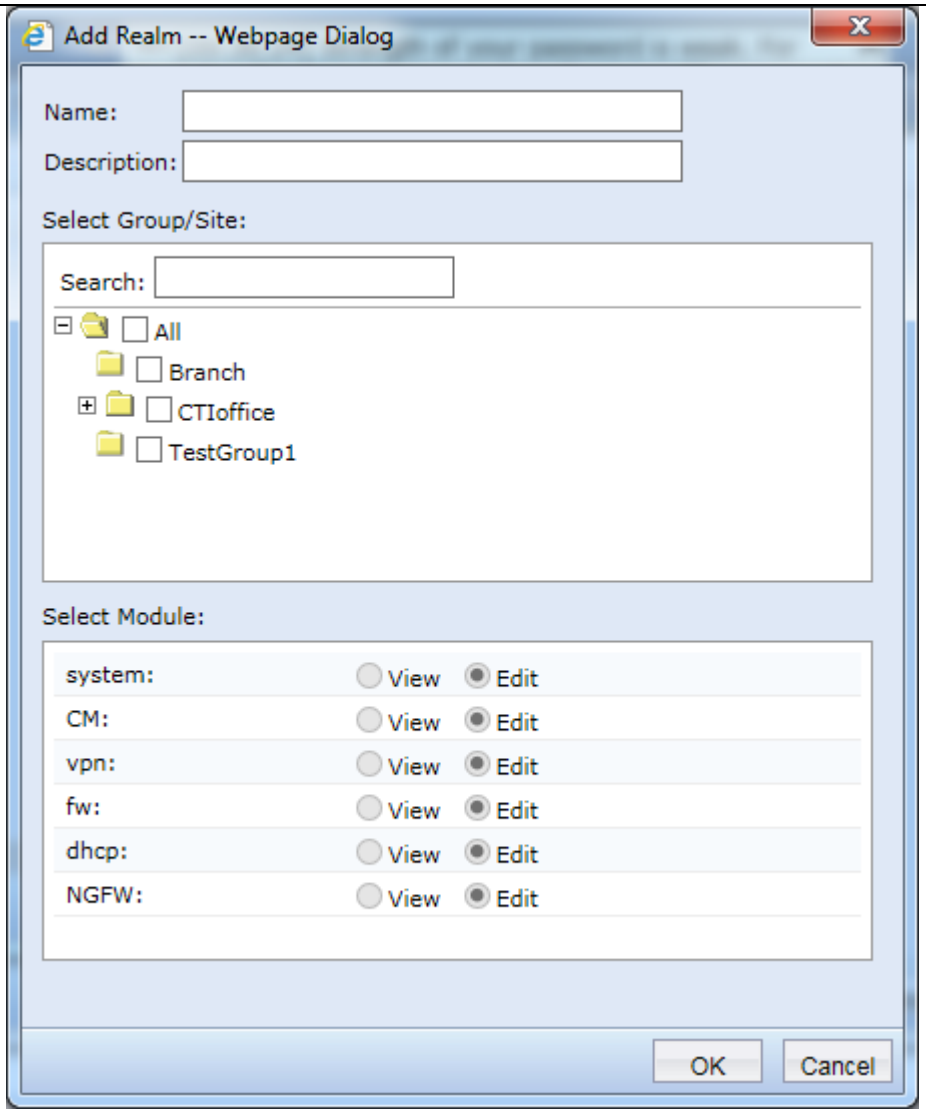
[Select Module] : Select the function modules which to be managed by the current administrator user account.

If the administrator user is group admin, click on Realms button and the page below is shown:



[Privilege] : Default is fixed to [Edit], can not be changed.

Click on Add and the page below is prompted :



[Name] and [Description] : Self-define.

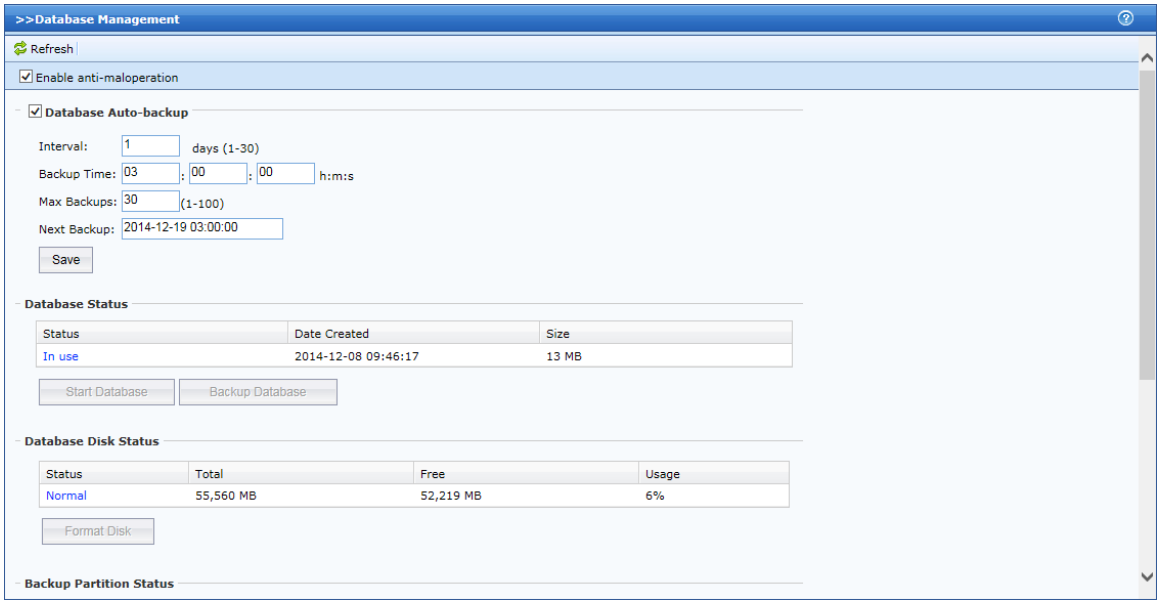
[Select Group/Site] : Choose the Group/Site which to be managed by the current administrator user account.

[Select Module] : Default is set to [Edit], cannot be modified.

Administrator user account cannot be deleted. Super admin can configure super administrator's user account, group administrator's user account and common administrator's user account. Group administrator's user account can modify group administrator's user account and common administrator's user account. Common administrator's user account can not create new administrator user account.

4.3.5. Database Management

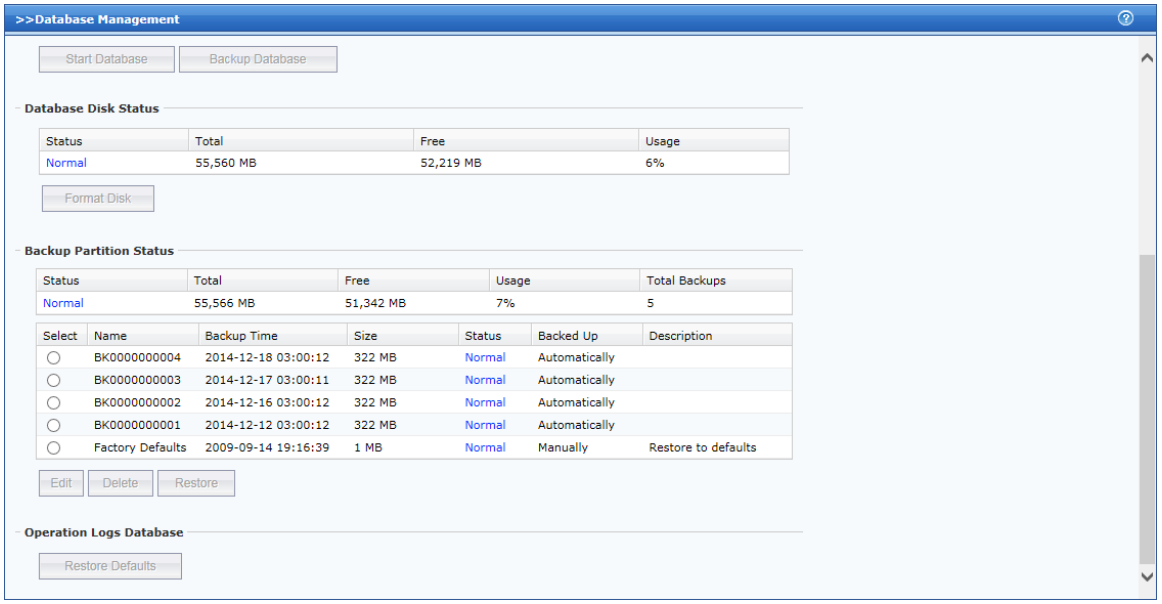
[Database Management] is used to manage CMC's internal datacase, the page is shown below:



[Enable Anti-maloperation] : Check this option to disable the configuration on this page, to prevent incorrect mis-configuration of the database.

[Database Auto Backup] : Can configure auto backup for CMC database base on day and time settings.

[Database Disk Status] : Display current CMC's internal storage usage status.



[Backup Partition Status] : Select previous backup file or restore factory default backup, can also delete the backup file which is not using or cannot be used.

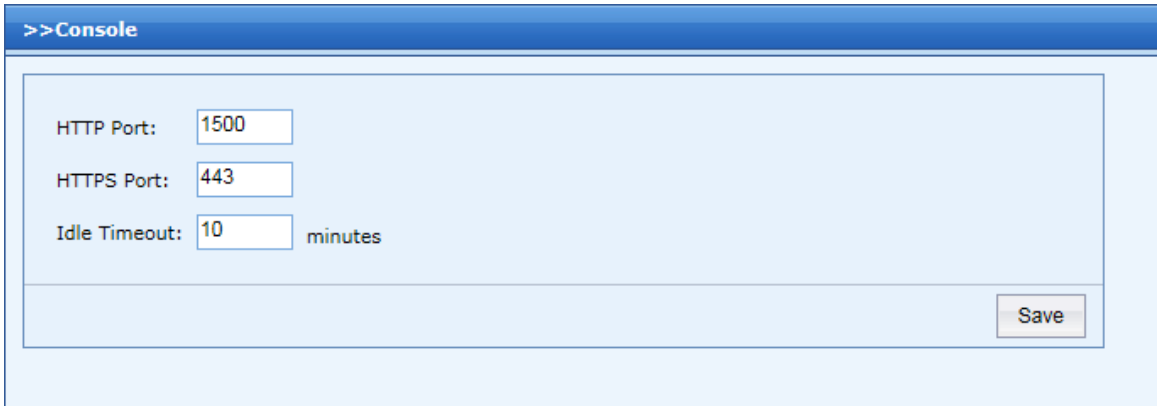
[Operation logs database] : Can restore operation log database to default.

