

Cloud Firewall

FAQ

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Contents

1 About the Product.....	1
1.1 Does CFW Support Off-Cloud Servers?.....	1
1.2 Can CFW Be Shared Across Accounts?.....	1
1.3 What Are the Differences Between CFW and WAF?.....	1
1.4 What Are the Differences Between CFW, Security Groups, and Network ACLs?.....	2
1.5 How Does CFW Control Access?.....	4
1.6 What Are the Priorities of the Protection Settings in CFW?.....	4
1.7 Can WAF, Advanced Anti-DDoS, and CFW Be Deployed Together?.....	6
1.8 How Long Are CFW Logs Stored by Default?.....	6
2 Regions and AZs.....	7
2.1 What Are Regions and AZs?.....	7
2.2 Can CFW Be Used Across Clouds or Regions?.....	8
3 About Functions.....	9
3.1 What Details Can I Get from Logs?.....	9
3.2 What Are the Precautions for Configuring a Protection Rule to Block IP Addresses?.....	9
3.3 Why Are Unprotected EIPs Displayed in CFW Attack Logs?.....	10
4 Troubleshooting.....	11
4.1 What Do I Do If the Service Traffic is Abnormal?.....	11
4.2 Why Are Traffic and Attack Logs Incomplete?.....	15
4.3 Why Does a Protection Rule Not Take Effect?.....	15
4.4 What Do I Do If IPS Blocks Normal Services?.....	17
4.5 Why Is No Data Displayed on the Access Control Logs Page?.....	18
4.6 Why Is the IP Address Translated Using NAT64 Blocked?.....	18
4.7 Why Some Permissions Become Invalid After a System Policy Is Granted to an Enterprise Project?.....	18
5 Network Traffic.....	20
5.1 How Do I Calculate the Number of Protected VPCs and the Peak Protection Traffic at the VPC Border?.....	20
5.2 How Does CFW Collect Traffic Statistics?.....	20
5.3 What Is the Protection Bandwidth Provided by CFW?.....	20
5.4 What Do I Do If My Service Traffic Exceeds the Protection Bandwidth?.....	21
5.5 What Are the Differences Between the Data Displayed in Traffic Trend Module and the Traffic Analysis Page?.....	21

5.6 What Do I Do If a High Traffic Warning Is Received?.....	21
6 Billing.....	23
6.1 How Is CFW Billed?.....	23
6.2 How Do I Change My CFW Edition?.....	23
6.3 Can I Switch Between Yearly/Monthly and Pay-per-Use Payments for CFW?.....	24
6.4 How Do I Renew CFW?.....	24
6.5 How Do I Unsubscribe from CFW?.....	25

1 About the Product

1.1 Does CFW Support Off-Cloud Servers?

No. CFW can protect region-level services on the cloud.

1.2 Can CFW Be Shared Across Accounts?

CFW supports cross-account protection. Before protection, perform the following operations:

- For details about Internet border cross-account protection, see [Multi-Account Management Overview](#).
- For VPC border cross-account protection, when you add VPC attachments in "Step 3: Configure an Enterprise Router", share the enterprise router of account A with account B, and then add attachments in account B. Subsequent configurations are still performed on account A. For details about an inter-VPC border firewall, see [VPC Border Firewall Overview](#).

1.3 What Are the Differences Between CFW and WAF?

CFW and WAF are two different Huawei Cloud products that can be used to protect your Internet borders, VPC borders, and web services.

[Table 1-1](#) describes the differences between WAF and CFW.

Table 1-1 Differences between CFW and WAF

Item	CFW	WAF
Definition	Cloud Firewall (CFW) is a next-generation cloud-native firewall. It protects the Internet border and VPC border on the cloud by real-time intrusion detection and prevention, global unified access control, full traffic analysis, log audit, and tracing. It employs AI for intelligent defense, and can be elastically scaled to meet changing business needs, helping you easily handle security threats. CFW is a basic service that provides network security protection for user services on the cloud.	WAF keeps web services stable and secure. It examines all HTTP and HTTPS requests to detect and block the following attacks: Structured Query Language (SQL) injection, cross-site scripting (XSS), web shells, command and code injections, file inclusion, sensitive file access, third-party vulnerability exploits, Challenge Collapsar (CC) attacks, malicious crawlers, and cross-site request forgery (CSRF). For details about WAF, see What Is Web Application Firewall?
Protection	<ul style="list-style-type: none"> EIP border and VPC border Basic protection against web attacks Defense against external intrusions and protection of proactive connections to external systems 	<ul style="list-style-type: none"> WAF protects web applications on Huawei Cloud and other clouds and on-premises applications through domain names or IP addresses. Comprehensive protection against web attacks
Features	<ul style="list-style-type: none"> Asset management and intrusion defense: It detects and defends against intrusions into cloud assets that are accessible over the Internet in real time. Access control: You can control access at Internet borders. Traffic Analysis and log audit: CFW controls, analyzes, and visualizes VPC traffic, audits logs, and traces traffic sources. 	WAF identifies and blocks a wide range of suspicious attacks, such as SQL injections, XSS attacks, web shell upload, command or code injections, file inclusion, unauthorized sensitive file access, third-party vulnerability exploits, CC attacks, malicious crawlers, and CSRF.

1.4 What Are the Differences Between CFW, Security Groups, and Network ACLs?

CFW, security groups, and network ACLs allow you to set access control policies based on IP addresses or IP address groups to protect your Internet borders, VPC borders, ECSs, and subnets.

