RG-CR510XS Cloud-Managed Router Datasheet （1.0）

RG-CR510XS Cloud-Managed Router

Datasheet

V1.0

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1. Product Overview

Introduction

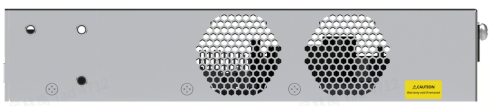
As new hot spots such as social networking, cloud computing, and big data have emerged, the Internet has entered an unprecedented era of prosperity. However, the network have become increasingly complex, bringing huge challenges to the traditional router. Drawing on years of technological expertise and in line with the development trend of next-generation router, Ruijie Networks has unveiled the RG-CR510XS cloud-managed router to cater for ever-changing demands of today's market. This router can be installed on a standard 19-inch rack and features high performance and flexible expansion.

Product Features and Benefits

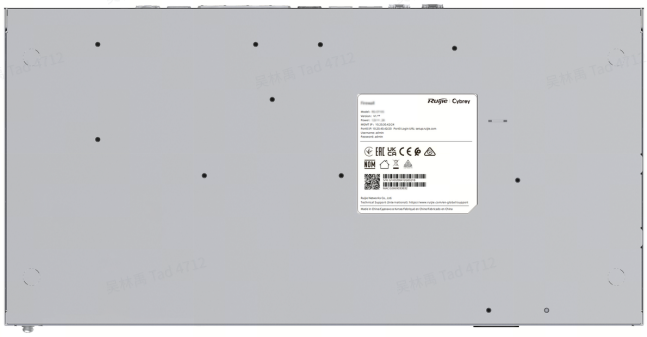
The RG-CR510XS router use SON, SME APP and SME cloud to provide intelligent quick deployment, intelligent operation and management, one-click fault analysis, and service health diagnosis, simplifying device deployment and O&M. It has rich network functions, including NAT, multiple WAN loadbalance, URL filtering, SD-WAN, 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, batch configuration, and automatic inspection.

2. Product Appearance









Appearance Design

- The RG-CR510XS adopts a brand new router product design style of Ruijie Networks. The symmetrical, concise, octagonal-corner appearance reflects simplicity and high reliability.
- The octagonal corners are user-friendly.
- The unique mounting bracket design allows rapid deployment, simplifying the installation process. In a complex equipment room environment, only one person is needed to complete the device installation and securing processes.

Hardware Security

Different from common software-based defense, the RG-CR510XS router implements 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 cope with this risk, add monitoring and spare components on the router to enhance the capability of storage components to withstand shocks, thereby reducing device damages and data loss.

3. Product Highlights

- Supreme Capacity Up to 500 concurrent Clients
- The Brilliant Brain of Network Management
- Freely Open to Third-Party Authentication Integration
- Easy Intranet Connection
- Terminal Recognition for Easy Management & Bandwidth Management
- Easy VPN Configuration
- Exclusive built-in anti-DoS/DDoS component on the CPU

- Transforming the troubleshooting capabilities of senior engineers into product functions, provides you with a one-stop troubleshooting wizard.
- SD-WAN makes your networks site-to-site connection more easy

4. Product Features

Simple Cloud O&M, Remote Device Commissioning

Administrators can remotely manage and control the router through SME Cloud. Device configurations can be delivered uniformly, and device monitoring and other routine O&M functions can be implemented remotely.

Integrated Implementation and O&M on Ruijie SME App

You can use Ruijie SME App to perform quick onboarding and follow-up O&M of the router on a mobile phone. In addition, configurations can be delivered on this app, greatly improving the efficiency of implementation and O&M.

Hot Upgrade/Recovery

Hot patches can be installed in seconds to upgrade forwarding components, management components, and some system components and restart these components without affecting device running. This greatly improves the maintainability and stability of the device.

