RG-CF50XS Next-Generation High-Performance Firewalls Datasheet

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Datasheet

V1.0

Ruijie Networks Co., Ltd.

1. Product Overview

Introduction

As new hot spots such as social networking, cloud computing, and big data have emerged, the Internet has entered an unprecedented era of prosperity. However, the information security problems accompanied have become increasingly complex, bringing huge challenges to the traditional security architectures. Drawing on years of technological expertise and in line with the development trend of next-generation firewalls, Ruijie Networks has unveiled the RG-CF50XS series cloud-managed firewalls to cater to ever-changing demands of today's market. The firewalls can be installed in a standard 19-inch rack and feature high performance and flexible expansion.

Product Features and Benefits

The RG-CF50XS series firewalls use a high-performance network forwarding service platform to provide intelligent quick deployment, active asset discovery, intelligent policy manager, one-click fault analysis, and service health diagnosis, simplifying device deployment and O&M. They have rich security functions, including intrusion prevention, antivirus, port scan, traffic learning, application control, and defense against DoS/DDoS attacks. They also support unified management on the cloud platform, data synchronization to the cloud for analysis and reporting, remote monitoring and O&M, policy translation for device replacement, batch configuration, and automatic inspection.

In addition, you can expand the performance of the RG-CF50XS series firewalls by purchasing performance licenses.

Firewall	IPS	NGFW	Threat Protection	Port
14 Gbps - 17 Gbps	3.5 Gbps - 4 Gbps	3.1 Gbps - 3.6 Gbps	2.5 Gbps - 3 Gbps	16 x GE RJ45 ports 4 x 2.5GE RJ45 ports, 4 x GE SFP ports, 4 x 10GE SFP+ ports

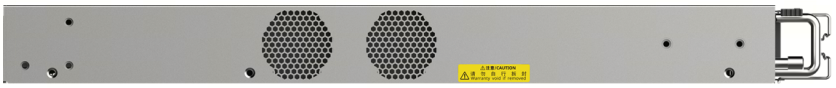
Applicable Industries and Scenarios

The RG-CF50XS series firewalls can be deployed at an Internet egress, area boundary, data center boundary, and branch egress.

2. Product Appearance

RG-CF50XS Series

Front View



Rear View

Appearance Design

The unique mounting bracket design allows rapid deployment, simplifying the installation process. In a complex equipment room environment, only one technician is needed to complete the device installation and securing processes.

Hardware Security

Different from common software-based defense, the RG-CF50XS series firewalls implement attack defense by using an exclusive built-in anti-DoS/DDoS component on the CPU. This significantly improves the DoS/DDoS attack defense performance and enables more robust and secure networks.

All-New Hardware Design, Higher Reliability

A voltage or grid exception may incur a storage component failure. To mitigate this risk, the firewalls incorporate monitoring and redundant components to enhance the shock resistance of storage components, thereby reducing the likelihood of device damages and data loss.