4.3.6. Advanced

[Advanced] includes [Console], [Schedule], [Auto-update] and [LDAP Server] function modules.

4.3.6.1 Console

[Console] is used to configure CMC's web console login port and idle timeout preriod. The page is shown below:



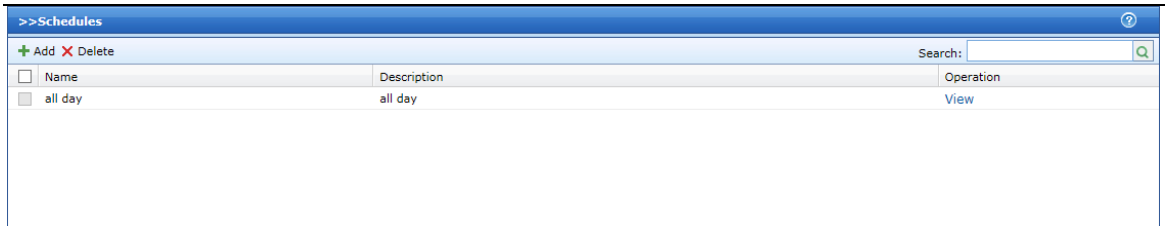
[HTTP port] : Default is set to 1500. User can use http protocol with this port number to login to web console, the port number is changeable but can not conflict with CMC service port numbers.

[HTTPS port] : Default is set to 443. User can use https protocol with this port number to login to web console, the port number is changeable but can not conflict with CMC service port numbers.

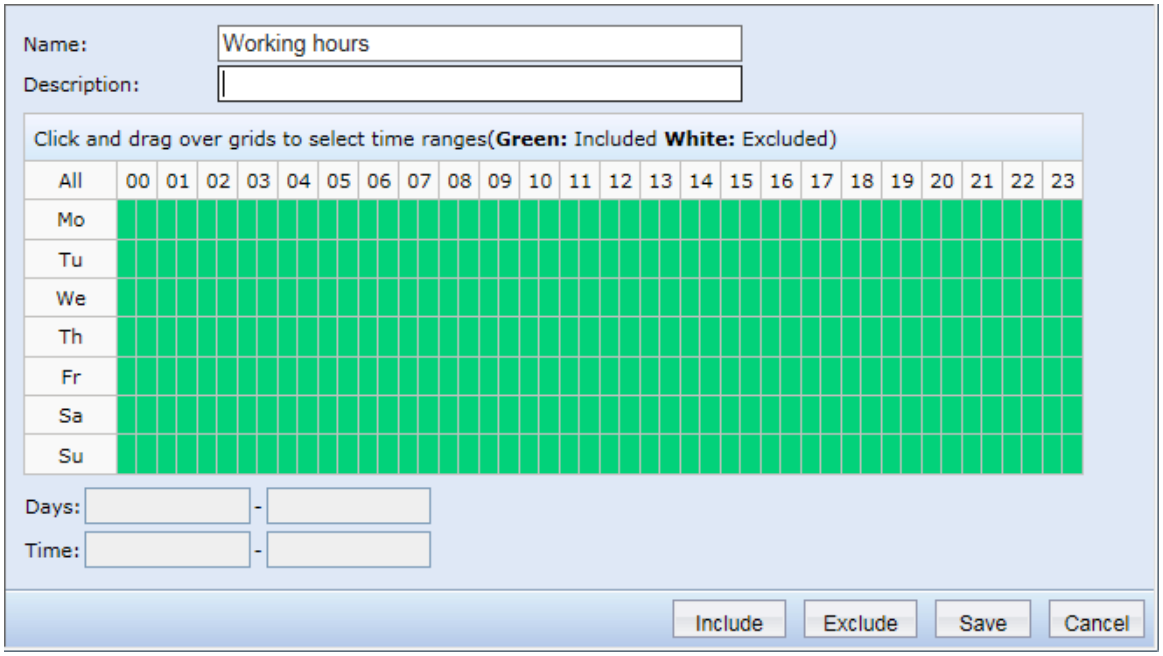
[Idle Timeout] : Default is set to 10 minutes. CMC will automatically logout user if user idle for time period configured after logon to web console.

4.3.6.2 Schedule

[Schedule] is used to define commonly use time period and these defined schedule can be used in [Firewall] and [Access Control] to determine policy enable/disable time period. The schdule works base on CMC system time. The configuration page is shown below:



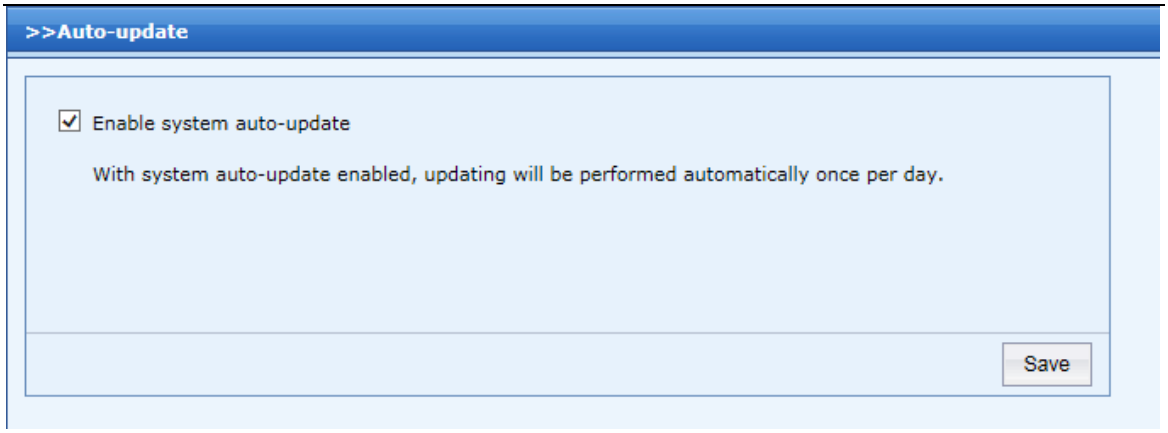
Click on Add button and the page below is shown:



For example, schedule "Working Hours" is configured, select the proper time period and then click on Include to indicates policy should be working in the selected period, click on Save to complete the configuration.

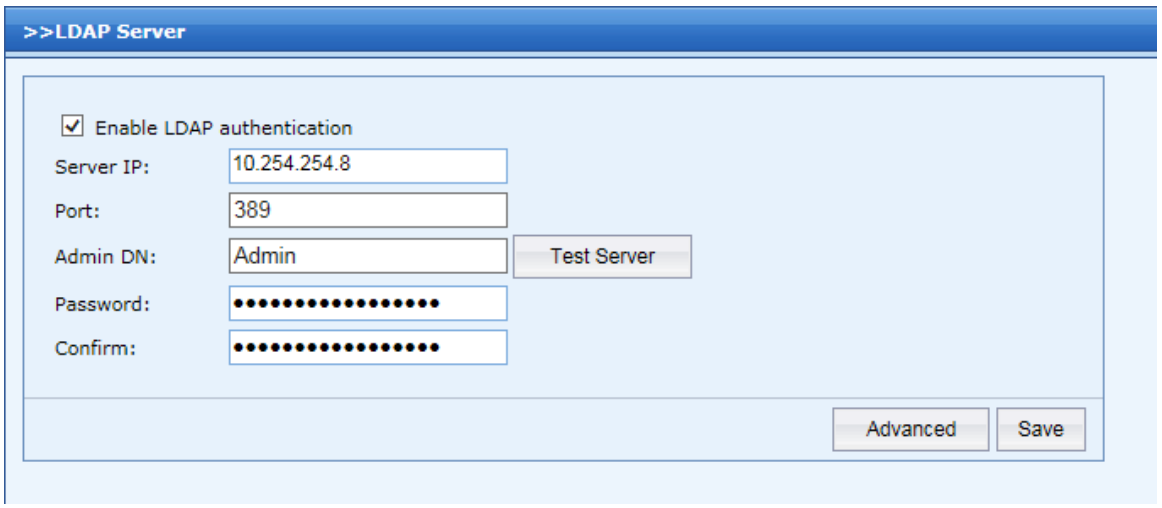
4.3.6.3 Auto-Update

[Auto-Update] module is used to configured whether CMC device should/should not download update package and perform auto-update. Check on [Enable system auto-update] to enable CMC device to perform update automatically once per day. By default, the auto-update interval time is set to 24 hours. The page is shown below:

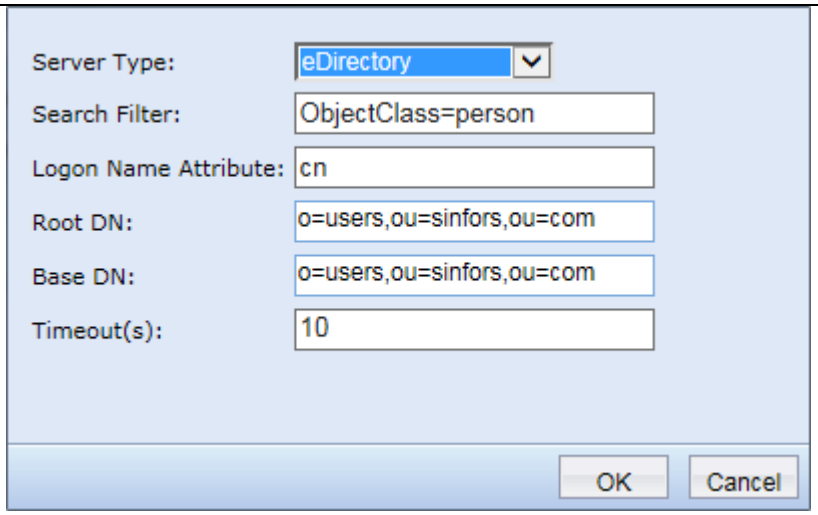


4.3.6.4 LDAP Server

[LDAP Server] is used as CMC's the third party authentication. The page is shown below:



After done configuration on the page, click on Advanced and the page below will be displayed:

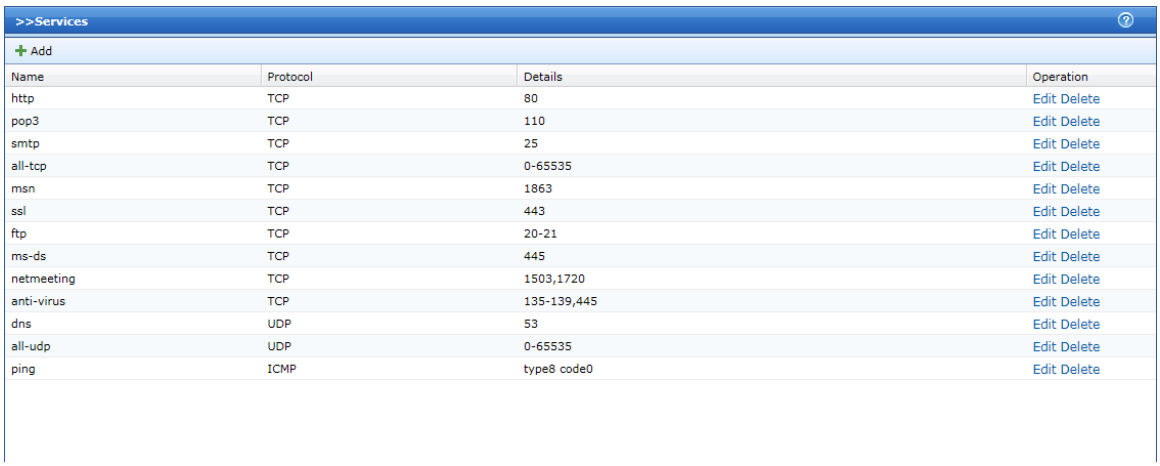


4.3.7. Firewall

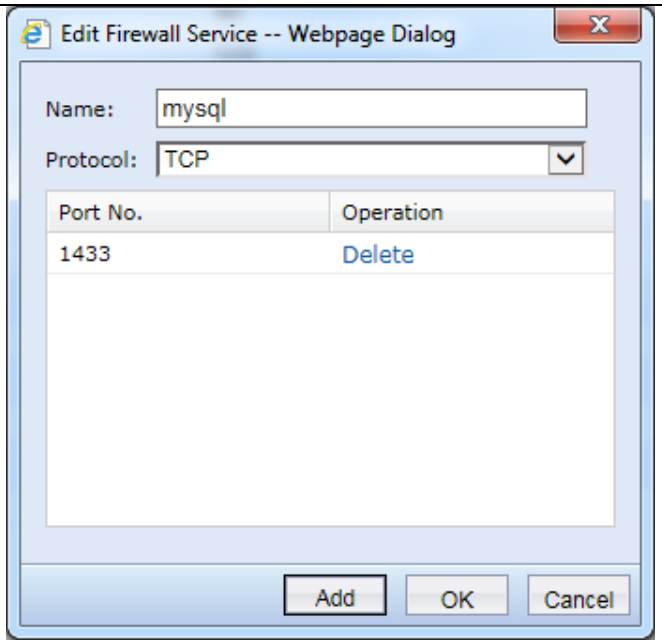
[Firewall] include [Services], [Firewall Rules] and [Anti-DoS] function modules. This feature works on traffics passing through CMC when deploy in gateway mode.

4.3.7.1 Services

Define the transport protocol and port in this section to identify the network operating software and communication program which using different transport protocol and ports via firewall rules. The page is shown below:



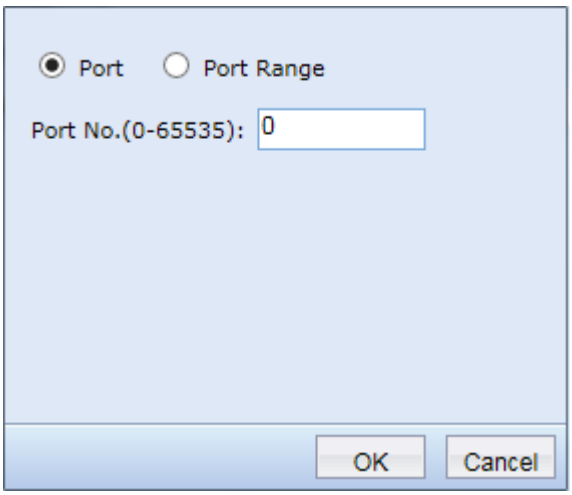
Click on Add button to define a service with specific transport protocol and port number as shown in the figure below:



[Name] : Self-define

[Protocol] : Select related protocol for the port, by default is TCP.

[Add] : Click on this button to add port/port range base on requirement, as shown in the figure below:

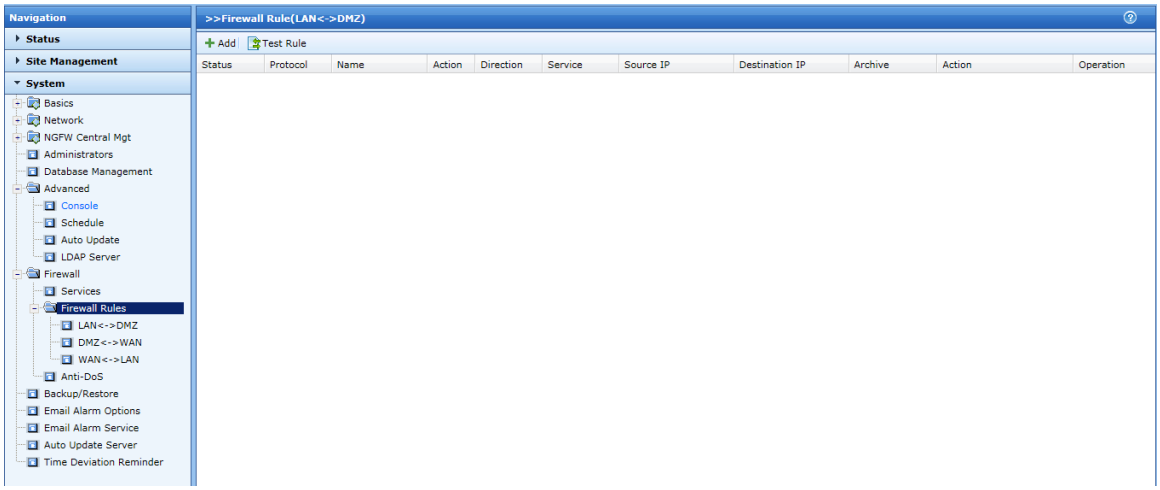


4.3.7.2 Firewall Rules

Sangfor CMC device's firewall uses packet state detection filtering technology, it can perform protocol, source and destination IP address packet filtering on multi direction forward and scheduling.

[Firewall Rules] include LAN<->DMZ, DMZ<->WAN and WAN<->LAN, 3 interfaces and 6

forwarding direction rules configuration. The page is shown below:



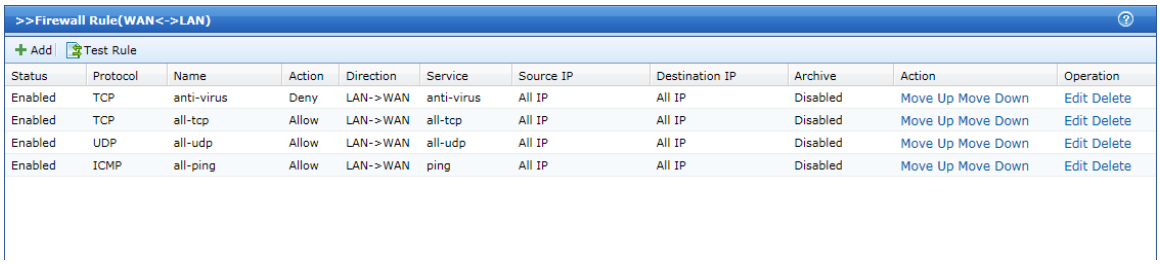
[LAN<->DMZ] : Is used to configure firewall rules between LAN interface and DMZ interface for both directions on CMC device.

[DMZ<->WAN] : Is used to configure firewall rules between DMZ interface and WAN interface for both directions on CMC device.

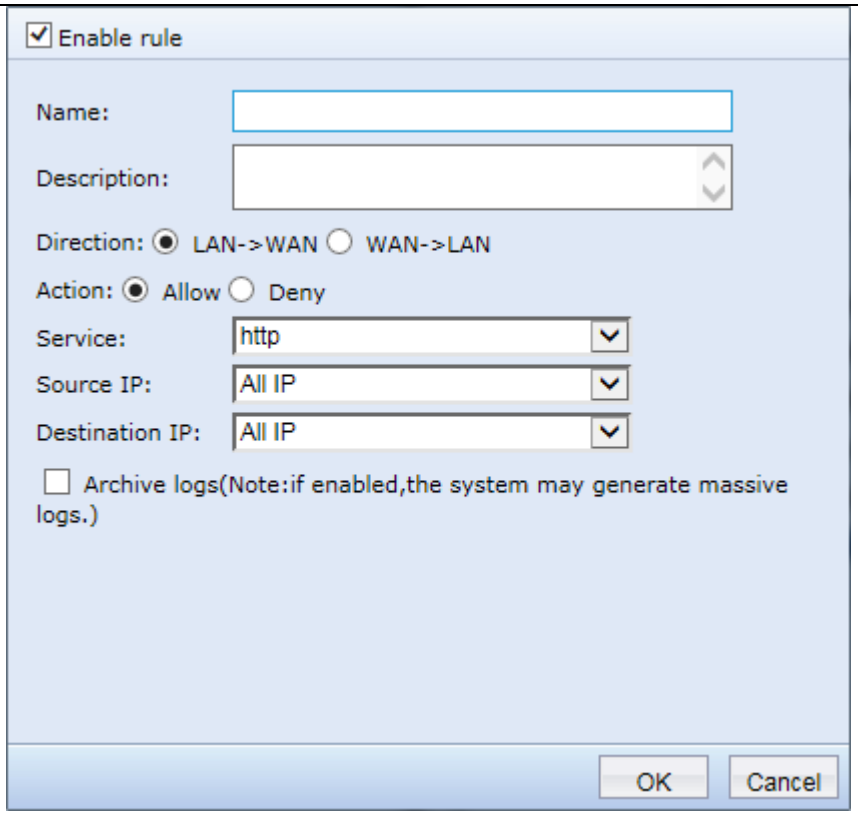
[WAN<->LAN] : Is used to configure firewall rules between WAN interface and LAN interface for both directions on CMC device.

Example below shows the firewall rules configuration between WAN<->LAN :

The figure below shows the configuration of firewall rules between WAN interface and LAN interface, it can be configured to allow or deny any services packets:



Click on Add to define a new rules as follwing page:



[Name] : Self-define.

[Direction] : The rule will be applied based packet which direction match with the configuration.

[Action] : The action (Allow or Deny) to be taken on packets which match the condition.

[Service] : Service type to match packets.

