

# RG-NBS7003

## Layer 3 Chassis Cloud Managed Switch



### Highlights

- Modular design provides scalability and flexibility
- High-Level redundancy, ensuring nonstop Service
- Whole network solution specially designed for SMB scenarios
- Lifetime management on Ruijie Cloud at anytime anywhere

# Highlight Features

## RG-NBS7003 Reyee First Chassis Switch Designed for SMB



7 Optional  
Line Cards



32,000  
MAC Address



8,000  
ARP Table



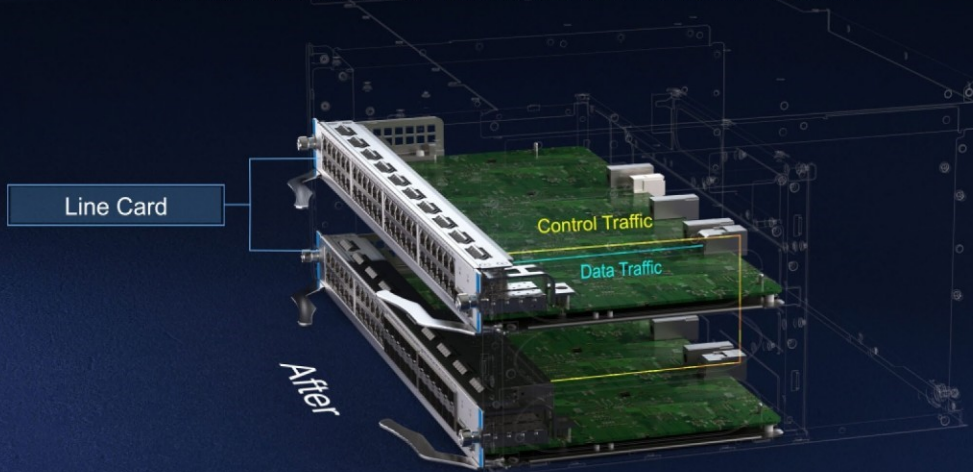
480 Gbps  
Switching Capacity



360 Mpps  
Packet Forwarding Rate

## Architecture Innovation: Higher Performance, Lower Cost

New traffic & chip-intensive design, each line card can be used as a supervisor engine module



## Modular Design: Scalability, and Flexibility

Support 7 types of line cards, up to 48 ports full 10 Gigabit



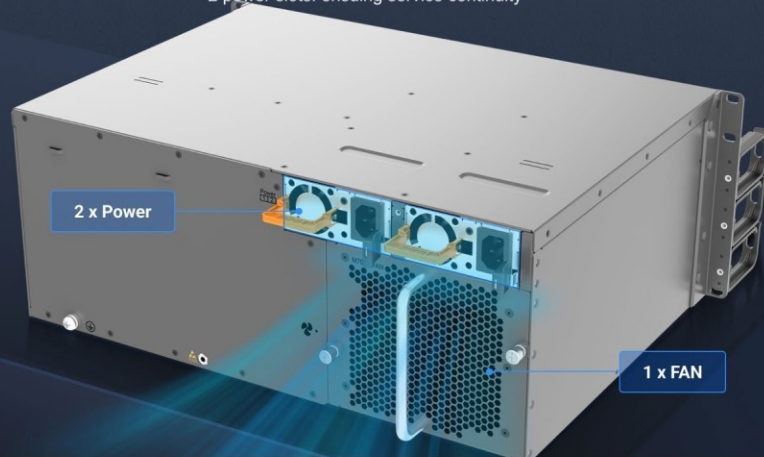
# Highlight Features

## High-Level Redundancy, Ensuring Nonstop Service

Redundant Modules

Virtual Cluster Switching (VCS)