If the forwarding component encounters an exception during device running, second-level automatic hot restart can be performed, without manual discovery and device restart for recovery. The forwarding recovery time is reduced from minutes or even hours to seconds, which greatly reduces the impact on normal services of users.

Intelligent Service Diagnostic Center

Fault Analysis

The RG-CR510XS router is developed to transform the troubleshooting capabilities of senior engineers into product functions and provides you with a one-stop troubleshooting wizard. In the diagnostic center, automatic troubleshooting can be conducted based on the paths that clients use to access 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 network service module on the device, and check detailed information of packet tracing records to accelerate network fault troubleshooting and locating.

New NTOS Operating System, High Efficiency

The router adopts an advanced multi-core lock-free design. Typically, a router has multiple CPUs. Without lock-free design, when multiple CPUs compete for data from a common memory pool for processing, a CPU obtains data and locks it, and the other CPUs can process the data only after it is unlocked, resulting in low efficiency. The router uses the industry-leading multi-core lock-free design, and designates an independent space in the memory for each CPU. The CPU can obtain data from the designated memory space, so data does need to be locked and no conflict will occur. Data is also stored independently. For example, data from the same IP address source is stored in one memory unit and is processed by the same CPU. This multi-core lock-free design is applied at each of the four layers of the TCP/IP model, significantly improving efficiency.

5. Product Specifications

Product Performance

System Performance and Capacity	RG-CR510XS
throughput (1518-byte UDP packets)	5 Gbps
Concurrent sessions (TCP)	250000
New sessions/second (TCP)	84000
SSL VPN throughput (1392-byte)	2.16 Gbps
Concurrent SSL VPN users (recommended maximum, tunnel mode)	200
Application control throughput (HTTP 64K)2	5 Gbps
IPsec VPN throughput (1418-byte)	3.7 Gbps
Gateway-to-gateway IPsec VPN tunnels	200

Hardware Specifications

Dimensions and Weight

Dimensions and Weight	RG-CR510XS
Product dimensions (W x D x H)	442*220*44mm
Shipping dimensions (W x D x H)	540*340*153mm
Product weight	2.45kg
Shipping weight	3.51kg
Form factor	1 RU rack

Port Specifications

Port Specifications	RG-CR510XS
Fixed service port	6 x 10/100/1000BASE-T ports 2 x 10/100/1000BASE-T/25001000BASE-T ports 2 x 10GE SFP+ ports
Fixed management port	1 x RJ45 MGMT port (reusing LAN0) 1 x RJ45 console port
USB port	1 USB2.0 port
4G port	Not supported

Storage Specifications

Storage	RG-CR510XS
Hard disk	Not supported

Power Supply and Consumption

Power Supply and Consumption	RG-CR510XS

Power supply	90V AC~290V AC，50/60Hz
Max. Power Consumption	21W

Environment and Reliability

Environment and Reliability	RG-CR510XS
Operating temperature	0°C to 45°C (32°F to 113°F)
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)
Noise level	
Operating altitude	0m-5000m
Compliance	

Software Specifications

Network

Network	RG-CR510XS
Physical interface	Configuring interfaces as LAN/WAN interfaces; three IP address assignment modes for WAN interfaces: PPPoE, DHCP, and static IP modes Configuring routing or transparent mode for interfaces
Sub-interface	Configuring sub-interfaces and VLAN IDs
Bridge interface	Configuring interfaces in transparent mode as bridge interfaces
Static route	Configuring IPv4 static routes
PBR	Configuring policy-based routing (PBR)
Routing table	Overall routing information of a device

DHCP server	DHCP server; configuring DHCP address pools
Address management list	Assigned DHCP address list
DNS server	Configuring DNS addresses for devices
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 passive devices, ensuring service continuity
SD-WAN	Integrate with cloud platforms to achieve unified orchestration and monitoring of multiple branches
PMS integration	PMS integration, connecting with the hotel's PMS system to enable easy authentication for guests' internet access