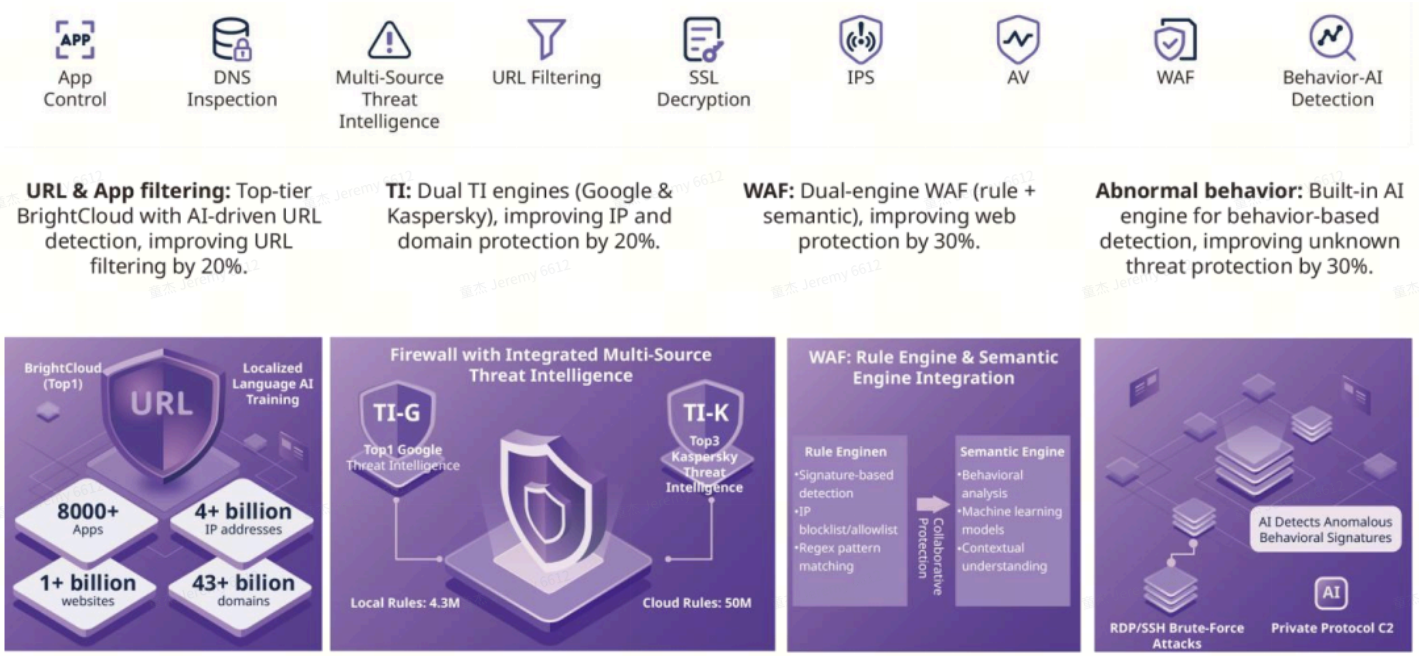
3. Product Highlights

- Built on high-performance hardware, the firewalls offer enhanced encryption and decryption capabilities for full traffic, ensuring robust security.
- Security risks are easier to detect, enabling efficient risk tracing and handling.
- Threat intelligence (TI) databases from leading sources like Google and Kaspersky are integrated to achieve superior risk detection.
- With a built-in AI engine, the firewalls collaborate with cloud-based AI to detect and analyze unknown threats such as polymorphic and slow attacks based on behavior characteristics and contextual correlation, improving threat detection and protection effectiveness by over 20%.
- By transforming the troubleshooting capabilities of senior engineers into product functions, the firewalls provide you with a one-stop troubleshooting wizard.

- In the industry-first policy simulation space, you can foresee the effects of security policy adjustment, realizing zero-risk policy adjustment.
- Simple cloud O&M allows you to manage network and security devices on the entire network via a mobile app.

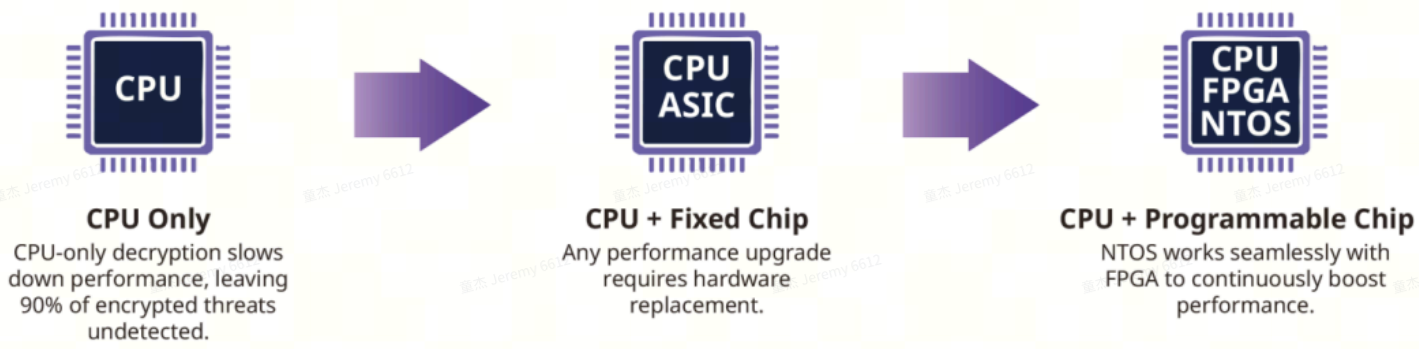
4. Product Features

High Effectiveness: All-in-One Security



All-in-One Capabilities: One firewall delivers built-in app control, URL filtering, IPS, AV, Google & Kaspersky threat intelligence, WAF, and AI-based unknown threat detection.

