

# NSFOCUS NTA Release Notes

## 1. Basic Information

<b>Product Model</b>	<ul style="list-style-type: none"> <li>NTA NX3-HD2100/HD2200/HD3000</li> <li>NTA VM</li> </ul>
<b>Software Version</b>	V4.5R90F06
<b>Upgrade File</b>	update_nta_x86_V4.5R90F06.241220build50693.bin Hash: 8d345b70f5bfbf1db453ad596a960edd
<b>Release Date</b>	2024-12-30
<b>How to Obtain</b>	Obtain the upgrade file from the upgrade system or contact NSFOCUS technical support.

## 2. Version Mapping

<b>ADS</b>	V4.5R90F06
<b>ADS M</b>	V4.5R90F06
<b>ADBOS</b>	V4.5R90F06
<b>NTA-ATM</b>	V4.5R89F05
<b>Threat Analysis and Traceback System (TAT)</b>	V2.0.0
<b>MF</b>	<ul style="list-style-type: none"> <li>V4.5R90F01SP08</li> <li>V4.5R90F01SP09</li> <li>V4.5R90F01SP10</li> </ul>
<b>Client Browser</b>	<ul style="list-style-type: none"> <li>Chrome</li> <li>Firefox</li> </ul>
<b>Documentation</b>	NSFOCUS NTA V4.5R90F06 User Guide

## 3. New Requirements

No.	Requirement Description
1	Network segment-based DDoS detection for regions, IP groups, and the global scope
2	Support for netmask/prefix length customization for network segment-specific diversion
3	Power status information sent via SNMP
4	Addition of "NSFOCUS" before the product name on the login page
5	Adaptation of third-party interfaces
6	NPAI interface upgrade
7	Bugs should be fixed.

## 4. Function Changes

### 4.1 Network Segment-based DDoS Detection Function for Regions, IP Groups, and the Global Scope

#### Overview

Traditional DDoS attacks target single IP addresses, and so can usually be detected by comparing the actual traffic destined for an IP address with the threshold (predefined or auto-learned). However, carpet bombing attacks often target an entire network segment, with attack traffic to a single IP address being too small to be detected by conventional detection solutions. Nowadays, in addition to IDCs and ISPs, which are typical targets of carpet bombing attacks, financial institutions are vulnerable to this type of attack due to business expansion (increasing number of IP addresses). As carpet bombing attacks often target session tables of a firewall or WAF, both IP address-specific and total attack traffic are too small to be detected, let alone triggering traffic cleaning.

Previous versions of NTA have provided behavior-based protection against carpet bombing attacks initiated from real IP addresses. The new version should complete the detection function by providing detection of and protection against network segment-specific attacks initiated from forged IP addresses. NTA can now detect carpet bombing attacks through the network segment-based DDoS detection function.

#### Configuration and Use

First, note the following when configuring and using the network segment-based DDoS detection function:

1. Unlike single IP address-triggered DDoS alerts, the destination IP address in network segment-specific DDoS alerts is in the format of "IP/netmask" like 1.1.1.0/24.
2. Network segment-specific DDoS alerts do not support query of alert details (not covered in traffic statistics). In other words, clicking the alert ID of a network segment-specific alert in the alert list under **Alert > Overview** would not return any more information about the alert.
3. Network segment-specific DDoS attack alerts can be sent via email/SNMP/syslog/SFTP, and to a cloud cleaning platform and management platform configured under **Administration > Third-Party Interface**.

You can configure different types of network segment-based DDoS detection under **Configuration > Global Alert Settings > Network Segment-based DDoS Detection** to suit different scenarios.

- **No detection:** global switch for turning on or off the function of detecting network segment-specific DDoS attacks. If this is selected, the function does not work even when it is enabled for a region or IP group.

NTA

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Basic Settings

Detection Type

☒ No detection
 ☐ Global
 ☐ Region
 ☐ IP group
 

Save

Netmask/Prefix Length Settings

IPv4 Netmask:

24

IPv6 Prefix Length:

120

Save

- **Global:** After this is selected, you should further configure the netmask/prefix length and DDoS detection thresholds under **Configuration > Global Alert Settings > Network Segment-based DDoS Detection**. Then, when network segment-specific alerts are generated, their objects are always "Default DDoS Attack Alert" regardless of whether the matched destination IP address belongs to any region or IP group.