[Table 1-2](#) describes the differences between them.

Table 1-2 Differences between CFW, security groups, and network ACLs

Item	CFW	Security group	Network ACL
Definition	Cloud Firewall (CFW) is a next-generation cloud-native firewall. It protects the Internet border and VPC border on the cloud by real-time intrusion detection and prevention, global unified access control, full traffic analysis, log audit, and tracing. It employs AI for intelligent defense, and can be elastically scaled to meet changing business needs, helping you easily handle security threats. CFW is a basic service that provides network security protection for user services on the cloud.	A security group is a collection of access control rules for instances, such as cloud servers, containers, and databases, that have the same security requirements and that are mutually trusted within a VPC. You can define different access control rules for a security group, and these rules are then applied to all the instances added to this security group. For details about security groups, see Security Groups and Security Group Rules .	A network ACL is an optional layer of security for your subnets. After you associate one or more subnets with a network ACL, you can control traffic in and out of the subnets. For details about network ACLs, see Network ACL .
Protected objects	<ul style="list-style-type: none"> Internet boundary VPC boundary SNAT scenario 	ECS	Subnet
Features	<ul style="list-style-type: none"> Filtering by 5-tuple (source IP address, destination IP address, protocol, source port, and destination port) Filtering by geographical location, domain name, domain name group, and blacklist/whitelist Intrusion prevention system (IPS) and antivirus (AV). 	Filtering by 3-tuple (protocol, port, and peer IP address)	Filtering by 5-tuple (source IP address, destination IP address, protocol, source port, and destination port)

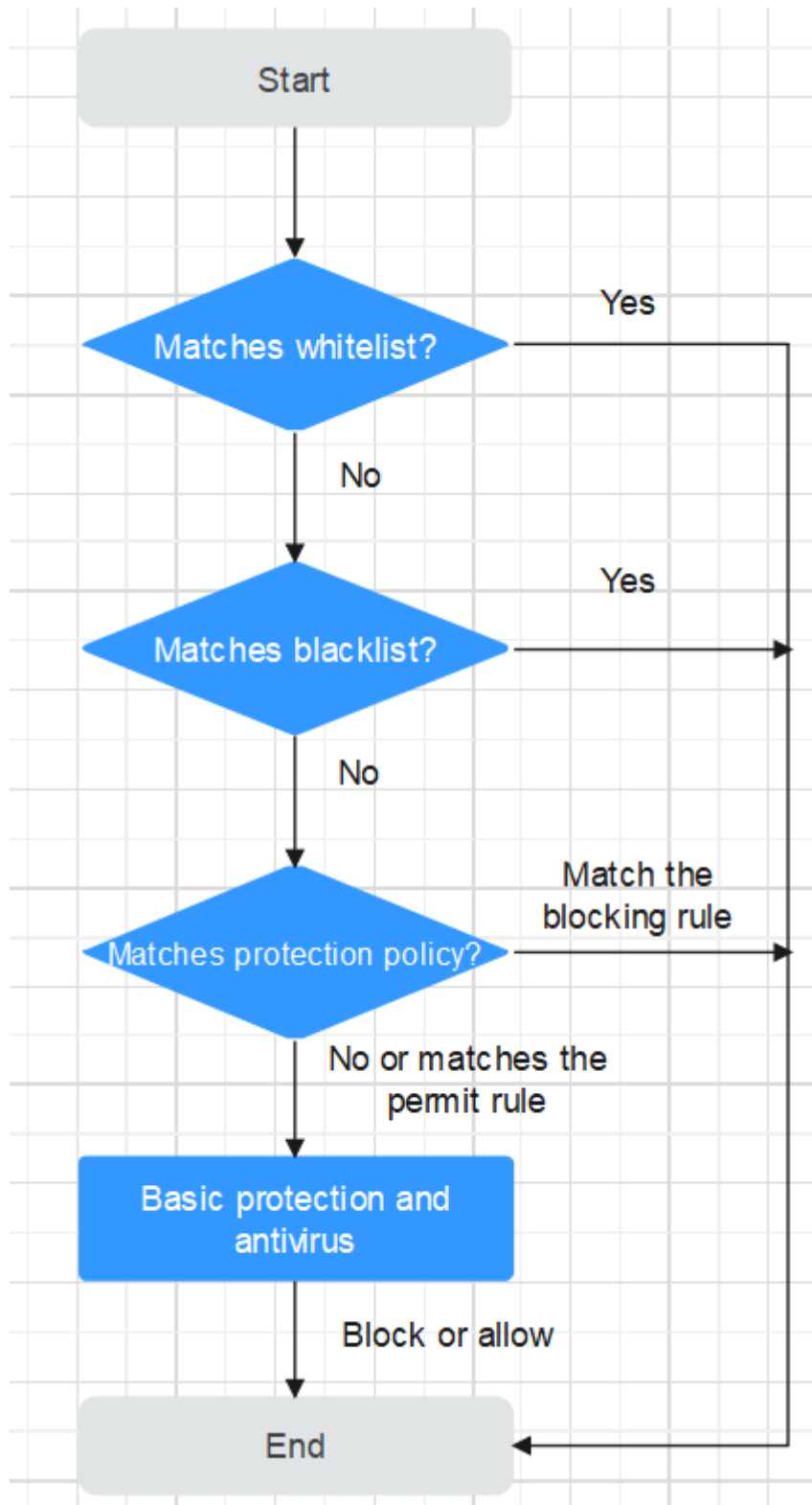
1.5 How Does CFW Control Access?