Lower CapEx and Higher Performance

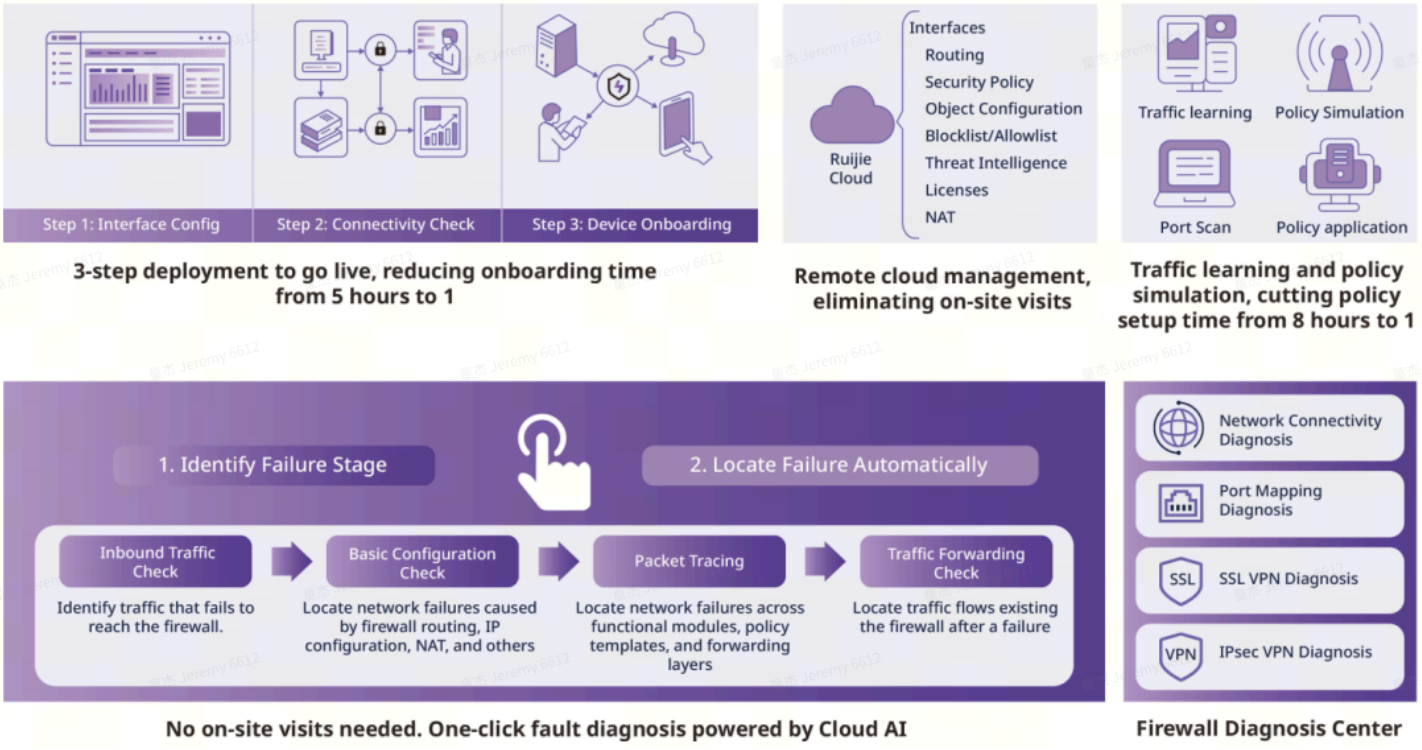


A firewall delivers over 20% higher decryption and threat protection performance, and seamlessly scales with your business growth. There is no need to rip and replace infrastructure, saving 10% in procurement costs and over 20% in hardware upgrade costs.

Easier Security and Lower OpEx

No dedicated analyzer product or security experts are required. Event handling time for alert collection, analysis, tracing, and response is reduced from 3 days to just 0.5 days, saving 20% in OpEx.