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Basic Settings

Detection Type
☐ No detection
☒ Global
☐ Region
☐ IP Group

Save

Netmask/Prefix Length Settings

IPv4 Netmask:

IPv6 Prefix Length:

Save

Global Network Segment-based DDoS Detection Thresholds

Alert Type	Detect Mode	Threshold (pps/pps)		Alert Hierarchy (%)		Division Level
		Latent Alert Threshold	Direct Alert Threshold	Medium	High	
SYN Flood	No detection	Q400.0K	Q400.0K	150	200	Divert Traffic of Low-level Alert
ACK Flood	No detection	Q601.0M	Q701.0M	150	200	Divert Traffic of Low-level Alert
UDP Flood	No detection	Q501.7M	Q611.4M	150	200	Divert Traffic of Low-level Alert
ICMP Flood	No detection	Q41.1M	Q51.1M	150	200	Divert Traffic of Low-level Alert
IGMP Flood	No detection	Q41.0M	Q51.2M	150	200	Divert Traffic of Low-level Alert
Protocol Null Flood	No detection	Q409.6K	Q512.0K	150	200	Divert Traffic of Low-level Alert
TCP Misuse	No detection	Q409.6K	Q512.0K	150	200	Divert Traffic of Low-level Alert
TCP Flag Null Flood	No detection	Q409.6K	Q512.0K	150	200	Divert Traffic of Low-level Alert
HTTP Flood	No detection	Q501.7M	Q611.4M	150	200	Divert Traffic of Low-level Alert
HTTPS Flood	No detection	Q619.2M	Q71.0M	150	200	Divert Traffic of Low-level Alert
DNS Query Flood	No detection	Q701.2M	Q712.8M	150	200	Divert Traffic of Low-level Alert
DNS Amplification	No detection	Q701.2M	Q712.8M	150	200	Divert Traffic of Low-level Alert
LAND Flood	No detection	Q7012.4K	Q7018.0K	150	200	Divert Traffic of Low-level Alert
SIP Flood	No detection	Q41.1M	Q51.1M	150	200	Divert Traffic of Low-level Alert
Dark IP Abnormal	No detection	Q51.1M	Q701.2M	150	200	Divert Traffic of Low-level Alert
Private IP Abnormal	No detection	Q255.0K	Q512.0K	150	200	Divert Traffic of Low-level Alert
Traffic Abnormal	No detection	Q12.0G/s	768.0G/s	150	200	Divert Traffic of Low-level Alert
SQL Amplification	No detection	Q501.7M	Q611.4M	150	200	Divert Traffic of Low-level Alert

Edit

Alert Type

SYN Flood

Detect Mode

No detection

Latent Alert Threshold

pps Threshold

0

Direct Alert Threshold

pps Threshold

384K

Division Level

Divert Traffic of Low-level Alert

Alert Hierarchy(%)

Medium

150

High

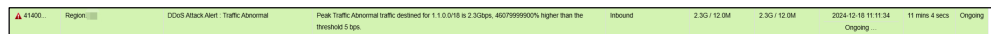
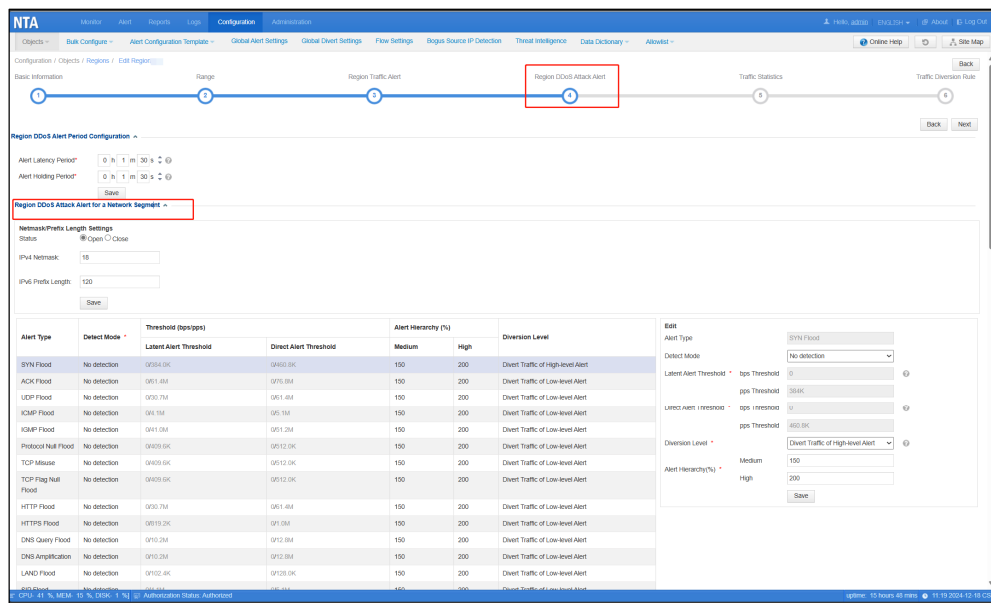
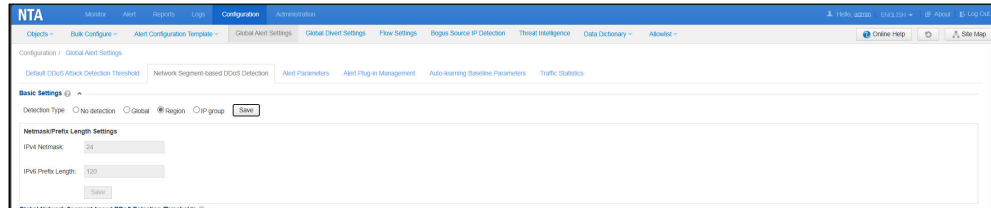
200