CFW allows you to configure ACL policies based on a 5-tuple, IP address group, service group, domain name, blacklist, and whitelist. You can also configure ACL policies based on the intrusion prevention system (IPS). The IPS can work in observation or block mode. In block mode, the firewall detects and blocks traffic that matches the IPS rules. For details, see [Configuring Access Control Policies](#).

1.6 What Are the Priorities of the Protection Settings in CFW?

The priorities of the protection settings that take effect in CFW in descending order are as follows: Whitelist > Blacklist > Protection policy (ACL) > Basic Protection (IPS) = Antivirus.

Figure 1-1 Protection priorities



- For details about how to set the blacklist or whitelist, see [Managing Blacklists and Whitelists](#).
- For details about how to add a protection rule, see [Adding a Protection Rule](#).

- For details about how to set the IPS protection mode, see [Configuring Intrusion Prevention](#). For details about how to customize IPS rules, see [Customizing IPS Signatures](#).
- For details about how to enable virus defense, see [Enabling Antivirus](#).

1.7 Can WAF, Advanced Anti-DDoS, and CFW Be Deployed Together?

Yes. WAF has three modes: exclusive mode, ELB mode, and cloud mode. The traffic trend varies depending on the mode. The details are as follows:

- Exclusive mode/ELB mode: Internet -> Advanced Anti-DDoS -> CFW -> WAF (dedicated mode/ELB mode) -> Origin server
- Cloud mode: Internet -> Advanced Anti-DDoS -> WAF (cloud mode) -> CFW -> Origin server

NOTE

- If you have purchased Advanced Anti-DDoS or WAF in cloud mode, exercise caution when configuring traffic blocking rules. You are advised to configure traffic permitting rules or whitelists.
- If you have purchased WAF in dedicated or ELB mode, configure it based on service requirements.
- For details, see [Precautions for Using CFW with WAF, Advanced Anti-DDoS, and CDN](#).

1.8 How Long Are CFW Logs Stored by Default?

You can query and export logs generated within the last seven days for free. For details, see [Querying Logs](#).

You can record one or multiple logs in LTS and view logs generated in the past 1 to 360 days. For details, see [Log Management](#).

NOTE

LTS is billed by traffic and is billed separately from CFW. For details about LTS pricing, see [LTS Pricing](#).

2 Regions and AZs

2.1 What Are Regions and AZs?

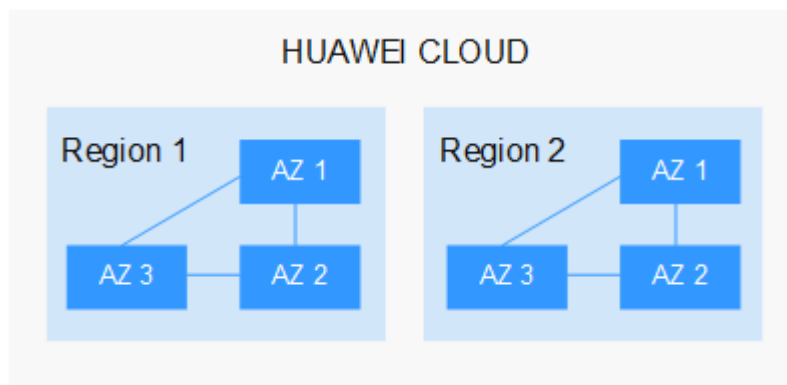
Concepts

A region and availability zone (AZ) identify the location of a data center. You can create resources in a specific region and AZ.

- Regions are divided from the dimensions of geographical location and network latency. Public services, such as Elastic Cloud Server (ECS), Elastic Volume Service (EVS), Object Storage Service (OBS), Virtual Private Cloud (VPC), Elastic IP (EIP), and Image Management Service (IMS), are shared within the same region. Regions are classified as universal regions and dedicated regions. A universal region provides universal cloud services for common tenants. A dedicated region provides services of the same type only or for specific tenants.
- An AZ contains one or more physical data centers. Each AZ has independent cooling, fire extinguishing, moisture-proof, and electricity facilities. Within an AZ, computing, network, storage, and other resources are logically divided into multiple clusters. AZs within a region are interconnected using high-speed optical fibers to allow you to build cross-AZ high-availability systems.

Figure 2-1 shows the relationship between the regions and AZs.

Figure 2-1 Region and AZ



Huawei Cloud provides services in many regions around the world. You can select a region and AZ as needed.

Selecting a Region

When selecting a region, consider the following factors:

- Location

You are advised to select a region close to you or your target users. This reduces network latency and improves access rate.

- If you or your users are in the Asia Pacific region and outside the Chinese mainland, select the **CN-Hong Kong**, **AP-Bangkok**, or **AP-Singapore** region.
- If you or your users are in Africa, select the **AF-Johannesburg** region.
- If you or your users are in Latin America, select the **LA-Santiago** region.

- Resource price

Resource prices may vary in different regions. For details, see [Product Pricing Details](#).

Selecting an AZ

When determining whether to deploy resources in the same AZ, consider your applications' requirements on disaster recovery (DR) and network latency.

- For high DR capability, deploy resources in different AZs in the same region.
- For low network latency, deploy resources in the same AZ.

Regions and Endpoints

Before using an API to call resources, specify its region and endpoint. For more details, see [Regions and Endpoints](#).