Easy O&M and Lower OpEx



No additional management product is required, reducing deployment time from 3 days to 1 day. Troubleshooting & recovery time is reduced from 1 day to 3 hours, saving 30% in OpEx.

Intelligent Service Diagnostic Center

Fault Analysis

The RG-CF50XS series firewalls are developed to transform the troubleshooting capabilities of senior engineers into built-in diagnostic capabilities and provide you with a one-stop troubleshooting wizard. In the diagnostic center, automatic troubleshooting can be conducted based on the paths between clients and target resources, and fault information and handling suggestions are displayed. This greatly improves the efficiency of troubleshooting and saves additional expenses for troubleshooting.

Packet Tracing

In the diagnostic center, you can also analyze and trace packet processing of each security service module on the device, and check detailed information of packet tracing records to accelerate network fault troubleshooting and localization.

Port Scan and Traffic Learning, Simple Firewall Onboarding

Onboarding Configuration

To perform firewall onboarding, you can conduct Port Scan to automatically identify the IP address and port number of a service system, and then enable Traffic Learning to automatically detect the service access relationship on the live network. You can also generate access control policies based on ports with one click, and complete firewall onboarding without professional knowledge.

Server Port Check

In routine O&M, server ports need to be checked to meet high security requirements and formulate refined security policies. In traditional mode, server ports need to be manually verified with the customers, which takes a long time. With port scan and traffic learning, this process can be completed in one day, which greatly improves efficiency and lowers technical thresholds.

Policy Simulation Space to Foresee Effects, Zero-Risk Policy Adjustment

You can add, delete, and modify a policy in the simulation space, use the policy to match the real traffic to analyze the difference in traffic matching before and after the policy adjustment, and adjust the policy accordingly. In this way, policies can be adjusted without service interruption, and O&M personnel do not need to stay up late to adjust policies in off-peak hours. The risk of policy adjustment is minimized, and refined policy adjustment can be achieved.

5. Product Specifications

Product Performance

Firewall	IPS	NGFW	Threat Protection
14 Gbps	3.5 Gbps	3.1 Gbps	2.5 Gbps
17 Gbps	4 Gbps	3.6 Gbps	3 Gbps
Combination of product and performance licenses (Threat Protection): Threat Protection 2.5 Gbps: RG-CF50XS series chassis			

Threat Protection 3 Gbps: RG-CF50XS series chassis + 1 x RG-CF50XS-500M-LIC performance license

System Performance and Capacity	RG-CF50XS Series
Firewall throughput of IPv4 packets (1518-byte UDP packets)	14 Gbps - 17 Gbps
SSL inspection throughput	1.2 Gbps
Concurrent sessions (TCP)	3 Million
New sessions per second (TCP)	143,000
Firewall policies	10,000
SSL VPN throughput	2.7 Gbps
Concurrent SSL VPN users (recommended maximum, tunnel mode)	2,125
IPsec VPN throughput	5 Gbps
Gateway-to-gateway IPsec VPN tunnels	1,000
SD-WAN performance	2.4 Gbps
Maximum number of tunnels supported by SD-WAN	4000
Maximum number of SD-WAN branches	1000

Note:

All performance values are the maximum values and may vary depending on system configuration.

1. The performance values of IPS (mixed traffic), application control, NGFW, and threat protection are measured with logging enabled.
2. NGFW performance is measured with firewall, IPS, and application control enabled.
3. Threat protection performance is measured with firewall, IPS, application control, and malware protection enabled.
4. Firewall throughput is the maximum forwarding performance (1518-byte UDP packets) of hardware.

Hardware Specifications

Dimensions and Weight

Dimensions and Weight	RG-CF50XS Series
Product dimensions (W x D x H)	440 mm x 420 mm x 43.6 mm (17.32 in. x 16.54 in. x 1.72 in.)
Shipping dimensions (W x D x H)	555 mm x 518 mm x 170 mm (21.85 in. x 20.39 in. x 6.69 in.)
Product weight	5.7 kg (12.57 lbs)
Shipping weight	7.2 kg (15.87 lbs)
Form factor	1 RU

Port Specifications

Port Specifications	RG-CF50XS Series
Fixed service port	16 x GE RJ45 ports 4 x 2.5GE RJ45 ports 4 x GE SFP ports 4 x 10GE SFP+ ports
Fixed management port	1 x RJ45 MGMT port 1 x RJ45 console port
USB port	1 x USB 3.0 port
4G port	Not supported

Storage Specifications

Storage	RG-CF50XS Series
Hard disk	The RG-CF50XS has no hard disk for factory delivery. A 480 GB SSD or a 1 TB HDD expansion module can be added.