Save

Alert ID	Alert Object	Alert Type	Alert	Attack Direction	Attack Traffic s/p/sps		Start Time End Time	Duration	Status
					Current Traffic	Peak Traffic			
3606	Region: <span>Region</span>	DDoS Attack Alert: SYN Flood	Peak SYN Flood traffic destined for 1.1.1.10 is 12 Mbps, 799990% higher than the threshold 1.5K p/s	Inbound	2.3G / 12.0M	2.3G / 12.0M	2024-10-18 11:04:41	2 mins 27 secs	Ongoing
24473	Default DDoS Attack Alert	DDoS Attack Alert: Traffic Anomaly	Peak Traffic Anomaly traffic destined for 1.1.1.10 is 2.30Gps, 407999990% higher than the threshold 1.5Gps	Outbound	2.3G / 12.0M	2.3G / 12.0M	2024-10-18 11:04:41	2 mins 27 secs	Ongoing

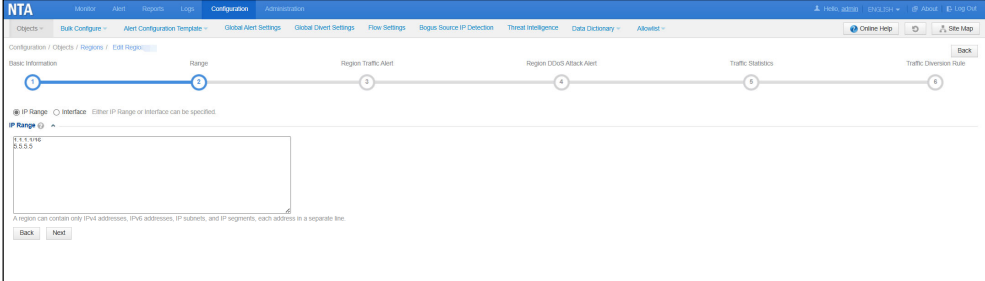
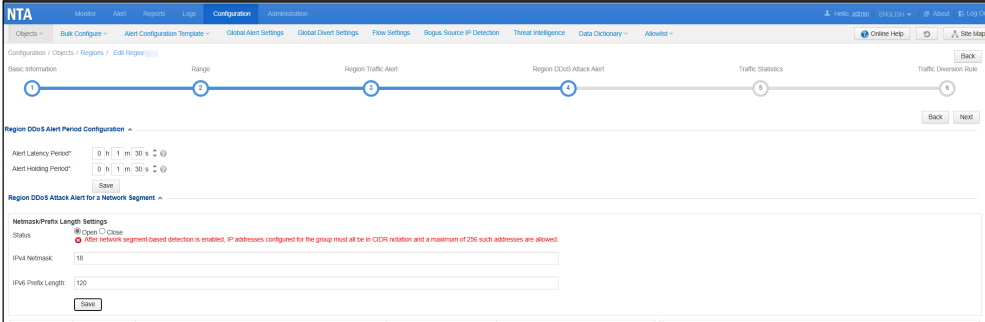
- **Region:** After this is selected, network segment-based DDoS detection can work for a region only when it is enabled and related detection thresholds are configured in the

**Region DDoS Attack Alert for a Network Segment** area of the **Region DDoS Attack Alert** page under **Configuration > Objects > Regions** during region creation/editing. Then, when network segment-specific alerts are generated, their objects are always this region regardless of whether the matched destination IP address belongs to any IP group in this region.