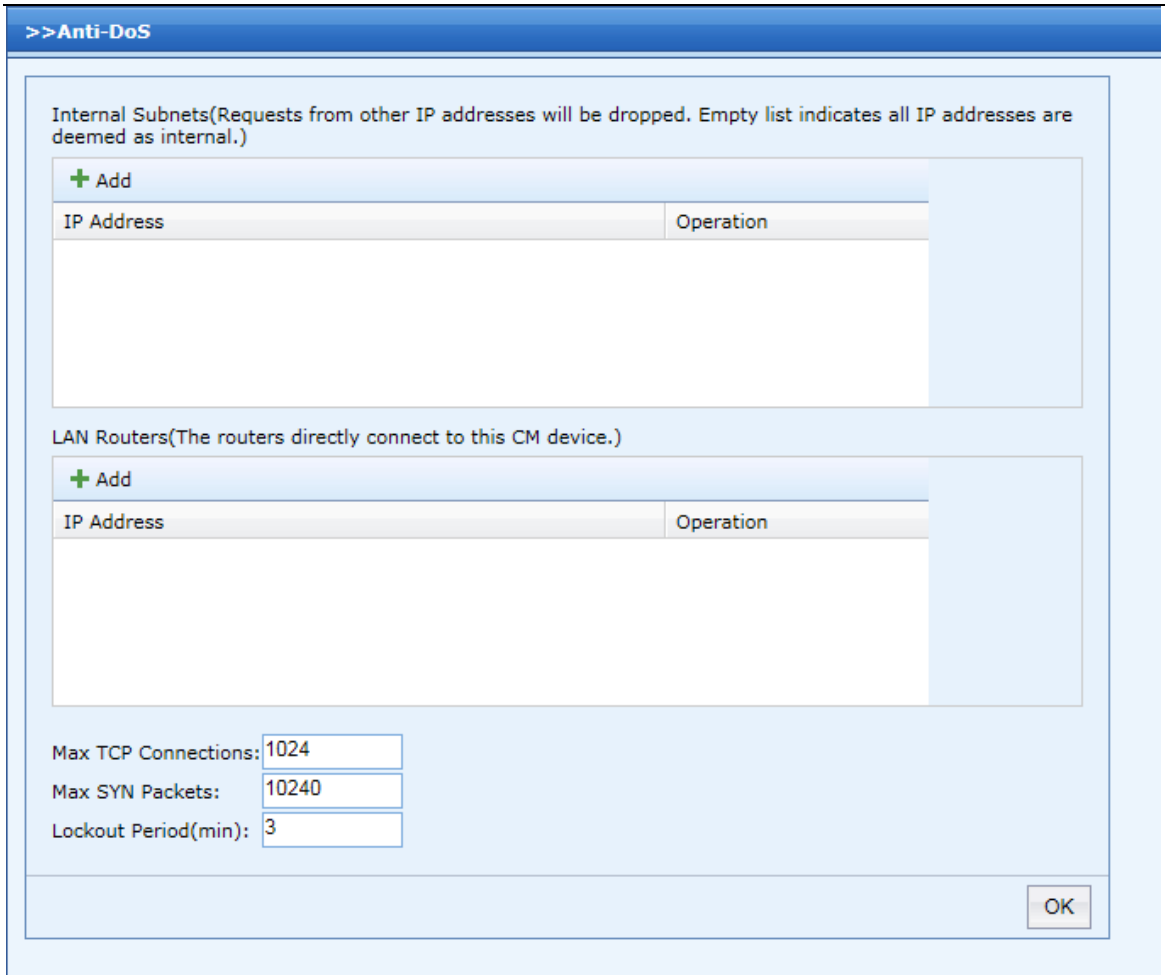
[Source IP] : Source IP set to match on the packet's source IP address.

[Destination IP] : Destination IP set to match on the packet's destination IP address.

[Archive logs] : Check this option to log all the packets which match current firewall rule, normally this option is disabled in order to prevent massive logs generation on device.

4.3.7.3 Anti-DoS

This feature provide protection against denial of service (DoS) attacks from both internal and external network. DoS attack might cause bandwidth congestion or system hangs due to large amount traffics to be processed in a short time. Sangfor CMC is equipped with anti-DoS feature which can detect the amount of packets sent by each IP address, if the amount exceeds the amount allowed in CMC in specific period of time, CMC will assume the IP address performing DoS attack and will drop the related traffics for self-protection. The page is shown below:



All the IP address fill in [Internet Subnet] will be allowed to pass through the CMC device,. If this section is remain empty, that means all IP address will be dropped without any action perform on it., same goes to IP address which is not inserted in this section. Meanwhile for subnet which are inserted in this section, CMC will perform Dos checking on each IP address.

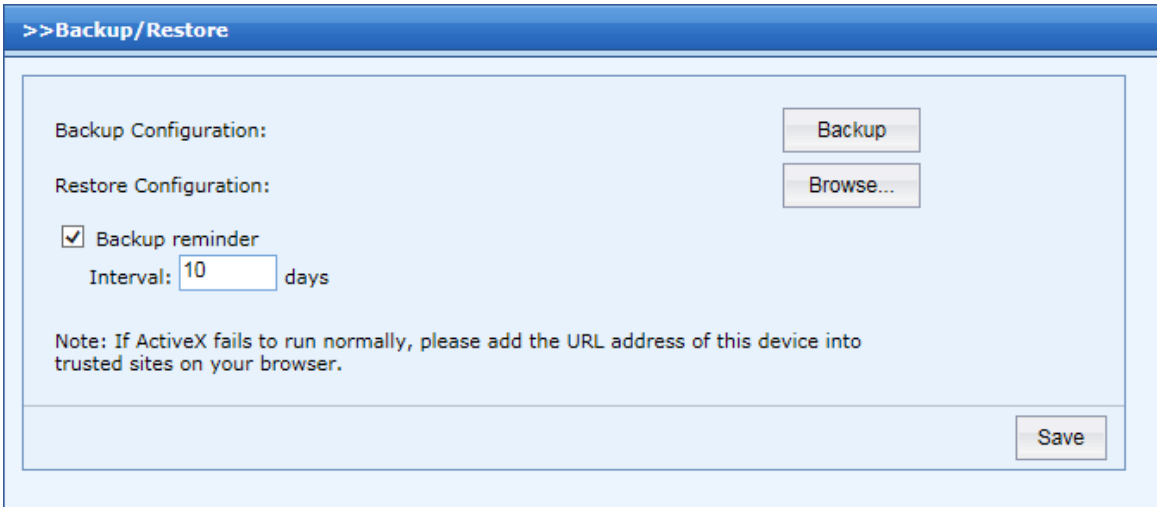
For each entry of [LAN Routers], CMC will automatically read the mac address and no DoS checking is performed on this MAC address. If the column did not configure correctly, it might cause the internal network down and all users connecting to the router will not able to access to Internet.

[Max TCP Connections], [Max SYN Packets] and [Lockout Period] configuration is depends on user environment and requirements.

Warning : If internal subnet is configured but the network which CMC located is not included, it will cause internal network not able to access to the device.

4.3.8. Backup/Restore

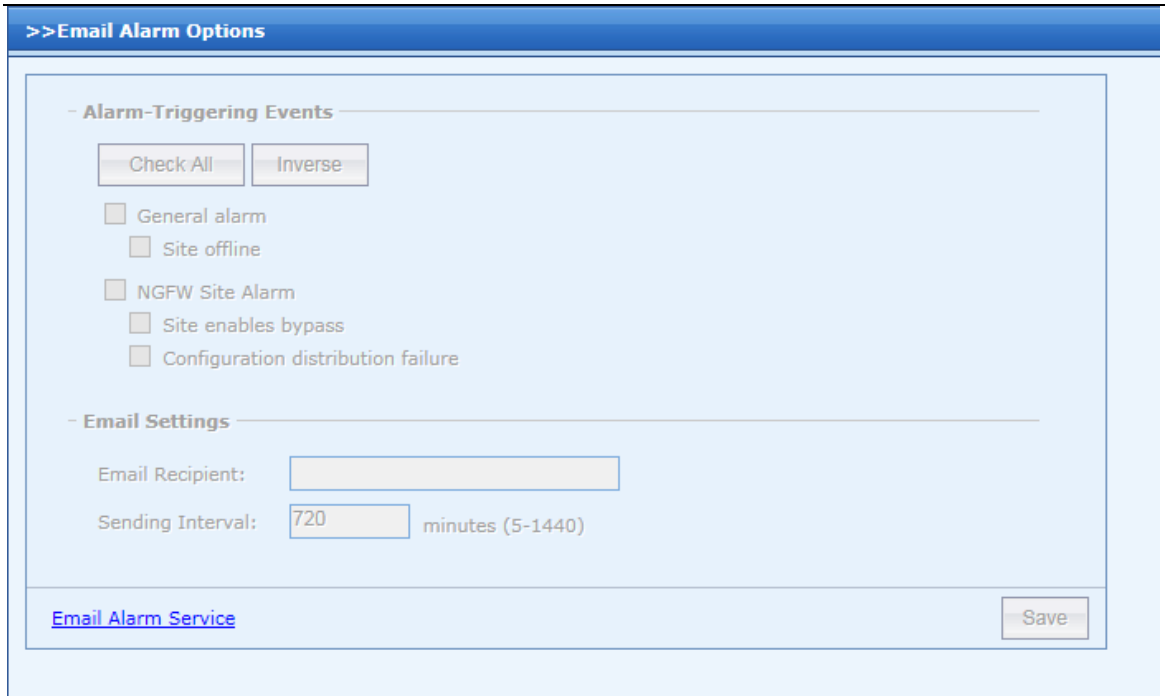
[Backup/Restore] is used to backup amd restore CMC's interface's IP address, firewall module configuration but not include CMC database and administrator account configuration. The page is shown below:



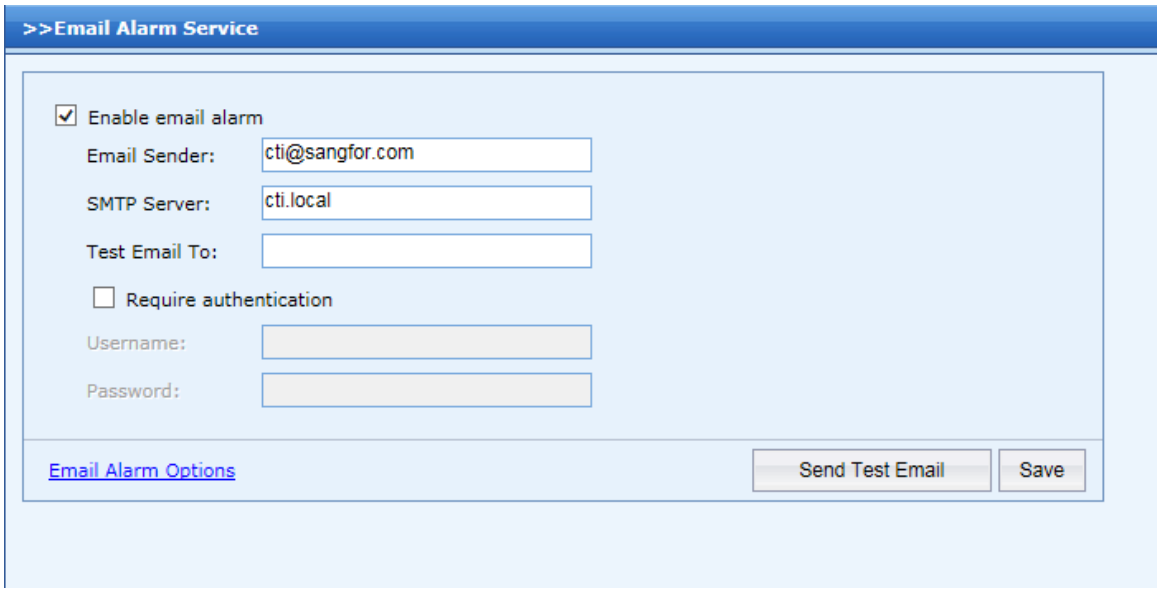
Click on Backup to backup CMC configuration. Click on Browse , then select the backup config file and click on Save to complete the restore process.