Hard Drive Specifications

Storage	RG-NSEC-SSD-480G-B-M	RG-NSEC-HDD-1T-B
Size	79.2 mm x 109.5 mm x 19.2 mm (3.12 in. x 4.31 in. x 0.76 in.)	79.2 mm x 109.5 mm x 19.2 mm (3.12 in. x 4.31 in. x 0.76 in.)
Port type	SATA	SATA
Storage capacity	480 GB	1 TB
Hard disk type	Solid state drive	Mechanical hard drive
Maximum power consumption	2.4 W	3.5 W
Hot swapping	Not supported	Not supported
Product weight	0.2 kg (0.44 lbs)	0.25 kg (0.55 lbs)

Power Supply and Consumption

Power Supply and Consumption	RG-CF50XS Series
Power supply	90 V AC to 264 V AC, 50/60 Hz
Max. power consumption	90 W

Environment and Reliability

Environment and Reliability	RG-CF50XS Series
Operating temperature	0°C to 45°C (32°F to 113°F) at altitudes below 1,800 m (5,905.51 ft.) above sea level
Storage temperature	–40°C to 70°C (–40°F to 158°F)
Operating humidity	10% RH to 90% RH (non-condensing)
Storage humidity	5% RH to 95% RH (non-condensing)
Operating altitude	0 m to 5,000 m (0 ft. to 16,404.2 ft.)

Regulatory Compliance

Regulatory Compliance	RG-CF50XS Series
RoHS	Yes
Safety compliance	IEC 62368-1
EMC	EN 55032, EN 55035, EN 61000-3-3, EN 61000-3-2, EN 301489-1

Software Specifications

Network

Network	RG-CF50XS Series
Physical interface	Configuring interfaces as LAN or WAN ports; three modes for WAN ports: PPPoE, DHCP, and static IP; configuring the routing, transparent, or bypass mode for interfaces
Sub-interface	Configuring sub-interfaces and VLAN IDs
Bridge interface	Configuring interfaces in transparent mode as bridge interfaces
Aggregate interface	Configuring aggregate interfaces
Routing	IPv4/IPv6 static and dynamic routing, routing policy, Policy-based Routing (PBR), ISP address library-based routing, application-based routing, and egress load balancing
DHCP server	DHCP server functions
DNS server	Configuring DNS addresses for devices
DDNS	Multiple DDNS service providers supported
Link detection	Link detection and link detection logs
VPN	SSL VPN and IPsec VPN
VRRP	VRRP functions
High availability	Deployment with redundancy to achieve automatic switchover between active and standby devices, ensuring service continuity
SD-WAN	Integration with cloud platforms to achieve unified orchestration and monitoring of multiple branches

Object

Object	RG-CF50XS Series
Address and address group	Configuring IPv4/IPv6 address objects in IP address/range format
Zone	Configuring security zones
Application and application group	Configuring application types in application/application group mode
Service and service group	Configuring service objects; common default port services supported
Time plan	Configuring time objects; one-off time plans and cyclic time plans supported
ISP address library	Default ISP address libraries: China Telecom (CHN), China Mobile (CHN), China Unicom (CHN), CERNET (CHN), and Beijing Teletron (CHN); customizing, importing, and exporting ISP address libraries
Virus protection template	Configuring content object templates; antivirus (AV) templates supported; configuring quick scan or deep scan; configuring templates based on protocols and directions; setting excluded viruses
Intrusion prevention template	Configuring content object templates; predefined Intrusion Prevention System (IPS) templates supported; customizing IPS templates; configuring rule filters based on objects, severity, protocols, and threat types; setting excluded rules
File filtering	Configuring content object templates; file filter templates (filtering by file type) supported
URL filtering	URL filtering
SSL proxy certificate	Adding, importing, deleting, viewing, and downloading SSL proxy certificates; configuring a global SSL proxy certificate
Server certificate	Importing, deleting, viewing, and downloading server certificates
Security rule base	Viewing default security rules in the IPS security library
Content identification	URL category and keyword configuration
User authentication	User management, user import, authentication server configuration, real-name user information synchronization, and authentication policy configuration