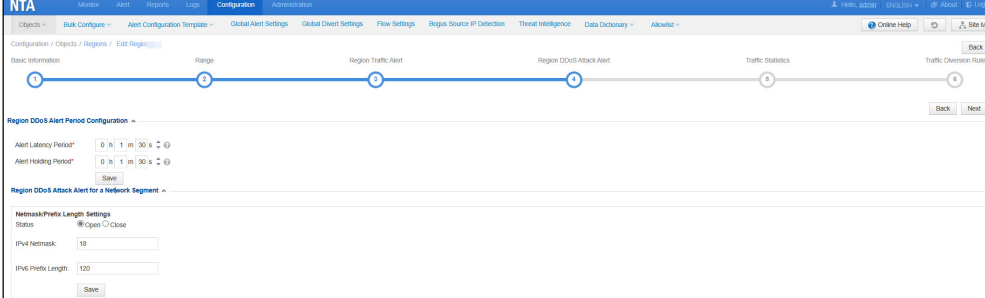
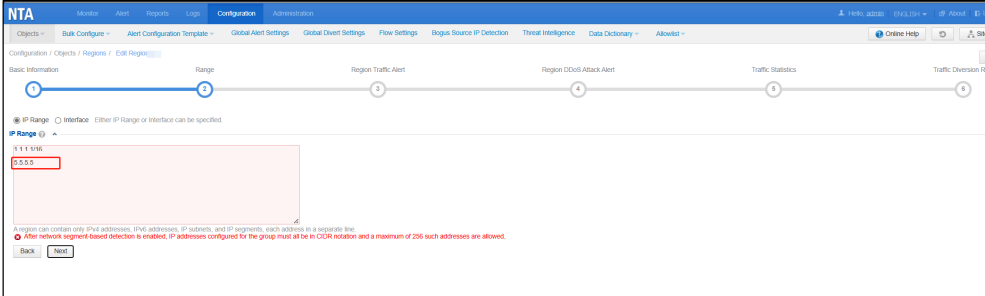


Configuration constraints of the network segment-based DDoS detection function are as follows:

1. For a region or IP group to use the network segment-based DDoS detection function, all its IP addresses must be in CIDR notation.

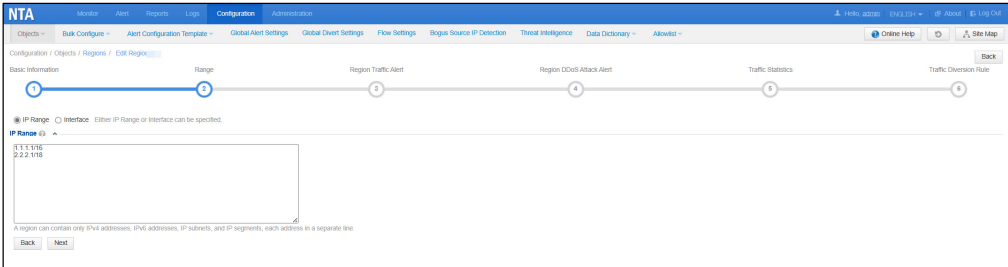



2. After network segment-based DDoS detection is enabled for a region or IP group, its IP addresses cannot be changed to non-CIDR notation.

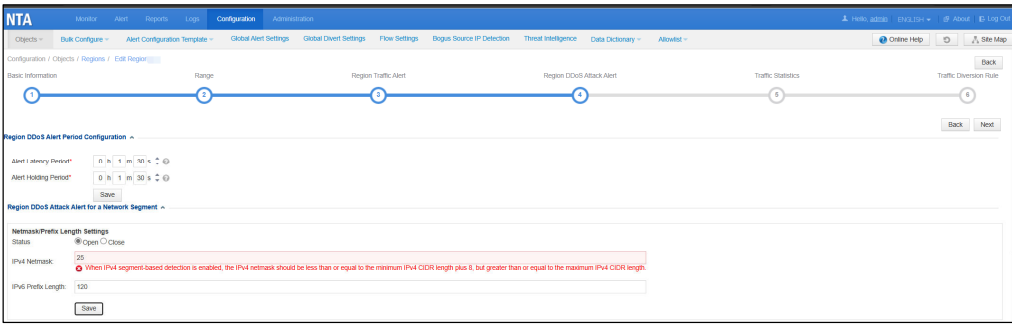



3. When all IP addresses of a region or IP group are in CIDR notation and the network segment-based DDoS detection is enabled, the IPv4 netmask configured in the

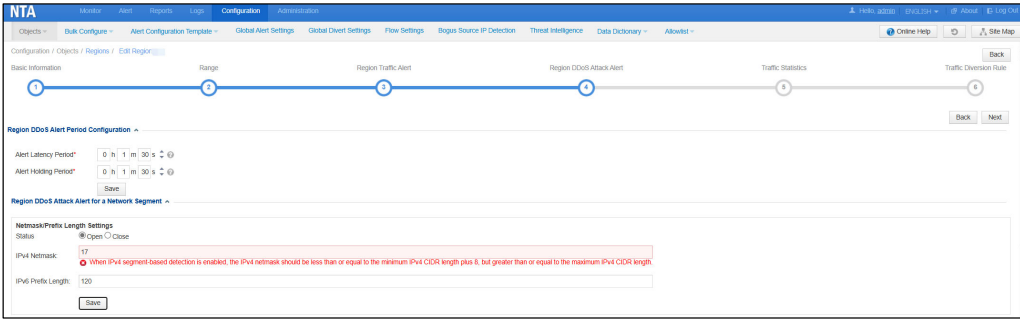
**Region/IP Group DDoS Attack Alert for a Network Segment** area should be less than or equal to the minimum netmask of CIDR blocks plus 8, but greater than or equal to the maximum netmask of CIDR blocks. The same rule applies to the IPv6 prefix length. As shown in the following figure, the minimum netmask of CIDR blocks is 16 and the maximum is 18. Therefore, the IPv4 netmask on the **Region DDoS Attack Alert** page should be in the range of 18–24.