2.2 Can CFW Be Used Across Clouds or Regions?

In Which Regions Is CFW Available?

For details about CFW and the regions supported by each function, see [Function Overview](#).

Can CFW Be Used Across Regions?

No. CFW can be used only in the region selected during purchase.

 **NOTE**

If a message is displayed indicating that CFW cannot be purchased in the selected region, you can choose: VPC [Network ACLs](#) and [Security Groups](#).

Can CFW Be Used Across Clouds?

No. Currently, CFW only protects services deployed on Huawei Cloud.

3 About Functions

3.1 What Details Can I Get from Logs?

On the **Log Query** page, you can view attack event logs, access control logs, and traffic logs.

- Attack event log: Information about the traffic detected by IPS, including the risk level, affected port, matched rule, and attack event type. If traffic is incorrectly blocked, you can modify the IPS protection action.
- Access control log: All traffic that matches the access control policy.
- Traffic log: All traffic passing through the firewall.

3.2 What Are the Precautions for Configuring a Protection Rule to Block IP Addresses?

Pay attention to the following points when configuring a protection rule to block IP addresses:

1. You are advised to preferentially configure accurate IP addresses (for example, 192.168.10.5) to reduce network segment configurations and avoid incorrect interception.
2. Exercise caution when configuring protection rules to block reverse proxy IP addresses, such as the CDN, Advanced Anti-DDoS, and WAF back-to-source IP addresses. You are advised to configure protection rules or whitelist to permit reverse proxy IP addresses.
3. Forward proxy IP addresses (such as company egress IP addresses) have a large impact scope. Exercise caution when configuring protection rules to block forward proxy IP addresses.
4. When configuring region protection, you need to consider the situation that the public IP address may be changed.

3.3 Why Are Unprotected EIPs Displayed in CFW Attack Logs?

CFW collects information about all the attacked EIPs for you to better determine defense policies.

4 Troubleshooting

4.1 What Do I Do If the Service Traffic is Abnormal?

This section describes how to rectify the fault if your service traffic is abnormal and may be interrupted by CFW.

Locating Method

Step 1 Disable CFW protection.

- EIP traffic fault: Disable the CFW protection in EIPs whose services are interrupted. For details, see [Disabling EIP Protection](#).
- SNAT or inter-VPC access failure: Disable the VPC border firewall. For details, see [Disabling a VPC Border Firewall](#).

Step 2 Observe the service running status.

- If the services are restored, go to [Troubleshooting Methods](#).
- If the fault persists, the traffic interruption is not caused by CFW but common faults:
 - Network fault: The route configuration is incorrect, or the NE is faulty.
 - Policy-based interception: Interception caused by incorrect configurations of other security services, network ACLs, or security groups.

If you need assistance from Huawei Cloud, you can [create a service ticket](#).

----End

Troubleshooting Methods

Step 1 In the [Access Control Logs](#) tab, search for logs about the blocked IP address or domain name.

- If a record exists, click the **Rule** column to go to the matched blocking policy. For details about subsequent operations, see [Scenario 1: Incorrect Protection Policy](#).
- If no records exist, go to [Step 2](#).

- Step 2** In the [Attack Event Logs](#) tab, search for logs about the blocked IP address or domain name.
- If a record exists, copy the information in the **Rule ID** column. For details about subsequent operations, see [Scenario 2: Incorrect Interception by the Intrusion Prevention Function](#).
 - If no records exist, go to [Step 3](#).
- Step 3** If services are restored after the EIP protection or the VPC border firewall is disabled, you are advised to disable firewall protection and [submit a service ticket](#).
- Step 4** (Optional) To monitor the firewall status and quickly detect exceptions, you are advised to:
- Configure alarm notification on the CFW console. For details, see [Alarm Notification](#).
 - Configure CFW alarm rules on the Cloud Eye console. For details, see [Setting Monitoring Alarm Rules](#). For details about supported monitoring metrics, see [CFW Metrics](#).
- End

Scenario 1: Incorrect Protection Policy

Possible causes

A blocking rule is configured in the access control policy, or the normal services are blacklisted. In this case, CFW blocks related sessions, causing service loss.

Solution

- If the normal services are blacklisted, you can:
 - Delete the blacklist policy.
 - Add a whitelist policy for the IP address/domain name. (The whitelist takes precedence over the blacklist. After the whitelist policy is added, the blacklist policy becomes invalid and the traffic is directly permitted.)
- If the traffic is blocked by a blocking rule, you can:
 - Search for the blocking rule of the IP address or domain name in the [ACL Rule List](#) and disable the policy.
 - Modify the matching condition of the blocking policy and remove the IP address or domain name information.
 - Add a protection rule whose **Action** is **Allow** and **Priority** is **Pin on top**. For details, see [Adding a Protection Rule](#).

Case

Handling process: Detect a fault -> Disable protection -> View logs -> Modify a policy -> Restore protection -> Confirm logs

The network O&M personnel of a company found that an ECS cannot access the Internet through the bound EIP **xx.xx.xx.94**.

The firewall administrator took the following measures:

Step 1 To ensure that the IP address can be used for external communication during fault locating, the firewall administrator logged in to the CFW console, and chose **Assets > EIPs**, and disables protection for the EIP.

During the firewall is disabled, the traffic of the EIP is not processed and related logs are not displayed.