4.3.9. Email Alarm Options

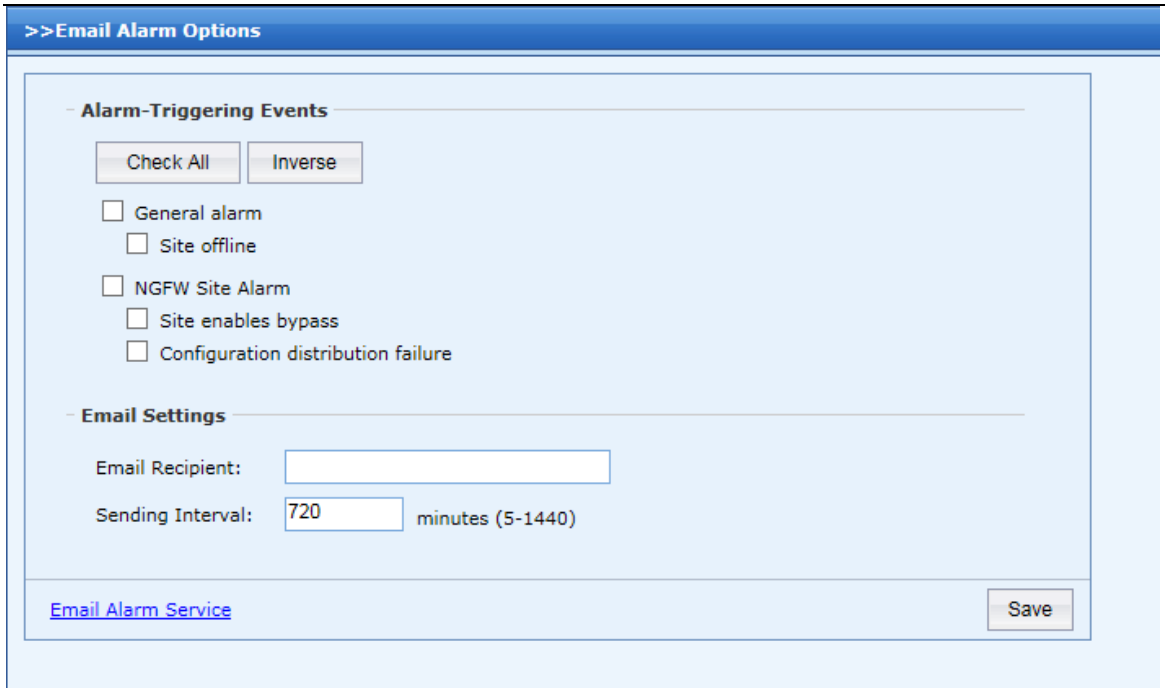
[Email Alarm Options] is used to configured alarm event details and the alarm email settings such as recipient address. The page is shown below:



By default, this page cannot be configured and is shown in grey color syntax because the [Email Alarm Service] has not been configured yet. To enable the configuration on this page, kindly configure the [Email Alarm Service] first by clicking on the blue color font. The page below is shown after clicking it :



After completed the configuration on [Email Alarm Service] page, kindly get back to the previous page as below:



[General alarm] : Include sites disconnected issue.

[Site offline] : If a site's status from online turn to offline, then alarm email will be triggered.

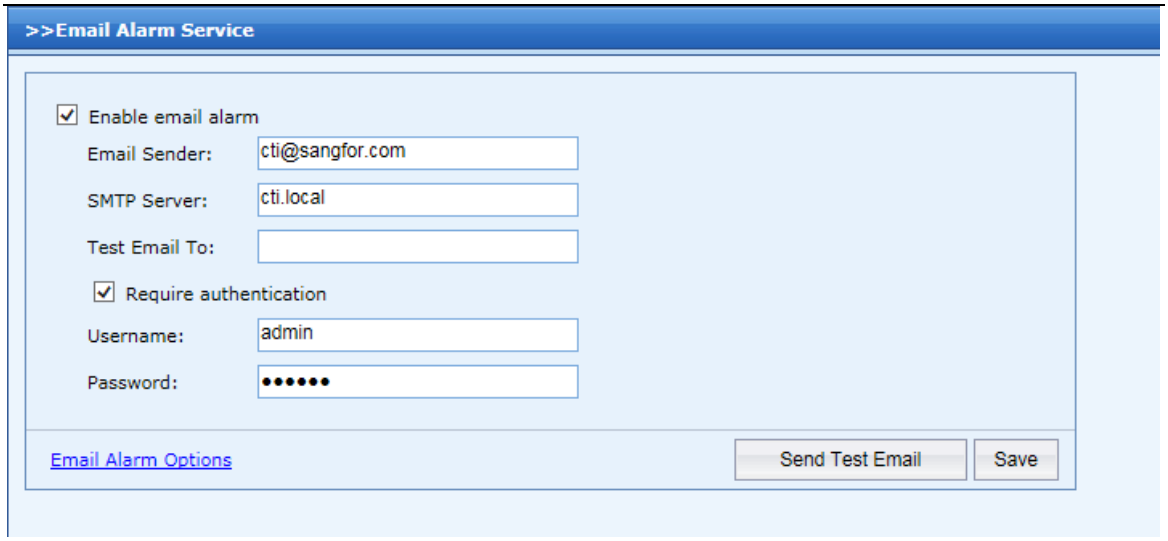
[NGAF Site Alarm] : To enable [Site enables bypass] and [Configuration distribution failure] module detection.

[Sites enable bypass] : If a site 's bypass/enable packet drop function is turn on, alarm email will be sent to administrator.

[Configuration distribution failure] : If configuration yet distribute successfully to sites, alarm email will be triggered.

4.3.10. Email Alarm Service

[Email Alarm Service] is needed to enable alarm email function, to configure sender's email and mail server details. The page is shown below:



[Enable email alarm] : To enable this feature

[Email Sender] : Alarm email sender's address.

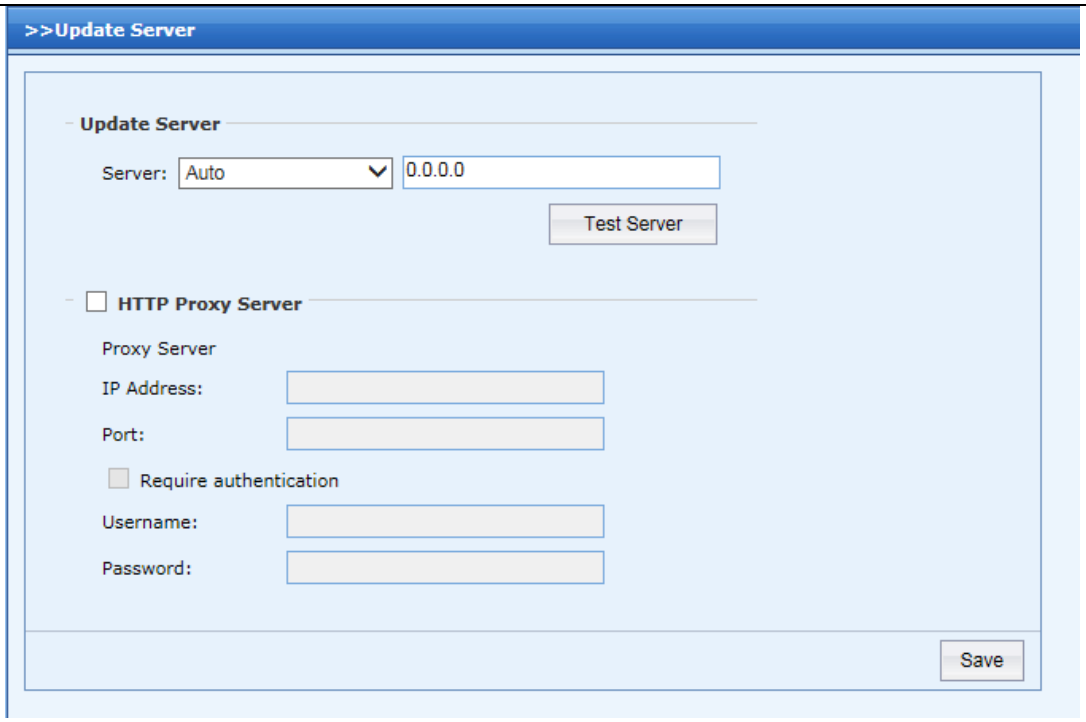
[Test Email To] : The test recipient's email address

[Require authentication] : To enable the settings for username and password of email server.

Click on Send Test Email to send validate the configuration.

4.3.11. Auto-Update Server

[Auto-Update Server] is used to configure the server which CMC connects to perform update for internal databases. The page is shown as below:

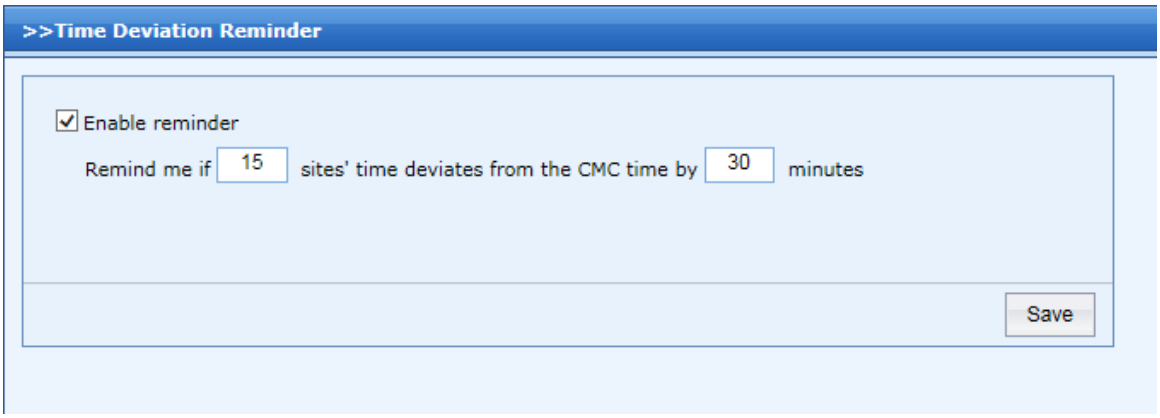


[Update Server] : Select the options available and click on Test Server to check on the availability of the server.