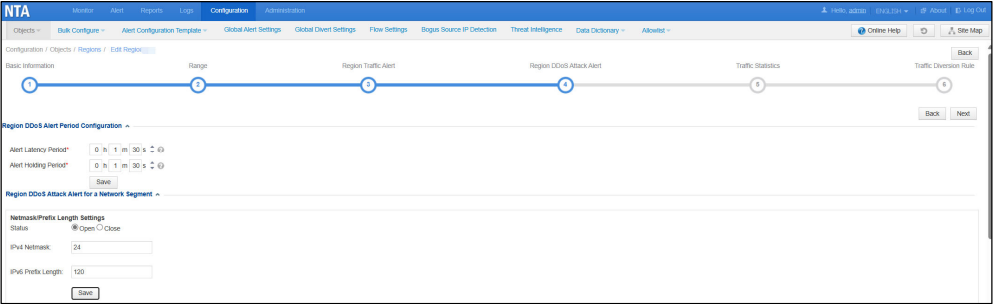
The screenshot shows the 'Region DDoS Attack Alert' configuration page. The breadcrumb trail is: Configuration / Objects / Regions / Edit Region. The wizard progress bar shows steps 1 through 6, with step 4 (Region DDoS Attack Alert) currently selected. Under 'Basic Information', the 'IP Range' is set to 'Interface'. Below this, a text area contains the IP ranges '11.1.1/16' and '2.2.2/18'. A note at the bottom states: 'A region can contain only IPv4 addresses, IPv6 addresses, IP subnets, and IP segments, each address in a separate line.' Buttons for 'Back' and 'Next' are at the bottom.



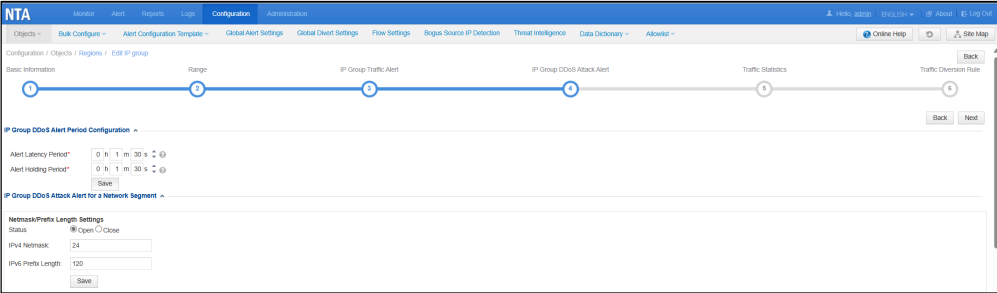
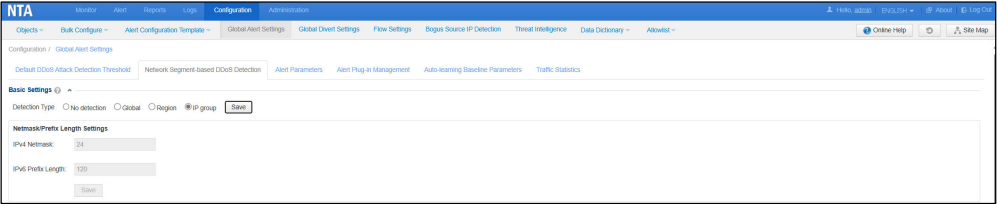
The screenshot shows the 'Region DDoS Alert for a Network Segment' configuration page. The breadcrumb trail is: Configuration / Objects / Regions / Edit Region. The wizard progress bar shows steps 1 through 6, with step 4 (Region DDoS Attack Alert) currently selected. Under 'Region DDoS Alert Period Configuration', 'Alert Latency Period' is set to 10s and 'Alert Holding Period' is set to 30s. Below this, the 'Netmask/Prefix Length Settings' section shows 'Status' as 'Open'. The 'IPv4 Netmask' is set to 25, and the 'IPv6 Prefix Length' is set to 120. A red error message is displayed: 'When IPv4 segment-based detection is enabled, the IPv4 netmask should be less than or equal to the minimum IPv4 CIDR length plus 8, but greater than or equal to the maximum IPv4 CIDR length.' A 'Save' button is at the bottom.