Figure 4-1 EIPs

EIP ID	Protection Status	Firewall Name/ID	Associated Instance	Owner	Tags	Operation
177 a17-414b-960c-4eb75b24c201	Not protected	--	NAT Gateway		--	Enable Protection
1100 1100-19c368a-e800-c0cd-1a71-43f-802-8040-7827c19d642	Not protected	--	Cloud Server		--	Enable Protection
130 679-4211-c268-79a89208039b	Not protected	--	Cloud Server		--	Enable Protection
94 021401a-4930-4936-855b-d5b30268455a	Protected	Firewall 2689996-a82c-41d0-9208-4effa5c1e43	Cloud Server		--	Disable Protection

Step 2 The administrator chose **Log Audit > Log Query** and clicked the **Access Control Logs** tab. He searched for the blocking logs of the access source IP address **xx.xx.xx.94**. A blocking rule named **Block-Malicious-Outreach** was found, and this rule blocked the traffic from the EIP **xx.xx.xx.94** to the Internet.

Figure 4-2 Filtering access control logs

Hit Time	Source IP	Source Port	Destination IP	Destination Port	Protocol	Action	Rule
Mar 20, 2024 11:44:02 GMT+...	94	46993	213	53	UDP	Block	Block_Malicious_Outreach
Mar 20, 2024 11:44:01 GMT+...	94	35997	213	53	UDP	Block	Block_Malicious_Outreach
Mar 20, 2024 11:44:00 GMT+...	94	38556	213	53	UDP	Block	Block_Malicious_Outreach

Step 3 The administrator searched for "Source: xx.xx.xx.94; Action: Block; Direction: Outbound; Status: Enabled" in the access control policy list. Three available policies that contain the IP address were found.

The policy contained the **Block-Malicious-Outreach** blocking rule. According to the value of the **Hits** column, a large number of sessions have been blocked.

Figure 4-3 Searching for a protection rule

Prior...	Name/Rule ID	Direction	Source	Destination	Service	Applica...	Action	Hits	Status	Tags	Operation
1	Block_Asia 002959a-4400-43...	Outbound	94	Antarctica. Europe...	TCP/80/443	--	Block	0	On	--	Edit Configure Priority More
2	Block_...com 3810c05a-9c08-48...	Outbound	94	*.com	TCP/80/443	--	Block	0	On	--	Edit Configure Priority More
6	Block_Malicious_... 20738869-4245-42...	Outbound	0.0.0.0/0	0.0.0.0/0	Any	--	Block	26,497	On	--	Edit Configure Priority More

 **CAUTION**

According to [Figure 4-3](#), there were three valid rules whose source IP addresses contain **xx.xx.xx.94**, including **Blockxxxcom** (with the highest priority), **Block-Malicious-Outreach**, and **Allow-Asia** (with the lowest priority). Besides the blocking rule **Block-Malicious-Outreach**, the administrator checked whether the two other two rules may intercept normal services.

Finally, it is found that the EIP accessed suspicious IP addresses so that an administrator configured a blocking rule it, but the configured destination was incorrect. As a result, all external traffic is blocked by mistake (see the second protection rule in [Figure 4-3](#)).

- Step 4** The administrator changed the destination address to a specific IP address that needs to be blocked, and enabled protection for the EIP on the **Assets > EIPs** page of the CFW console. After protection was restored, the traffic of the EIP was normally forwarded by CFW.
- Step 5** The administrator viewed the external connection logs related to the IP address in the traffic logs and confirmed that the service was restored.

----End

Scenario 2: Incorrect Interception by the Intrusion Prevention Function

Solution

- In the corresponding module (such as IPS), set the protection mode to **Observe**. For details about the intrusion prevention module, see [Configuring Intrusion Prevention](#).
- Add the IP addresses that do not need to be protected by CFW to the whitelist. For details about how to configure the whitelist, see [Adding an Item to the Blacklist or Whitelist](#).

Case

Handling process: Detect a fault -> Change the protection status -> View logs -> Confirm services -> Modify the policy -> Restore the protection status -> Confirm logs

The O&M personnel of a company found that a service on the server whose IP address was **xx.xx.xx.90** cannot be accessed. It was suspected that the service was blocked by the firewall.

The firewall administrator took the following measures:

- Step 1** To quickly recover the service, the administrator logged in to the CFW console, choose **Attack Defense > Intrusion Prevention**, and changed the protection mode from **Intercept mode - strict** to **Observe**.

During this period, the firewall did not intercept attack traffic but only logged the attack traffic.

- Step 2** The administrator chose **Log Audit > Log Query** and clicked the **Attack Event Logs** tab. The logs about the access to the destination IP address **xx.xx.xx.90** were displayed. The IPS rule whose ID was 331978 blocked the traffic.

Figure 4-4 Filtering attack event logs

Time	Attack	Severity	Rule ID	Rule Name	Source	Source C...	Source...	Destina...	Destina...	Destina...	Protocol	Applica...	Direction	Action	Operation
Mar 20, 2024 09:22:17	Vulnerability	Critical	331978	Apache Flink...	94	CN	38616	90	--	80	TCP	HTTP	Inbound	Block	View
Mar 20, 2024 09:22:17	Vulnerability	Critical	331978	Apache Flink...	94	CN	38616	90	--	80	TCP	HTTP	Inbound	Block	View
Mar 20, 2024 09:22:17	Vulnerability	Critical	331978	Apache Flink...	94	CN	38616	90	--	80	TCP	HTTP	Inbound	Block	View
Mar 20, 2024 09:22:17	Vulnerability	Critical	331978	Apache Flink...	94	CN	38616	90	--	80	TCP	HTTP	Inbound	Block	View
Mar 20, 2024 09:22:17	Vulnerability	Critical	331978	Apache Flink...	94	CN	38616	90	--	80	TCP	HTTP	Inbound	Block	View
Mar 20, 2024 09:22:17	Vulnerability	Critical	331978	Apache Flink...	94	CN	38616	90	--	80	TCP	HTTP	Inbound	Block	View

Step 3 The administrator clicked **Details** in the **Operation** column, clicked **Payload Content** in the display page, and **created a packet capture task** to determine that the service is normal. The administrator searched for the rule whose ID is 331978 from the list on the **Basic Protection** tab page by referring to **Modifying the Action of a Basic Protection Rule**.