[HTTP Proxy Server] : CMC device update via a HTTP Proxy Server. Supports HTTP Proxy with authentication.

4.3.12. Time Deviation Reminder

[Time Deviation Reminder] configuration enable notice prompt message during administrator user login to web console if the number of sites which having time deviation issue exceed the limit. The page is shown below:



Select [Enable Reminder] to enable the function, fill in the number of sites and the time deviation.

Chapter 5 Sites Connecting

The Central Management Console (CMC) is designed to manage Sangfor NGAF devices distributed across a wide area network (WAN). With CMC, administrators can conveniently monitor and schedule update tasks for the NGAF devices with just a few clicks.

However, before the NGAF devices can be managed and monitored by the CMC, they must connect to the CMC. There are two key steps:

1 . Create sites on the CMC in Section 5.1

2 . Have the distributed NGAF devices connect to the CMC in Section 5.2

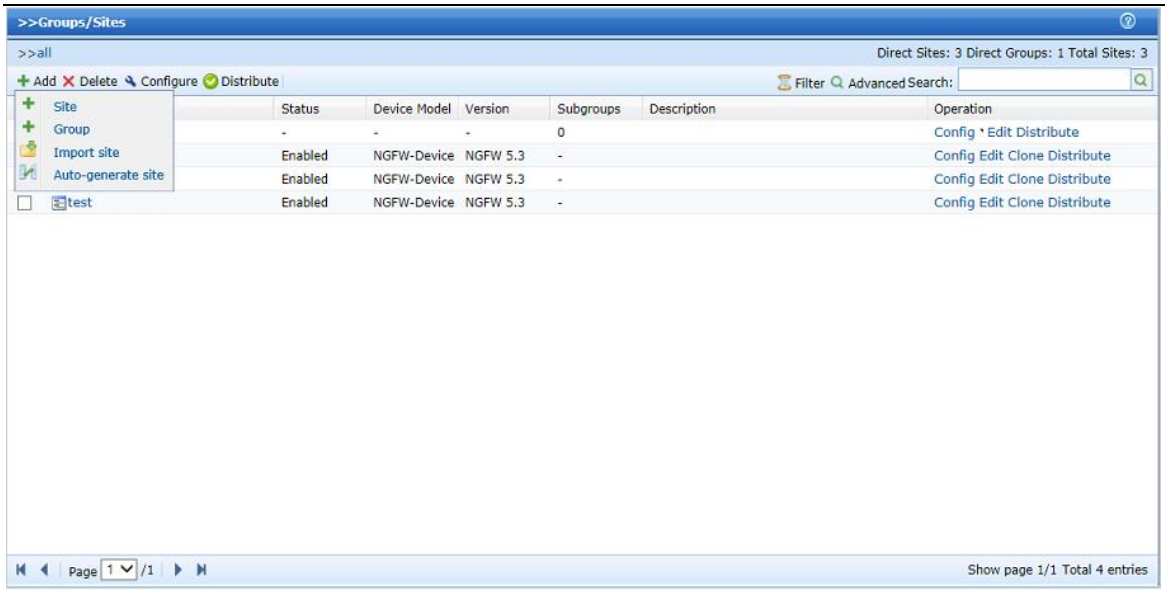
This chapter also discuss the common causes for configuration distribution failure and troubleshooting.

5.1. Creating Sites

By creating groups/sites, the CMC introduces the concept similar to groups/users and therefore conducts the hierarchical management. To have a NGAF device connect to the CMC, the corresponding site should be created on the CMC under a certain group which could be created based on geographical location or personal preferences.

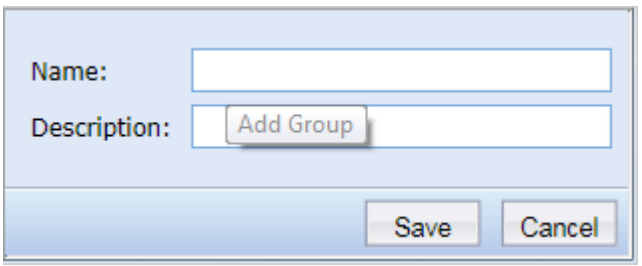
Creating Groups/Sites

Log into the administrator console of the CMC and go to the Site Management > Groups/Sites page to create groups/sites, as shown below:



Adding a Group

1. Click Add > Group to open the Add Group page, as shown below:

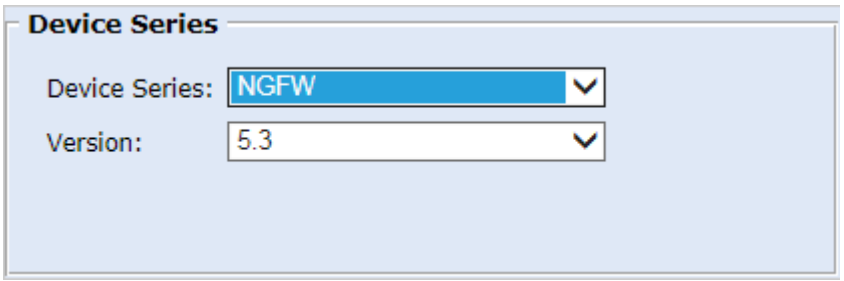


2. Enter the group name and description.

3. Click Save to apply the settings.

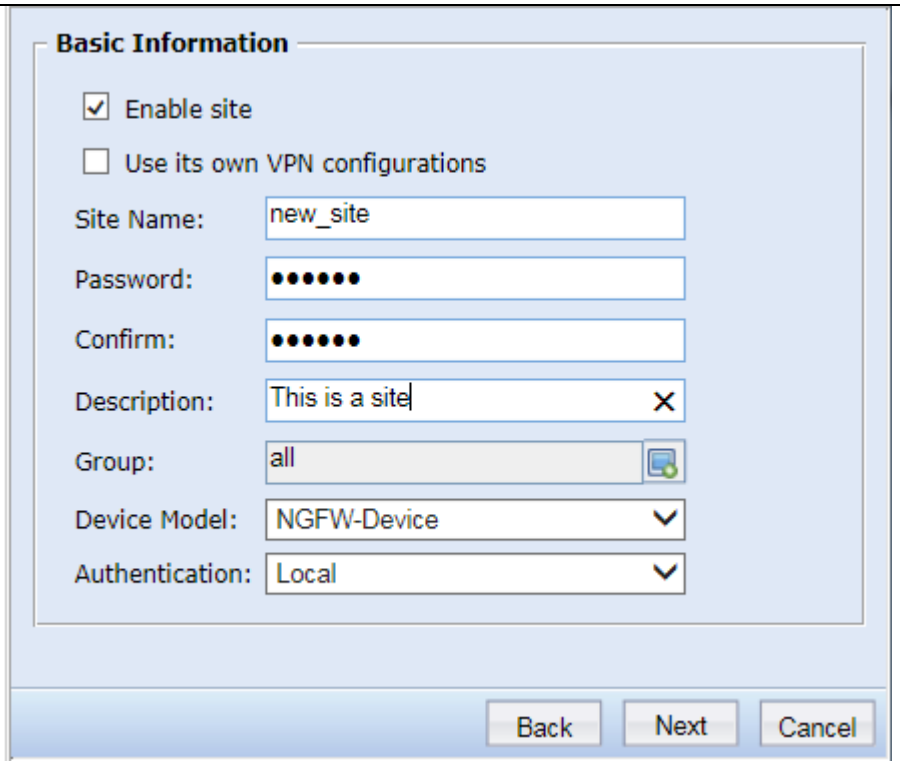
Adding a site

1. Click Add > Site to open the Add Site page, as shown below:



2. Select device series and version.

3. Specify basic settings for the site.



4. The basic settings include site name, description, password, the group that the site belongs to, device model and authentication, as described in the following:

- Enable site

Check it to enable the site so that the corresponding NGAF can connect to the CMC; if it is unchecked, the corresponding device cannot connect to the CMC.

- Use its own configuration

If it's checked, when the site connects to the CMC, local configuration of VPN module will be uploaded to the site of the CMC. If it's unchecked, VPN module can be configured by the site of CMC. Then distribute the configurations to NGAF devices.

- Site Name

Specify a name for the site, which will be the username for the physical device to connect to the CMC.

- Password, Confirm
- Specify a password for the site, which will be the password for the physical device to connect to the CMC.
- Group

Select a group that the site belongs to. You can select the root group (that is, all) or a specific group (for example, group a).

- Device Model

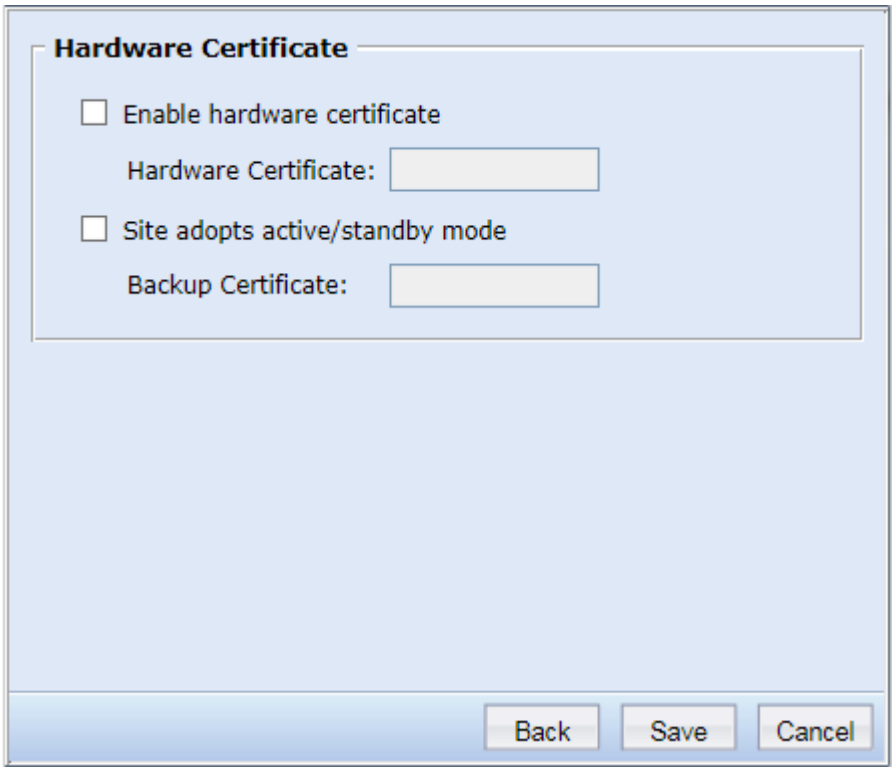
Select NGAF-Device which indicates the sangfor NGAF device.