The screenshot shows the 'Region DDoS Alert for a Network Segment' configuration page, similar to the previous one. However, the 'IPv4 Netmask' is now set to 17. The red error message is no longer present. The 'Alert Latency Period' is 10s and 'Alert Holding Period' is 30s. The 'Status' is 'Open'. A 'Save' button is at the bottom.



4. When network segment-based DDoS detection is enabled and the IPv4 netmask and IPv6 prefix length are configured on the **Region DDoS Attack Alert** page, modifying the IP range on the **Range** page should also be bound by rule 3.
- **IP group:** After this is selected, network segment-based DDoS detection can work for an IP group only when it is enabled and related detection thresholds are configured in the **IP Group DDoS Attack Alert for a Network Segment** area of the **IP Group DDoS Attack Alert** page under **Configuration > Objects > Regions** during IP group creation/editing. Then, when network segment-specific alerts are generated, their objects are always this IP group.



▲ 90885	Region: IP group test	DDoS Attack Alert : Traffic Abnormal	Peak Traffic Abnormal traffic destined for 1.1.1.0/24 is 1.34Gbps, 133200% higher than the threshold 1pps	Inbound	256.0K / 1.3K	256.0K / 1.3K	2024-12-18 14:28:24	< 1 min	Ongoing
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You can query network segment-specific DDoS attacks under **Alert > Search**.

NTA

MonitorAlertReportsLogsConfigurationAdministration

HomeSettingToolsLogOutAlerts11/19

OverviewSearch

Alert / Search

Condition

Alert Status: ☐ Ongoing ☐ End ☒ All

Statistical Time: Last 24 hr

Alert Type: CDoSAttackAlertTrafficAbnormal

Alert Level: AllAlert ID:

Alert Object:Target IP:

Routers: AllInterface: All

Attack Direction: All

Alert Peak Value: 1pps3pps

Search

Total 10 records

Table

Alert ID	Alert Object	Alert Type	Alert	Attack Direction	Attack Traffic/pps		Start Time End Time	Duration	Status
					Current Traffic	Peak Traffic			
56885	Region: >>>IP group: test	CDoS Attack Alert: Traffic Abnormal	Peak Traffic: Abnormal traffic destined for 1.1.1.0/24 is 12.0Mpps, 1199999900% higher than the threshold 1 pps.	Inbound	2.3G / 12.0M	2.3G / 12.0M	2024-12-18 14:28:24 Ongoing	139min35second	Ongoing
56931	Region: >>>IP group: test	CDoS Attack Alert: Traffic Abnormal	Peak Traffic: Abnormal traffic destined for 1.1.1.100 is 2.3Gpps, 19% higher than the threshold 2.0G pps.	Inbound	2.3G / 12.0M	2.3G / 12.0M	2024-12-18 11:22:30 Ongoing	3hour19min7second	Ongoing

# 4.2 Support for Netmask/Prefix Length Customization for Network Segment-specific Diversion

## Overview

Network segment-based DDoS detection is now supported for regions, IP groups, and the global scope. To adapt to this function, NTA now allows you to customize the netmask/prefix length in related policies.

## Configuration and Use

Diversion types supported for this function include no diversion, scrubbing device diversion, BGP diversion, and null-route diversion. You are allowed to configure two diversion rules in a policy. For scrubbing device diversion, BGP diversion, and null-route diversion, you must configure the IPv4 netmask and IPv6 prefix length.

How the netmask and prefix length are configured here depends on the IPv4 netmask and IPv6 prefix length set on the **Region DDoS Attack Alert** page. Besides, the netmask/prefix length for traffic diversion should be greater than or equal to the netmask/prefix length configured for DDoS detection, but less than or equal to that length plus 8. As shown in the following figures, when the IPv4 netmask for DDoS detection is 16, the IPv4 netmask configured for traffic diversion must be in the range of 16–24.

Netmask/Prefix Length Settings

IPv4 Netmask: 16

IPv6 Prefix Length: 120

Save



- When the network segment-based DDoS detection type is set to **Global**, network segment-specific diversion policies configured under **Configuration > Global Divert Settings > Default Diversion Configuration** take effect.
- When the network segment-based DDoS detection type is set to **Region**, network segment-specific diversion policies configured for a region take effect as long as the related function is enabled for that region.
- When the network segment-based DDoS detection type is set to **IP group**, network segment-specific diversion policies configured for an IP group take effect as long as the related function is enabled for that IP group.

The following uses IPv4 as an example. Assume the IPv4 netmask for DDoS detection is A and the IPv4 netmask for traffic diversion is B. When a network segment-specific DDoS alert is triggered, the actual number of diversion entries issued is  $2^{(B-A)}$ .