Figure 4-5 Rule 331978

ID	Name	Updated In	Description	Risk Level	CVE ID	Attack Types	Affected Sof...	Rule Group	Default Action	Current Act...	Operation
331978	Apache Flink Dire...	2021	--	Fatal	CVE-2020-17519	Vulnerability Attack	Apache	Low	Observe	Observe	Observe Intercept Disable

Step 4 The administrator clicked **Observe** in the **Operation** column. This rule did not block the traffic matching the signature but only logged the traffic.

Step 5 The administrator set the protection mode to **Intercept mode - strict** and went to the **Basic Protection** tab to confirm that the **Current Status** of the rule 331978 was still **Observe**.

Step 6 In the **Attack Event Logs** tab, after the service session matched the rule, the **Action** of the log was **Allow**. The service was restored.

----End

4.2 Why Are Traffic and Attack Logs Incomplete?

Traffic and attack logs are recorded only when CFW is enabled. If it is disabled, no logs are generated for this period until it is enabled again.

To let CFW generate full logs, keep it enabled all along.

4.3 Why Does a Protection Rule Not Take Effect?

All Traffic Is Allowed Even If a Rule Is Configured to Allow Only Several EIPs

After EIP protection is enabled on CFW, the access control policy allows all traffic by default. If you want to allow traffic of only several EIPs, you need to configure a protection rule to block all traffic and set the lowest priority.

Step 1 [Log in to the management console](#).




- Step 2** Click  in the upper left corner of the management console and select a region or project.
- Step 3** In the navigation pane on the left, click  and choose **Security & Compliance > Cloud Firewall**. The **Dashboard** page will be displayed.
- Step 4** (Optional) Switch firewall instance: Select a firewall from the drop-down list in the upper left corner of the page.
- Step 5** In the navigation pane, choose **Access Control > Access Policies**. The **Access Policies** page is displayed. Click the **Internet Boundaries** or **Inter-VPC Borders** tab.
- Step 6** Configure a global blocking rule. Click **Add Rule**. Use the parameter settings shown in [Figure 4-6](#) and configure other parameters as needed.

Figure 4-6 Blocking all traffic

Matching Condition

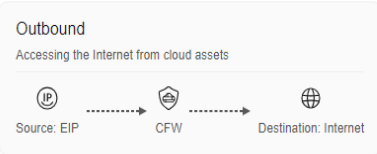
Direction

Inbound
Accessing cloud assets from the Internet



Source: Internet CFW Destination: EIP

Outbound
Accessing the Internet from cloud assets



Source: EIP CFW Destination: Internet

Source IP address IP address group Countries and regions Any

Destination IP address IP address group Any

Service Service Service group Any

Protection Action

Action Allow Block

 **NOTE**

You are advised to enable the rules after adding all required ones.

- Step 7** Configure an allow rule. For details about how to add a protection rule, see [Adding a Protection Rule](#).
- Step 8** Set the priority of the global blocking rule in the [Step 6](#) to the lowest. For details, see [Setting the Priority](#).
- Step 9** Enable all rules. You are advised to enable the allow rules prior to the blocking rules.

----End

Blocked IP Addresses Are Still Allowed Through Even If a Global Blocking Rule Is Configured

The protection rules configured on CFW are applied based on the EIP management list. If you have enabled global blocking (0.0.0.0/0) but the traffic of EIPs not in an allow rule is allowed through, check whether the IP addresses are in

the EIP list. If not, synchronize the resource configuration. For details, see [Enabling EIP Protection](#).


4.4 What Do I Do If IPS Blocks Normal Services?


If normal service traffic is intercepted, perform either of the following operations:

- Query the ID of the rule that blocks traffic and modify the action of the rule in the IPS rule library. For details, see [Querying Hit Rules and Modifying Protection Actions](#).
- Use a less strict IPS protection mode. For details, see [Configuring Intrusion Prevention](#).

Querying Hit Rules and Modifying Protection Actions

Step 1 [Log in to the management console](#).

Step 2 Click  in the upper left corner of the management console and select a region or project.

Step 3 In the navigation pane on the left, click  and choose **Security & Compliance > Cloud Firewall**. The **Dashboard** page will be displayed.

Step 4 (Optional) Switch firewall instance: Select a firewall from the drop-down list in the upper left corner of the page.

Step 5 In the navigation pane, choose **Log Audit > Log Query**. Click the **Attack Event Logs** query and record the **Rule ID** of the rule that blocks traffic.

Figure 4-7 Rule ID

Attack Type	Severity	Rule ID	Matched Rule
Vulnerability ...	High	336842	Simple HTT...

Step 6 In the navigation pane, choose **Attack Defense > Intrusion Prevention**. Click **View Effective Rules** under **Basic Protection**. The **Basic Protection** tab is displayed.