- Authentication

Select an authentication mode, including local, LDAP, Radius server authentication.

5. Click Save to apply the settings.

6. Click Next to enter Hardware Certificate page, as shown below:



Enable hardware certificate: if checked, the certificate generated on the NGAF device can be imported onto the site. Once the certificate imported, the NGAF device will be tied with this site, as their certificates are the same. Therefore, the other NGAF devices cannot connect to the CMC through this site, as their certificates are not the same.

Site adopts active/standby mode: It's designed for the NGAF devices deployed in active/standby mode. As each device has its own hardware certificate, when the active device changes to standby state, it will cause the standby device cannot join CMC, because the certificates of standby device and the site are not the same. Therefore, you should also import the hardware certificate of standby device to ensure the standby device can join CM when HA failover occurs.

Import site

The pages of importing site and adding site are the same, the difference is that user can import the

sites by clicking Browse to select corresponding file.

Notes: Sites to being imported support .txt and .csv (each row format is the same. More than one records have multiple rows.). txt format: site name, password, csv format: site name, empty column, password

Auto-generate site

The difference between the pages of auto-generate site and adding site is that there are additional fields on the auto-generated page: name prefix and number of sites. For example, enter NGAF in Name Prefix field and 100 in Number of sites field, and click Save. Then 100 sites will be generated automatically.

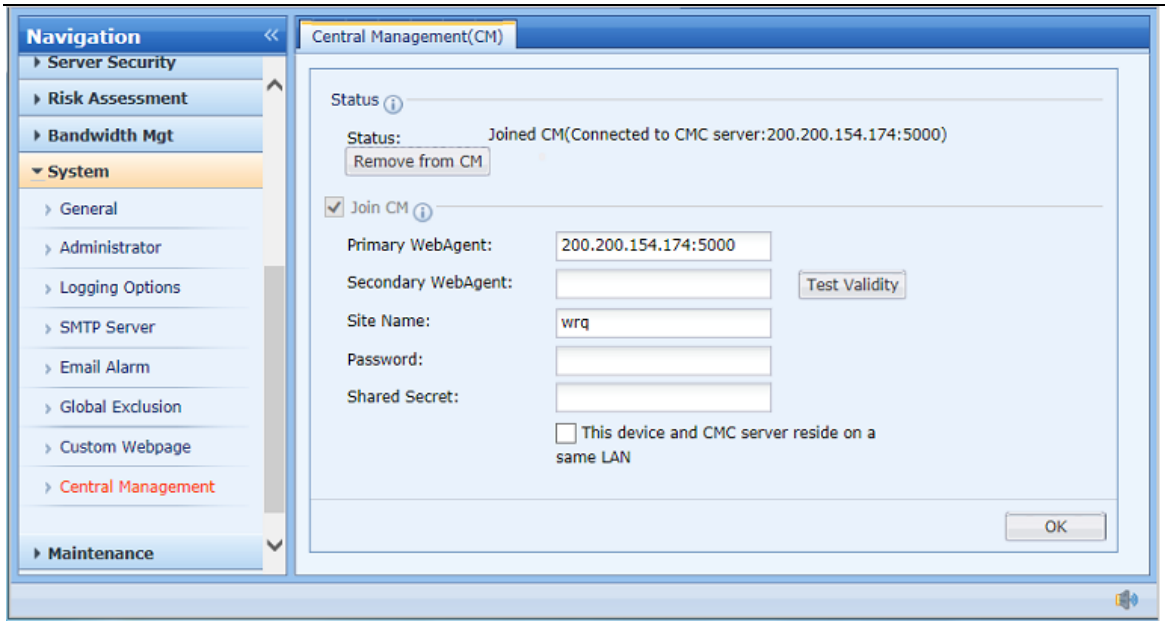
5.2. Connecting to the CMC

Sites indicate Sangfor NGAF devices that can be centrally managed and monitored by the Sangfor Central Management Console (CMC) after they connect to the CMC. To have a NGAF device successfully connect to the CMC, create the site on the CMC and configure the CMC connection options on the NGAF device.

Site Connecting to the CMC

To have a site connect to the CMC,

1. Log into the administrator console of the CMC and create the site (see Creating Sites).
2. Log into the administrator console of the site (NGAF) and go to the System > Central Management page, as shown below:



3. Specify the following information.

- Primary WebAgent

Enter the WebAgent address in format of IP:Port or URL. The WebAgent will be used by the site to obtain the network location of the CMC, and therefore it should be the physical IP address or domain name (if available) of the CMC. If the CMC is assigned a WebAgent address by the manufacturer, enter the corresponding URL address.

- Test WebAgent

Click it to test the connectivity between the site and CMC. Please note that this button does not work when the WebAgent address is a URL address.

- Secondary WebAgent

Secondary WebAgent indicates the standby WebAgent address which will be used by the site to connect to the CMC when the primary WebAgent is unavailable.

- Site Name

Enter the username for connecting to the CMC. It should be the name of the corresponding site created on the CMC.

- Password

Enter the password for connecting to the CMC. It should be the password of the corresponding site created on the CMC.

- Shared Secret

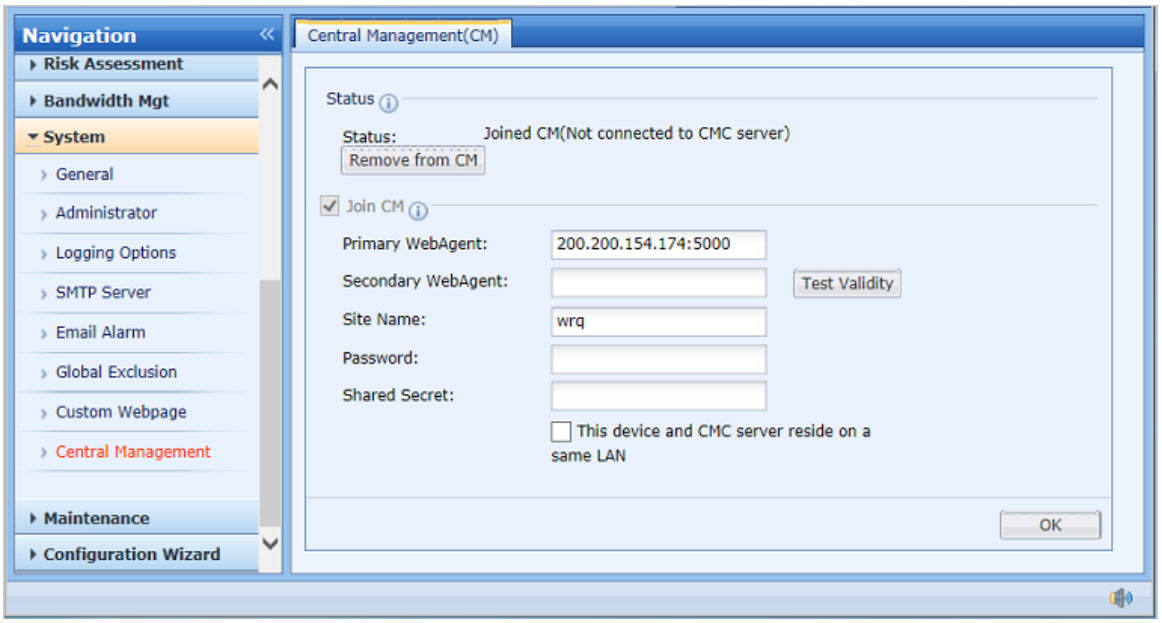
Enter the shared secret which should be the same as that configured on the CMC. Ignore it if no shared secret is set on the CMC.

- This device and CMC server reside on a same LAN

Specify whether the CMC resides on the same local area network as the NGAF.

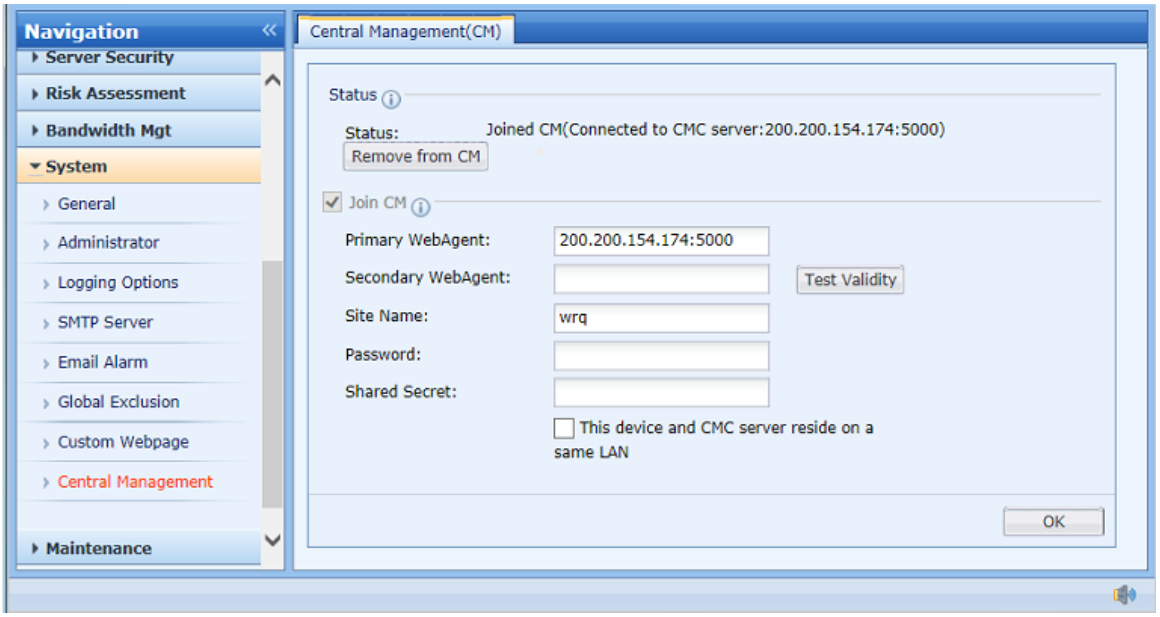
After clicking OK, you should login again.