2 power slots: ensuring service continuity

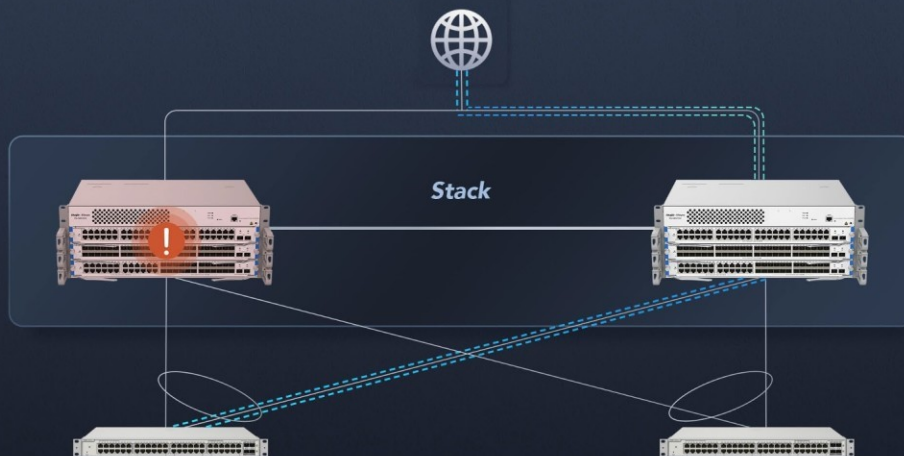


## High-Level Redundancy, Ensuring Nonstop Service

Redundant Modules

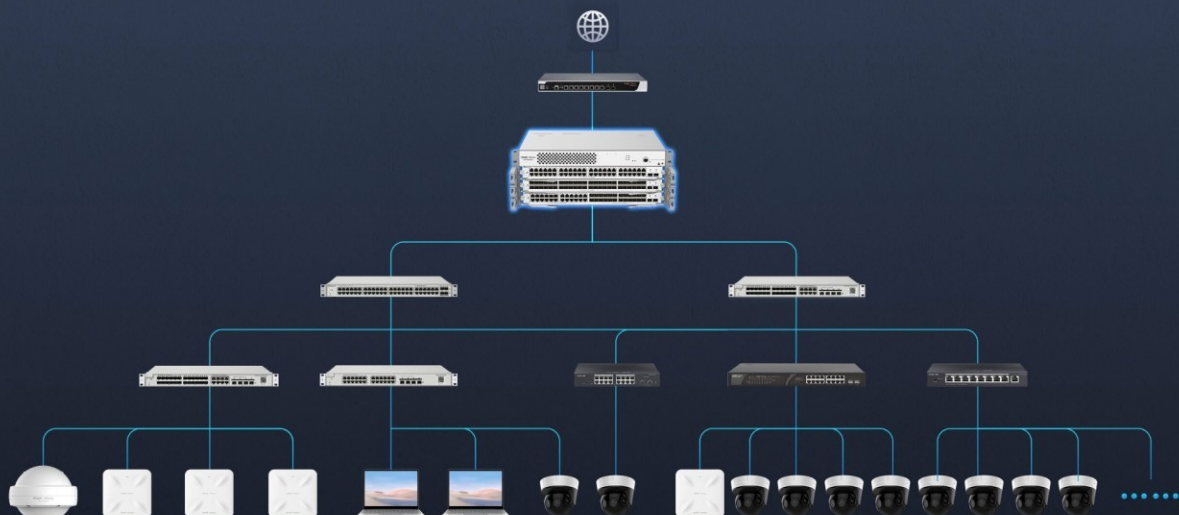
Virtual Cluster Switching (VCS)

Virtual Cluster Switching (VCS): service failover within seconds



## Whole Network Solution Specially Designed for SMB Scenarios

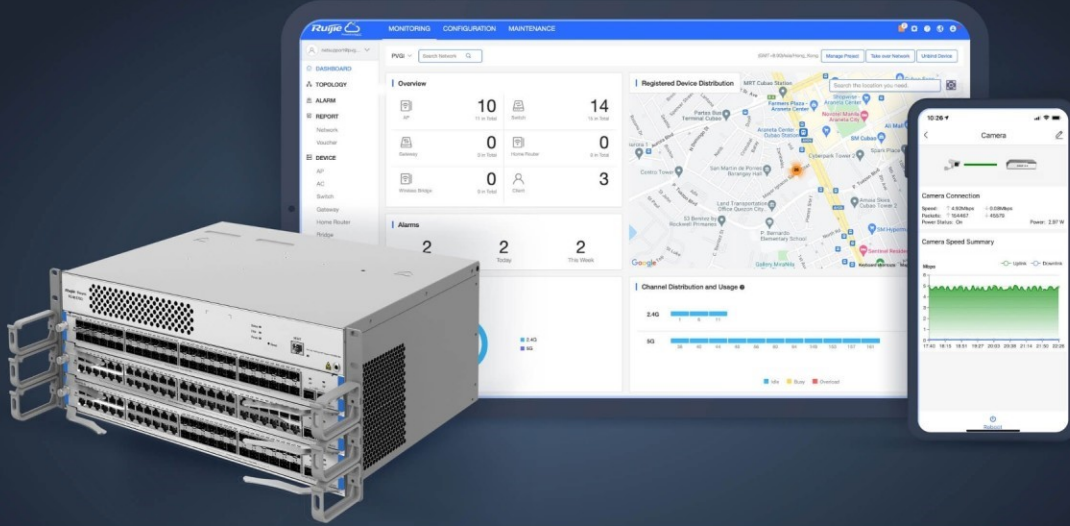
Up to 2000 terminal devices or 1000 CCTV (2mp H.265) can be accessed