Traffic Range(bps)	IP Range	Diversion Subnet Length	Diversion Type	Diversion Hold Time (Min)	Diversion Details	Operation
Default	Default	IPv4:25 IPv6:128	Scrubbing device diversion	5	N/A	

	30294	Default DDoS Attack Alert	DDoS Attack Alert: Traffic Abnormal	Peak Traffic Abnormal traffic destined for 1.1.0.24 is 2.3Gbps, 46079695900% higher than the threshold 5 tps	Outbound	2.3G / 12.0M	2.3G / 12.0M	2024-12-18 16:03:09	< 1 min	Ongoing
3029423039744030047										

1.1.1.0/26	Default Diversion Policy	1	Traffic: Abnormal	bps: 2.3G	bps: 2.3G	Network segment-specific diversion	Scrubbing Device	2024-12-18 16:04:07	Ongoing	Processed	N/A	
						Scrubbing device diversion						
1.1.1.64/26	Default Diversion Policy	1	Traffic: Abnormal	bps: 2.3G	bps: 2.3G	Network segment-specific diversion	Scrubbing Device	2024-12-18 16:04:07	Ongoing	Processed	N/A	
						Scrubbing device diversion						
1.1.1.128/26	Default Diversion Policy	1	Traffic: Abnormal	bps: 2.3G	bps: 2.3G	Network segment-specific diversion	Scrubbing Device	2024-12-18 16:04:07	Ongoing	Processed	N/A	
						Scrubbing device diversion						
1.1.1.192/26	Default Diversion Policy	1	Traffic: Abnormal	bps: 2.3G	bps: 2.3G	Network segment-specific diversion	Scrubbing Device	2024-12-18 16:04:07	Ongoing	Processed	N/A	
						Scrubbing device diversion						

Considering the system performance of NTA, the number of BGP/null-route diversion entries is limited to 5000 and that of ADS diversion entries is limited to 2000.

## 4.3 Sending of Power Status Information via SNMP

### Overview

The status of dual power supplies is added as a new field in SNMP GET messages about device performance. The OID is 1.3.6.1.4.19849.4.6.2.7.0. The return values and meanings are explained as follows:

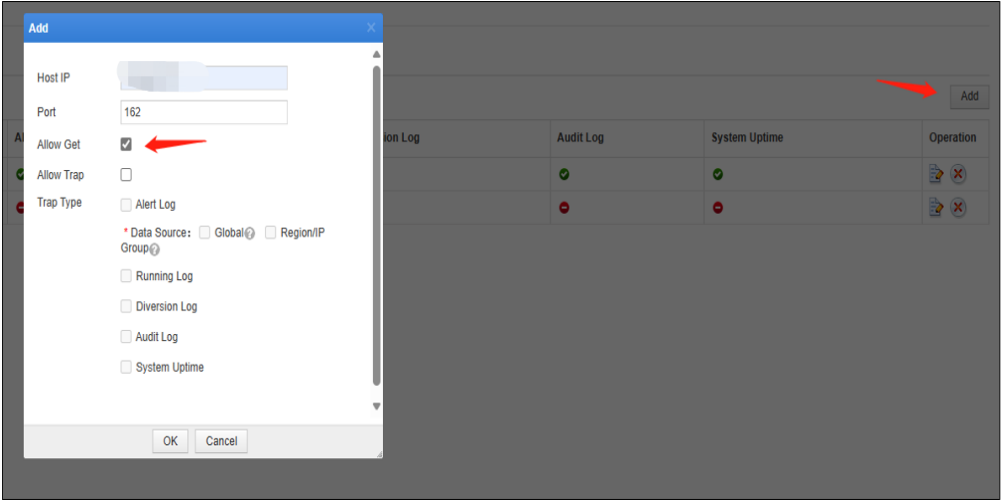
- **0**: Both are normal (this is the default value returned for a virtual device, which has no physical power supply)
- **1**: Power supply 1 is abnormal.
- **2**: Power supply 2 is abnormal.
- **3**: Both are abnormal.

### Configuration and Use

Choose **Administration > Third-Party Interface > SNMP Service**, enable a desired version of SNMP, and click **Save**.

Host IP	Port	Allow get	Allow trap	Alert Log	Running Log	Diversion Log
	162	✓	✓	✓	✓	✓
	162	✓	✓	✗	✗	✗

In the **Network Management Station** area, click **Add**, configure the host IP and port, select the **Allow Get** check box.