If the site has joined CM, but it does not connect to the CMC, as shown below:



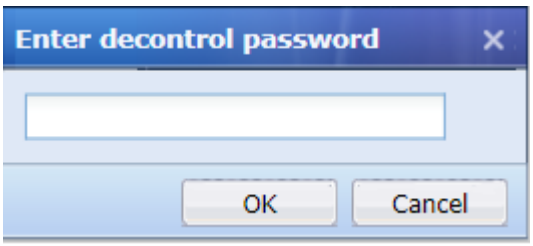
Please check if the site name, password and shared secret are identical with the site name, password and shared secret configured on the CMC. Otherwise, connecting to the CMC will fail.

If the network connection is available and the site can join Central Management(CM) successfully, you can view the following figure:



Site Removed from CM

To remove a site from CM, go to the System > Central Management page, and click on Remove from CM. Then the following prompt pops up:



Enter correct decontrol password. Then the site can be removed from CM and will not be managed by the CMC any more.

Decontrol password can be modified on the CMC, and can also be a temp one generated by the CMC, which will get expired after the day.

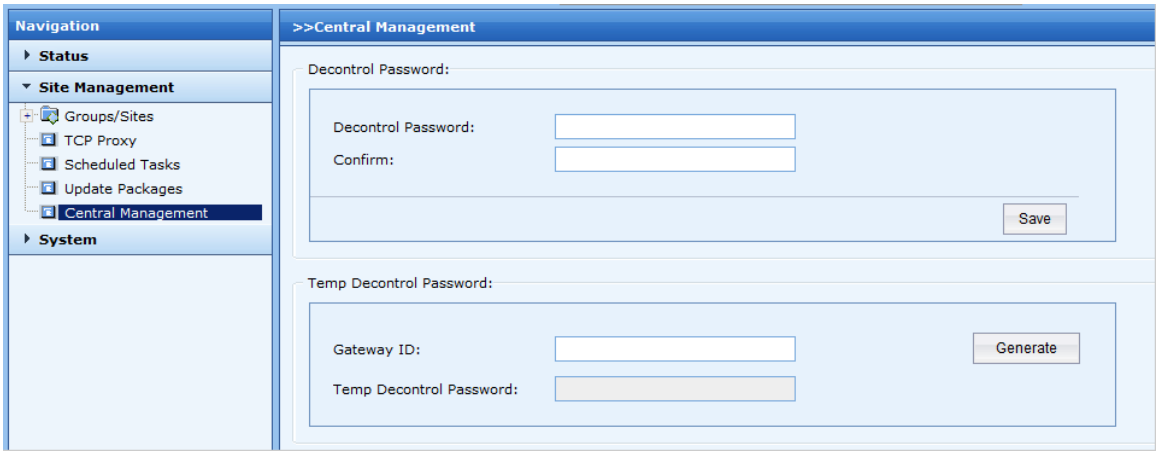
After the site is removed from the CM, it will login again automatically.

Decontrol Password

To modify decontrol password on the CMC,

1. Log into the administrator console of the CMC.

2. Go to Site Management>Central Management page, as shown below:



3. Enter decontrol password and confirm it. Click Save to save your settings.

4. Decontrol password will be distributed to the site automatically. It will be used when you want to remove the site from CM.

Generate Temp Decontrol Password

Enter gateway ID and click Generate. Then a temp decontrol password will be generated, which will get expired after the day. It will be used when you want to remove the site from CM.

The differences between the decontrol password and temp decontrol password are as follows:

1. Decontrol password should be dispatched to site by the CMC and will never get expired. It is applicable to all the sites.

2. Temp decontrol password is generated on the CMC. It should be sent to the administrator of site by email, SMS or telephone, and will get expired after the day.

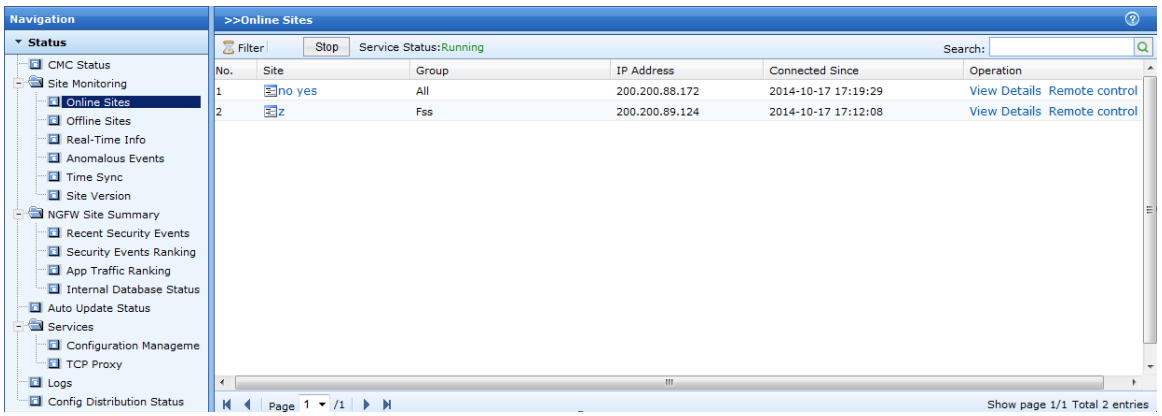
5.3. Common Causes for Config Distribution Failure

When configurations are dispatched to terminals by the CMC, if the terminals haven't received the configuration file,that means the CMC failed to dispatch the configurations. The failure reason is more than one. For how to find out the reasons, you can refer to the following methods:

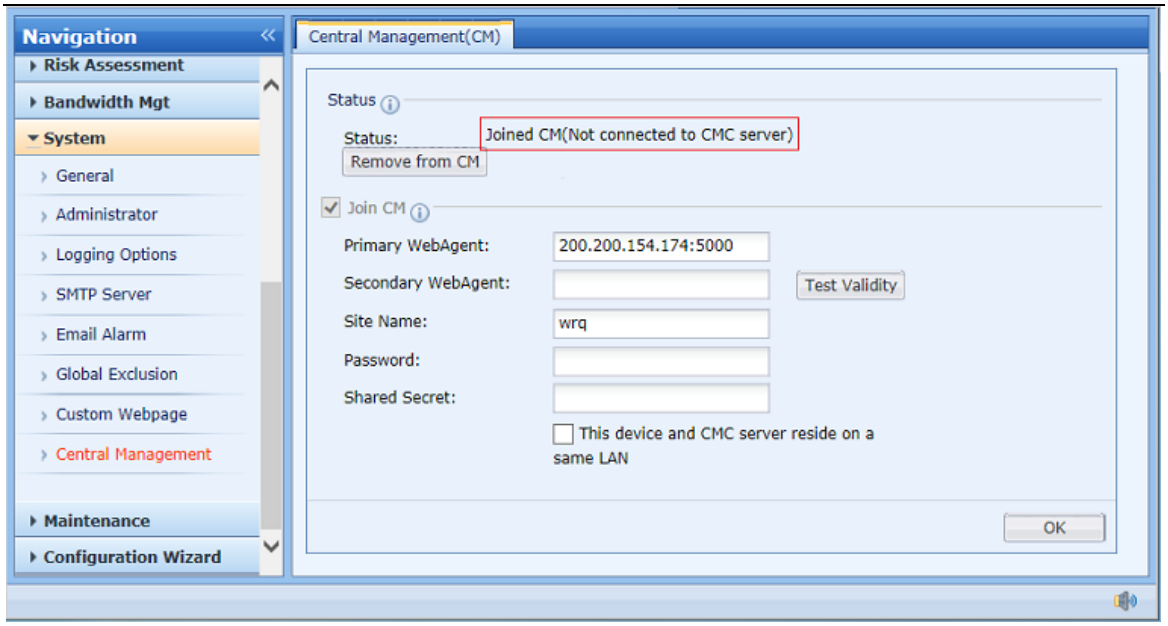
Note: The following methods are applicable to the cases that common causes lead to configuration distribution failure, and do not include all the troubleshooting methods.

Check if the terminal connected to CMC

1. Log into CM console and go to Status > Site Monitoring > Online Sites page to check if the site is in the online site list. If the site connected to the CMC, corresponding site information will be displayed on this page, as shown below:

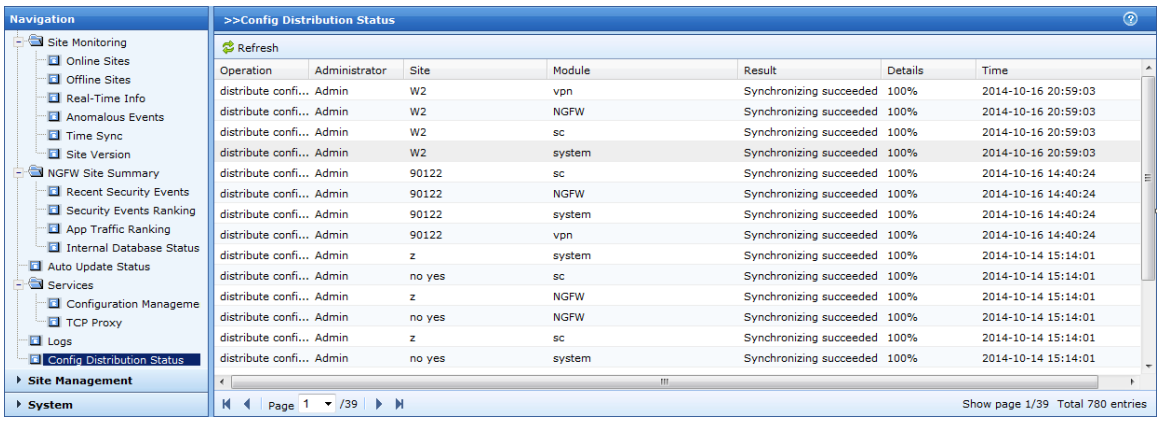


2. Log into NG Firewall console and go to System > Central Management page to check if the settings for joining CM is correct, as shown below:



View Config Distribution Logs on CMC

Go to Status > Services > Config Distribution Logs to check if the configuration is dispatched successfully. If success, 100% will be showed in Details column. Otherwise, 0% will be showed.



Check Sync Status

If the sync status of NGAF module displayed 0%, you can view anomalous status of sites on Status > Site Monitoring > Anomalous Events page. The information about inconsistent versions and number of entries exceeding upper limit after merging will be displayed.

If the above steps completed, the reasons cannot be found. Please contact Customer Service. We will provide technical support timely.