Object

Object	RG-CR510XS
Address/Address group	Configuring address objects in IP address/range format
Zone	Configuring security zones
Application and application group	Configuring application types in application/application group mode
Service/Service group	Configuring service objects; common default port services supported
Time plan	Configuring time objects; one-off time plans and cyclic time plans supported
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
	URL category and keyword configuration

Content identification	
User authentication	User management, user import, authentication server configuration, real-name user information synchronization, and authentication policy configuration

Policy

Policy	RG-CR510XS
NAT	NAT and NAT policies
Policy import	Batch import of NAT policies
ALG	Common NAT ALG services in NAT policy
Server mapping	Server port mapping in NAT policy
Address pool	NAT address pool status display in NAT policy
DoS/DDoS attack defense	Different DDoS attack defense policies in security defense
ARP attack defense	Anti-ARP spoofing, ARP flooding suppression, and other functions in security defense
Local defense	Configuring local defense policies in security defense
Blocklist/Allowlist	Configuring global blocklists and allowlists
SSL proxy policy	Configuring SSL proxy policies; customizing policies based on parameters including objects, contents, and zones; policy list
SSL proxy template	Configuring SSL proxy templates; setting the template type to protecting client or server
Allowlist	Configuring domain name allowlists and application allowlists
Allowlist	Configuring domain name allowlists and application allowlists
Behavior analysis	Configuring analysis policies, templates, and allowlists

System

System	RG-CR510XS
Administrator	Creating device administrators, including account names, passwords, and description
Administrator role	Setting multiple administrator roles and assigning different permissions
Clock configuration	Configuring system time; NTP service configuration supported
Service parameter	Configuring service ports for a device, including web (HTTPS), SSH, and other ports
Device information	Viewing device information, including the product name, SN, and MAC address, version information, running time, and license information
System restart	Restarting the system on the web UI
System upgrade	Upgrading the system
Patch installation	Downloading and installing patches for upgrade
Configuration backup	Import and export of device configurations
Factory settings restoration	Restoring factory settings on the web UI
Cloud management platform	Enabling or disabling unified management on the cloud management platform
Device binding	Adding devices to the cloud management platform by scanning a QR code
Ping	Ping for troubleshooting
Tracert	Tracert for troubleshooting
Packet obtaining tool	Tool for obtaining packets and exporting results
One-click collection	Collecting fault information with one click
Device health	Device health diagnosis
Service diagnosis	Service continuity diagnosis
Breakdown record	Breakdown information records
Device log retention	Device log retention
	Restoring factory settings on the web UI

Factory settings restoration	
API	Open APIs facilitate integration and docking with other third-party platforms

O&M

O&M	RG-CR510XS
Dashboard	Dashboard provides insights into the network's status and network operation status
Reports	Reports periodically or regularly generate network status and network reports,
Fault diagnosis	Fault diagnosis helps quickly locate and resolve network and security issues

6. Ordering Information

Model	Description
RG-CR510XS	Routing throughput: 4 Gbps; 6 x GE RJ45 Ports, 2 x 2.5GE RJ45 Ports, 2 x 10GE SFP+ Ports; Built-in 64 GB Storage, 2GB RAM; 1 x Fixed Power Supply

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.

7. Ordering Guide

The RG-CR510XS router provides one GE SFP port and one 10GE SFP+ port. The following table lists the optional optical transceivers.

Model	Description
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
XG-SFP-LR-SM1310	10G LR module, SFP+ form factor, LC, 10 km (32,808.40 ft.) over SMF
XG-SFP-ER-SM1550	10G ER module, SFP+ form factor, LC, 40 km (131,233.60 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.)

8. Package Contents

Item	Quantity（RG-CR510XS）
Host	1
Power adapter	1
Power cord	1
Power cord retention clip	1
Yellow/Green grounding cable	1
Rubber pad	4
Console cable	1
Warranty Card	1
User Manual	1

9. Warranty Informatio

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.

10. 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