Policy

Policy	RG-CF50XS Series
Traffic learning	Traffic learning to record destination IP addresses and port numbers as well as abnormal traffic; exporting traffic learning logs
Network address translation (NAT)	NAT; configuring NAT policies; importing NAT policies in batches; common NAT application-level gateway (ALG) services; server port mapping; viewing NAT address pool status
Security policy	Configuring security policies; customizing policies based on parameters including objects, contents, and zones; viewing the policy list; importing security policies in batches
Policy simulation	Simulating policy execution in the simulation space to check whether uncertain security policies can achieve expected effects
Policy configuration wizard	Security policy configuration wizard for conducting port scan, performing configurations, testing configurations, and other steps to generate security policies
Policy optimization	Sorting out configured security policies and analyzing policies to identify redundant, expired, and conflicting policies
Policy lifecycle	Full lifecycle display of security policies, including detailed records of policy changes
Port scan	Port scan of configured IP ranges for all ports or selected ports; policy creation prompt for scan results
DoS/DDoS attack defense	Different DDoS attack defense policies in security defense
ARP attack defense	Preventing ARP attacks including ARP spoofing and ARP flooding in security defense
Local defense	Configuring local defense policies in security defense
Threat intelligence	Enabling or disabling threat intelligence; customizing threat intelligence; managing excluded threats
Blocklist and allowlist	Configuring global blocklists and allowlists
SSL proxy policy	

	Configuring SSL proxy policies; customizing policies based on parameters including objects, contents, and zones; viewing the policy list
SSL proxy allowlist	Configuring domain name allowlists and application allowlists
AI-based threat detection	AI-powered stealthy attack and abnormal behavior detection

System

System	RG-CF50XS Series
Simple Network Management Protocol (SNMP)	Connecting to third-party platforms for management through SNMPv1/v2/v3
Patch installation	Downloading and installing patches for upgrade
Cloud management platform	Enabling or disabling unified management on the cloud management platform; log upload to the cloud
One-click collection	Collecting fault information with one click
Device health	Device health diagnosis
Service diagnosis	Service continuity diagnosis
System upgrade	System upgrade and rollback
Database backup	System database backup and restoration
Factory settings restoration	Restoring factory settings on the web UI
API	Open APIs facilitate integration and docking with other third-party platform

O&M

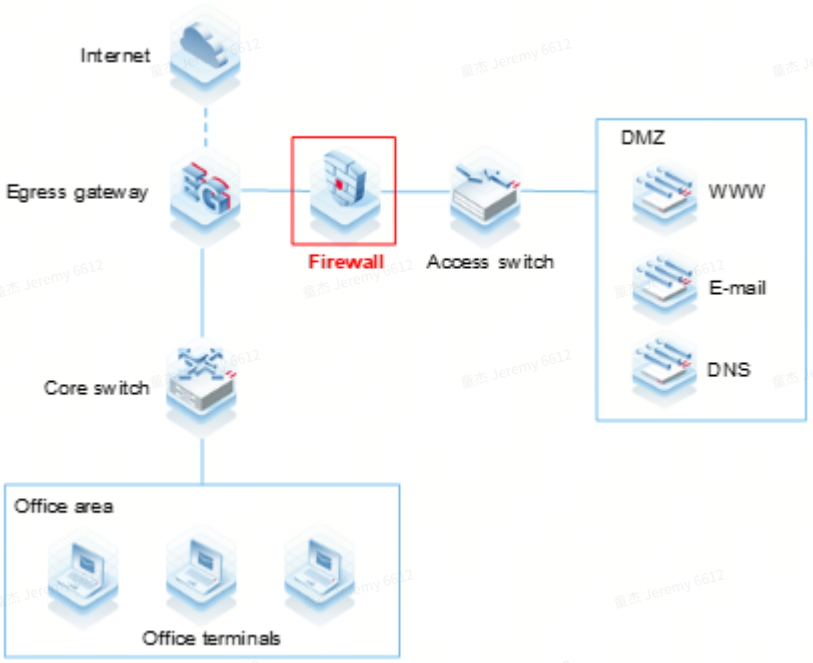
O&M	RG-CF50XS Series
Dashboard	Providing insights into the network's security status and network operation status
Reports	Periodically or regularly generating network status and network security reports
Fault diagnosis	Helping quickly locate and resolve network and security issues

6. Typical Applications

Security Defense at Area Boundary

The RG-CF50XS series firewalls can be deployed at an area boundary to meet LAN application requirements, improve information security, and guarantee LAN service security. The firewalls can bring the following benefits:

- Generate refined access control policies based on servers.
- Effectively defend against external attacks and viruses to protect key services of enterprises.
- Help users identify and control applications.