Step 7 Search for the rule by its ID. In the **Operation** column, change its action to **Observe** or **Disable**.

- **Observe:** The firewall logs the traffic that matches the current rule and does not block the traffic.
- **Disable:** The firewall does not log or block the traffic that matches the current rule.

----End

4.5 Why Is No Data Displayed on the Access Control Logs Page?

Access control logs record the traffic that matches the ACL protection policy. To view access control logs, configure the ACL policy first.

- For details about how to add a protection rule, see [Adding a Protection Rule](#).
- For details about the records of all traffic passing through CFW, see [Traffic Logs](#).
- For details about attack event records, see [Attack Event Logs](#).

4.6 Why Is the IP Address Translated Using NAT64 Blocked?

A firewall instance cannot protect the real source IP address before NAT64 translation. If you enable IPv6 translation for EIPs, NAT64 will translate a source IP address into a CIDR block of 198.19.0.0/16 for ACL access control.

For IPv6 access, you are advised to allow traffic from the predefined address group **NAT64 Address Set**. Access from all the IP addresses in the 198.19.0.0/16 CIDR block will be allowed. You can configure the blacklist or a blocking policy to block specific IP addresses.

- For details about the IPv6 EIP function, see [Assigning or Releasing an IPv6 EIP](#).
- For details about **NAT64 Address Set**, see [NAT64 Address Set](#).
- For details about how to configure the blacklist, see [Adding an Item to the Blacklist or Whitelist](#).
- For details about how to configure a blocking policy, see [Adding a Protection Rule](#).

4.7 Why Some Permissions Become Invalid After a System Policy Is Granted to an Enterprise Project?

Certain CFW functions depend on cloud services such as Elastic Cloud Server (ECS) and Virtual Private Cloud (VPC). Some functions of these cloud services do not support enterprise projects, so some permissions may become invalid after the **CFW FullAccess** and **CFW ReadOnlyAccess** system policies are granted to enterprise projects.

To avoid this problem, log in to your Huawei Cloud account to create two system policies. For details, see [Creating Custom Policies](#).

- For the cloud services that CFW depends on, if they do not support enterprise projects, add the following content to grant permissions to them. For Log Tank Service (LTS), grant all permissions to it on the CFW page.

```
{  
  "Version": "1.1",
```

```
"Statement": [  
  {  
    "Effect": "Allow",  
    "Action": [  
      "vpc:quotas:list",  
      "vpc:publicipTags:get"  
    ]  
  },  
  {  
    "Effect": "Allow",  
    "Action": [  
      "ecs:availabilityZones:list"  
    ]  
  },  
  {  
    "Effect": "Allow",  
    "Action": [  
      "lts:groups:list",  
      "lts:groups:get",  
    ]  
  }  
]
```

- CFW depends on the following global service permissions:

```
{  
  "Version": "1.1",  
  "Statement": [  
    {  
      "Effect": "Allow",  
      "Action": [  
        "eps:resources:list"  
      ]  
    },  
    {  
      "Effect": "Allow",  
      "Action": [  
        "tms:predefineTags:list"  
      ]  
    }  
  ]  
}
```

5 Network Traffic

5.1 How Do I Calculate the Number of Protected VPCs and the Peak Protection Traffic at the VPC Border?

By default, the CFW professional edition protects two VPCs, providing 200 Mbit/s protection for VPC border traffic. To protect more inter-VPC traffic, you can purchase more VPC protection quotas. Each quota provides 200 Mbit/s protection for VPC border traffic.

For example, CFW protects two VPCs (200 Mbit/s in total) by default. To protect 1 Gbit/s VPC border traffic, you need to purchase four more quotas (4 x 200 Mbit/s). The VPC border protection traffic = Default protection traffic (200 Mbit/s) + 4 x VPC protection quotas (200 Mbit/s) = 1 Gbit/s.

5.2 How Does CFW Collect Traffic Statistics?

Currently, CFW collects traffic statistics based on sessions. Traffic data is reported when the connection is terminated.

NOTE

- The overall traffic of the session is counted from the time the session starts to the time it ends.
- The Internet border involves inbound (internet originated) traffic and outbound (server originated) traffic.

5.3 What Is the Protection Bandwidth Provided by CFW?

CFW protects traffic exchanged between the Internet border and VPCs. You can increase the protection bandwidth as required. CFW protection bandwidth varies according to the edition you purchase.

- Internet direction: 10 Mbit/s for the standard edition, and 50 Mbit/s for the professional edition.

 NOTE

The value of the protection bandwidth in the Internet direction is the maximum value of inbound or outbound traffic.

- Inter-VPC protection: No protection bandwidths are provided in the standard edition. The professional edition protects 200 Mbit/s traffic per month by default.

 NOTE

If your traffic is higher than the current protection bandwidth, purchase more protection capacity. For details, see [Modifying Extension Packages](#).

5.4 What Do I Do If My Service Traffic Exceeds the Protection Bandwidth?

If your actual service traffic exceeds the protection bandwidth you purchased, packet loss may occur. You can purchase more EIP protection capacity as needed.

For details about how to purchase an expansion package, see [Adding the EIP Protection Capacity](#).

 NOTE

You can configure high traffic warning in CFW. An alarm will be sent if your service traffic reaches the specified proportion of purchased bandwidth. For more information, see [Alarm Notification](#).

5.5 What Are the Differences Between the Data Displayed in Traffic Trend Module and the Traffic Analysis Page?

The methods of collecting traffic statistics on the two modules are different.