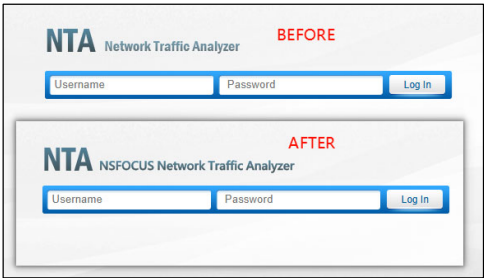
# 4.4 "NSFOCUS" Added Before the Product Name on the Login Page

## Overview

In line with NSFOCUS's NFR requirements for major versions of non-OEM and non-customized devices, "NSFOCUS" is added before the product name on the login page.

## Configuration and Use

No need for configuration.



# 4.5 Adaptation of Third-Party Interfaces

## Overview

To adapt to the new function of network segment-based DDoS detection for regions, IP groups, and the global scope, the **Administration > Third-Party Interface** module now supports sending of network segment-specific alert and diversion messages via email/SNMP/syslog/SFTP and to a cloud cleaning platform and management platform.

In addition, for collaboration with ADS M, bps traffic statistics of interfaces are optimized. For collaboration with ADBOS, alerts on built-in attack types can be reported and DDoS

alerts reported to ADBOS provide more information, namely top 10 ports, top 10 router interfaces, and top 10 packet lengths.

## Configuration and Use

To adapt to network segment-specific DDoS alert types, the **netmask** field is added to alerts sent via email, SNMP, syslog (including syslog messages sent to the cloud cleaning platform), and SFTP to indicate a network segment-specific alert. For other DDoS attacks, this field has a fixed value. The following table lists the field values for each type of DDoS alert.

For the cloud cleaning platform and management platform, the destination IP address in network segment-specific DDoS alerts should be in CIDR notation like 1.2.3.0/24.

Alert Type	Value of the netmask Field
IP address-specific DDoS alert	32 (IPv4) or 128 (IPv6)
Network segment-specific DDoS alert	16–30 (IPv4) or 64–126 (IPv6)
Traffic abnormal alert (non-syslog)	Invalid field, with 0 as the default value
Traffic abnormal alert (syslog)	32 (IPv4) or 128 (IPv6)
TI-triggered alert	32 (IPv4) or 128 (IPv6)
Custom featured traffic alert	32 (IPv4) or 128 (IPv6)
Router interface bandwidth alert	Invalid field, with 0 as the default value
Router performance alert	Invalid field, with 0 as the default value
Router data acquisition abnormal alert	Invalid field, with 0 as the default value
System performance alert	Invalid field, with 0 as the default value

Network segment-specific diversion is added for diversion of attack traffic destined for a network segment upon a related alert being triggered.

## 1.1 NPAI Interface Upgrade

### Overview

The NPAI interface has been upgraded to 3. 2. 0. 91240919.

## 5. Fixed Bugs

1. NTA-12536 [DPI] When HTTP flood traffic initiated by xddos exceeds the SYN flood threshold and triggers a related alert, no HTTP flood alert is reported.
2. NTA-12488 [A device produced in the production center cannot have port 50022 opened for SSH access] Port 50022 cannot be used for SSH access on the web-based manager.

3. NTA-11666 [HTTP slow attack] A link to NTI is provided (not removed as expected) in the source IP information of HTTP slow attack alerts.
4. NTA-12539: After password strength checking is enabled, the password error message displayed for an invalid password does not provide complete information of special characters.
5. NTA-12537: Resetting access control settings does not work after the settings are configured and saved.
6. NTA-11906 [Cloud-side authentication] After manual selection of cloud-side authentication and the authorization status changes from unauthorized to authorized, a message is displayed, providing information different from what has actually happened.
7. NTA-11655 [Logo] The product logo is missing in the upper-left corner of pages of the web-based manager.
8. NTA-13117: When configuring BGP FlowSpec settings, users can set passwords although the **Encryption** check box is cleared.

## 6. Upgrade Procedure

**Note: You must perform the upgrade in strict accordance with the upgrade path.**

The upgrade procedure is as follows:

- Step 1** Log in to the web-based manager of NTA and choose **Administration > Upgrade > System Software Upgrade**.
- Step 2** Browse to **update\_nta\_x86\_V4.5R90F06.241220build50693.bin** and click **Upload**.
- Step 3** Read release notes and, if nothing is wrong, click **Confirm Upgrade** to start the upgrade.
- Step 4** Wait about 5 minutes and then refresh the current page. Click **About** in the upper-right corner of the web-based manager to check the current system version.

If **Product Version** is **V4.5R90F06.241220build50693**, the upgrade succeeded. If not, the upgrade failed and you need to contact NSFOCUS technical support for help.

---End

It is normal that the following situations arise in the upgrade process:

- The web-based manager displays an error message "502 Bad Gateway" for or directly denies your access request.
- All services stop running.
- The upgrade takes about 5 minutes. If the page remains unresponsive after five minutes, you need to manually refresh the page.

Note that the system will automatically restart after the upgrade is complete.