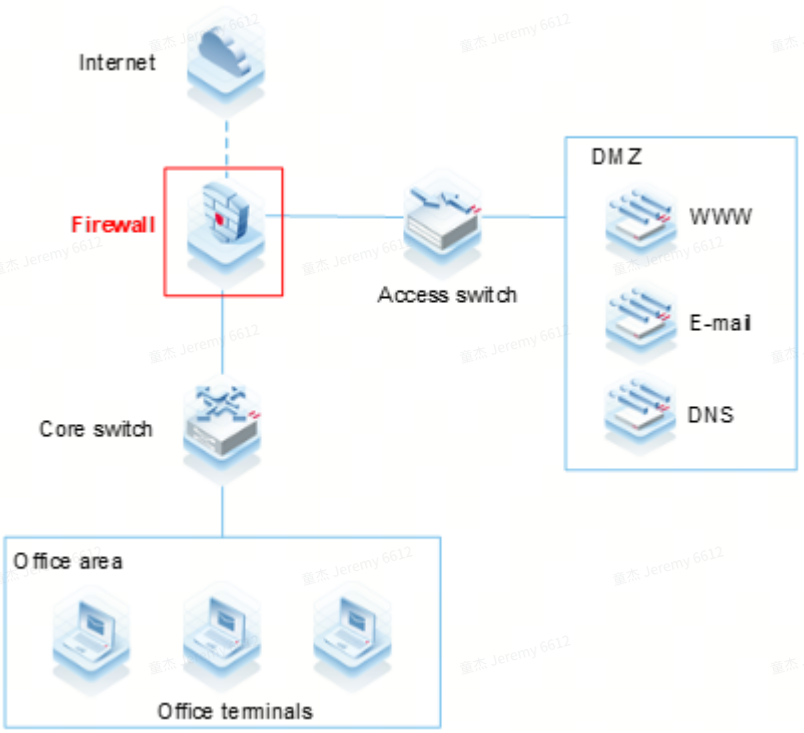


Small and Medium-Sized Internet Egress

The RG-CF50XS series firewalls can satisfy the needs of small and medium-sized Internet egress, improve information security, and guarantee egress network security. The firewalls can bring the following benefits:

- Meet the needs of small and medium-sized Internet egress scenarios.
- Effectively defend against external attacks and viruses to protect key services of users.

- Help users identify and control applications.



7. Ordering Information

Model	Description
RG-CF50XS	Rack-Mounted Firewall — Threat Protection Throughput: 2.5 Gbps; 16 x RJ45 Ports, 4 x 2.5GE RJ45 Ports, 4 x GE SFP Ports, 4 x 10GE SFP+ Ports; Supports 2 pluggable power supply modules; Hard Disk Expansion Supported
RG-CF50XS-UTP-LIS-1Y	RG-CF50 Series 1-Year All-in-One Security Feature License（IPS+AV+TI-G+TI-K+URL Filtering+App Control+AI+WAF）
RG-CF50XS-UTP-LIS-1M	RG-CF50 Series 1-Month All-in-One Security Feature License（IPS+AV+TI-G+TI-K+URL Filtering+App Control+AI+WAF）
RG-CF50XS-500M-LIC	RG-CF50XS Series Threat Protection Throughput License – Each Additional License Enables 500 Mbps Expansion
RG-NSEC-SSD-480G-B-M	480 GB SSD Expansion Module
RG-NSEC-HDD-1T-B	1 TB HDD Expansion Module
RG-CF50XS-2.5G-Bundle-1Y	RG-CF50XS + RG-CF50XS-UTP-LIS-1Y
RG-CF50XS-2.5G-Bundle-3Y	RG-CF50XS + 3 x RG-CF50XS-UTP-LIS-1Y
RG-CF50XS-2.5G-Bundle-5Y	RG-CF50XS + 5 x RG-CF50XS-UTP-LIS-1Y