- The **Traffic Trend** area on the **Dashboard** page displays the inbound, inter-VPC, and outbound traffic based on traffic statistics in real time.
- In the **Traffic Analysis** module, traffic data is collected based on session statistics and reported when the connection is terminated. The following traffic data is displayed:
 - **Inbound Traffic**
 - **Outbound Traffic**
 - **Inter-VPC Access**

5.6 What Do I Do If a High Traffic Warning Is Received?

Scenario

If you configured the alarm notification function and received the high traffic warning by an email or SMS message, your actual service traffic has reached the threshold and is about to exceed the peak protection traffic.

Handling Method

If your actual service traffic exceeds the peak protection traffic that you have purchased, packet loss may occur. You are advised to:

- Purchase an expansion package. For details about how to purchase an expansion package, see [Modifying Extension Packages](#).
- Reduce protection objects in a timely manner. For details about how to disable EIP protection, see [Disabling EIP Protection](#).

6 Billing

6.1 How Is CFW Billed?

CFW can be billed in yearly/monthly (prepaid) or pay-per-use mode. For details, see [Pricing](#).

In the standard edition, you can increase the number of protected EIPs and peak Internet border traffic.

In the professional edition, you can increase the number of protected EIPs, peak Internet border traffic, and the number of protected VPCs.

- For details about CFW billing mode, see [Billing](#).
- For more information, see [Editions](#).


6.2 How Do I Change My CFW Edition?


The CFW standard edition can be upgraded to the professional edition, but the professional edition cannot be changed to the standard edition. To change to a lower edition, unsubscribe from the current edition and purchase the required one.

For details about unsubscription, see [How Do I Unsubscribe from CFW?](#)

Upgrading the Standard Edition to the Professional Edition

Step 1 [Log in to the management console](#).

Step 2 Click  in the upper left corner of the management console and select a region or project.

Step 3 In the navigation pane on the left, click  and choose **Security & Compliance > Cloud Firewall**. The **Dashboard** page will be displayed.

Step 4 (Optional) Switch firewall instance: Select a firewall from the drop-down list in the upper left corner of the page.

- Step 5** In the upper left corner of the page, click **Upgrade to Professional Edition**. The CFW purchase page is displayed.
- Step 6** Confirm the edition specifications and click **Buy Now**.
- Step 7** Confirm the order details, select **I have read and agreed to the Huawei Cloud Firewall Service Statement**, and click **Next**.
- Step 8** Select a payment method and pay for your order.

----End

6.3 Can I Switch Between Yearly/Monthly and Pay-per-Use Payments for CFW?

No. Yearly/Monthly packages and pay-per-use subscriptions cannot be changed to each other.

You are advised to unsubscribe from CFW and purchase it again. For details, see [How Do I Unsubscribe from CFW?](#)

6.4 How Do I Renew CFW?

This section describes how to renew CFW when it is about to expire. After the renewal, you can continue to use CFW.



- Before your CFW subscription expires, the system will send an SMS message or email to remind you to renew it.
- After your CFW expires, there is a retention period for you.

This period varies depending on account. For details, see [Retention Period](#).

NOTE

To avoid unnecessary loss caused by security issues, renew your subscription before the retention period expires.

Procedure

- Step 1** [Log in to the management console](#).
- Step 2** Click  in the upper left corner of the management console and select a region or project.
- Step 3** In the navigation pane on the left, click  and choose **Security & Compliance > Cloud Firewall**. The **Dashboard** page will be displayed.
- Step 4** In the upper right corner, click **Renew**.
- Step 5** On the renewal management page, complete the renewal.

For details, see [Renewal Rules](#).



----End

6.5 How Do I Unsubscribe from CFW?



This section describes how to unsubscribe from CFW billed in yearly/monthly mode.

The original CFW configurations will be deleted after unsubscription and cannot be restored. You are advised to export protection policies before unsubscription, and import them after you purchase another CFW instance. For details, see [Managing Protection Rules in Batches](#).

Procedure (for Yearly/Monthly Firewalls)

- Step 1** [Log in to the management console](#).
 - Step 2** Click  in the upper left corner of the management console and select a region or project.
 - Step 3** In the navigation pane on the left, click  and choose **Security & Compliance > Cloud Firewall**. The **Dashboard** page will be displayed.
 - Step 4** (Optional) Switch firewall instance: Select a firewall from the drop-down list in the upper left corner of the page.
 - Step 5** Hover your cursor over the edition name in the upper left corner of the page. Click **Unsubscribe**.
 - Step 6** Confirm the resource to be unsubscribed from and click **OK**.
 - Step 7** After confirming that the information is correct, select **I understand that a handling fee will be charged for this unsubscription**.
 - Step 8** Click **Next** and complete the subsequent operations.
- End

Procedure (for Pay-per-Use Firewalls)

- Step 1** [Log in to the management console](#).
- Step 2** Click  in the upper left corner of the management console and select a region or project.
- Step 3** In the navigation pane on the left, click  and choose **Security & Compliance > Cloud Firewall**. The **Dashboard** page will be displayed.
- Step 4** (Optional) Switch firewall instance: Select a firewall from the drop-down list in the upper left corner of the page.
- Step 5** Hover your cursor over the edition name in the upper left corner of the page. Click **Delete**.

- Step 6** Confirm the resource to be unsubscribed from, enter **DELETE**, and click **OK**.
----End