RG-CF50XS-3G-Bundle-1Y	RG-CF50XS + RG-CF50XS-500M-LIC + RG-CF50XS-UTP-LIS-1Y
RG-CF50XS-3G-Bundle-3Y	RG-CF50XS + RG-CF50XS-500M-LIC + 3 x RG-CF50XS-UTP-LIS-1Y
RG-CF50XS-3G-Bundle-5Y	RG-CF50XS + RG-CF50XS-500M-LIC + 5 x RG-CF50XS-UTP-LIS-1Y

Note:

a. To ensure syslog security and system stability, please use hard disks from Ruijie. Ruijie will not be responsible for any hardware damage, syslog loss, or performance degradation resulting from the use of third-party hard disks. An unauthorized third-party hard disk does not have a hard disk tray provided by Ruijie, which will cause hardware malfunctions. In addition, insufficient hard disk IOPS specifications and improper hard disk partitioning may lead to system failures.

8. Ordering Guide

The RG-CF50XS series firewalls provide two GE SFP ports and two 10GE SFP+ ports. The following table lists the optional optical transceivers.

Model	Description
XG-SFP-SR-MM850	10G SR module, SFP+ form factor, Duplex LC, 300 m (984.25 ft., with OM3 optical cables) or 400 m (1312.34 ft., with OM4 optical cables) over MMF
XG-SFP-LR-SM1310	10G LR module, SFP+ form factor, Duplex LC, 10 km ((32,808.40 ft.) over SMF
XG-SFP-ER-SM1550	10G ER module, SFP+ form factor, Duplex LC, 40 km (131,233.60 ft.) over SMF
XG-SFP-ZR-SM1550	10G ZR module, SFP+ form factor, Duplex LC, 80 km (262,467.19 ft.) over SMF
XG-SFP-LR10-SM1270-BIDI-I	10G LR module, SFP+ form factor, BIDI LC, 10 km (32,808.40.13 ft.) over SMF
XG-SFP-LR10-SM1330-BIDI-I	10G LR module, SFP+ form factor, BIDI LC, 10 km (32,808.40.13 ft.) over SMF
XG-SFP-AOC1M	10G SFP+ AOC cable, 1 m (3.28 ft.)
XG-SFP-AOC3M	10G SFP+ AOC cable, 3 m (9.84 ft.)
XG-SFP-AOC5M	10G SFP+ AOC cable, 5 m (16.40 ft.)

XG-SFP-T	10G SFP+ copper module, SFP+ form factor, RJ45 connector, 100 m (328.08 ft.) over Cat 6a/7 cable
MINI-GBIC-SX-MM850	1G SR module, SFP form factor, LC, 550 m (1,804.46 ft.) over MMF
MINI-GBIC-LX-SM1310	1G LX module, SFP form factor, LC, 10 km (32,808.40 ft.) over SMF
Mini-GBIC-GT	1G SFP copper module, SFP form factor, RJ-45, 100 m (328.08 ft.) over Cat 5e/6/6a
MINI-GBIC-LH40-SM1310	1G LH module, SFP form factor, LC, 40 km (131,233.60 ft.) over SMF

9. Package Contents

Item	Quantity
RG-CF50XS series chassis	1
Grounding wire	1
Rubber pad	4
L-shaped rack-mount bracket	2
M4 x 8 mm cross recessed countersunk head screw	4
Warranty Card	1
User Manual	1

10. Warranty Information

For more information about warranty terms and period, visit the official Ruijie website or contact your local sales agency:

- Warranty terms: https://www.ruijie.com/support/servicepolicy
- Warranty period: https://www.ruijie.com/support/servicepolicy/Service-Support-Summany/

Note: The warranty terms are subject to the terms of different countries and distributors.

11. More Information

For more information about Ruijie Networks, visit the official Ruijie website or contact your local sales agency:

- Ruijie Networks official website: https://www.ruijie.com/
- Online support: https://www.ruijie.com/support
- Hotline support: https://www.ruijie.com/support/hotline
- Email support: service_rj@ruijie.com