# Highlight Features

## Cloud, Make Your Business Easy

- SON, zero touch provisioning to Cloud
- Monitor switch statistics at anytime anywhere
- Configure VLANs on Ruijie Cloud APP
- Easy maintenance, save onsite time and cost



## Power Supply and Fan

<b>RG-PA300I-FS</b>	RG-NBS7003 Power Module (support redundancy,AC, 300W)
<b>RG-PA460I-FS</b>	RG-NBS7003 Power Module (support redundancy,AC, 460W)
<b>M7003-FAN</b>	NBS7003-FAN

## Line Card & Service Module

<b>M7000-24GT2XS-EA</b>	24 Gigabit Ethernet copper port (RJ45) + 2 10-gigabit Ethernet fiber port (SFP+,LC)
<b>M7000-48GT2XS-EA</b>	48 Gigabit Ethernet copper port (RJ45) + 2-port 10-gigabit Ethernet fiber port (SFP+,LC)
<b>M7000-24SFP2XS-EA</b>	24 Gigabit fiber port (SFP,LC) + 2 10-Gigabit Ethernet fiber port (SFP+,LC)
<b>M7000-48SFP2XS-EA</b>	48 Gigabit fiber port (SFP,LC) + 2 10-Gigabit Ethernet fiber port (SFP+,LC)
<b>M7000-24GT24SFP2XS-EA</b>	24 Gigabit Ethernet copper port (RJ45)+ 24 Gigabit fiber port (SFP,LC)+ 2 10-gigabit Ethernet fiber port (SFP+,LC)
<b>M7000-8XS-EA</b>	8 10-Gigabit Ethernet fiber port (SFP+,LC)
<b>M7000-16XS-EA</b>	16 10-gigabit Ethernet fiber port (SFP+,LC)

## Product Information

<b>Model</b>	<b>RG-NBS7003</b>
<b>Product Category</b>	Layer 3

## Hardware Specifications

<b>Model</b>	<b>RG-NBS7003</b>
<b>Product Information</b>	
<b>Warranty</b>	5 years
<b>Port Specifications</b>	
<b>Total number of RJ45 ports</b>	Determine the quantity based on the type and number of line cards.
<b>Total number of optical ports</b>	No
<b>Number of 1GE combo ports</b>	No
<b>Number of 1GE SFP ports</b>	No
<b>Number of 10GE SFP+ ports</b>	Determine the quantity based on the type and number of line cards.
<b>Number of 10/100BASE-T ports</b>	No
<b>Number of 10/100/1000BASE-T ports</b>	Determine the quantity based on the type and number of line cards.
<b>Number of 10/100/1000/2500BASE-T ports</b>	No
<b>Number of 100/1000/2.5G/5G/10GBASE-T ports</b>	No
<b>Module slots</b>	1 supervisor module slots 2 line card slots 2 system power module slots
<b>Reset button</b>	1
<b>DIP switch</b>	No
<b>Power Supply and Consumption</b>	
<b>Power input</b>	RG-PA300I-FS (AC input): <ul style="list-style-type: none"><li>Rated input voltage: 100 V AC to 240 V AC, 50/60 Hz</li><li>Maximum input voltage: 90 V AC to 264 V AC, 47 Hz to 63 Hz</li><li>Maximum input current: 5 A</li></ul>

# Hardware Specifications

Model	RG-NBS7003
	RG-PA460I-FS (AC input): <ul style="list-style-type: none"> <li>Rated input voltage: 100 V AC to 240 V AC, 50 Hz to 60 Hz</li> <li>Maximum input voltage: 90 V AC to 264 V AC, 47 Hz to 63 Hz</li> <li>Maximum input current: 6 A</li> </ul>
Maximum power consumption	50 W
Power output	<ul style="list-style-type: none"> <li>RG-PA300I-F 90 V AC to 290 V AC: 12 V DC (output voltage), 25 A (maximum output current)</li> <li>RG-PA460I-F 90 V AC to 290 V AC: 12 V DC (output voltage), 36 A (maximum output current)</li> </ul>
Power supply	Power module
<b>System Specifications</b>	
RAM	Line card: 1 GB DDR3
Flash memory	Supervisor module/Line card: 256 MB
Forwarding rate	357.12 Mpps
Switching capacity	960 Gbps(bit/s)
<b>Dimensions and Weight</b>	
Casing	Metal
Product dimensions (W x D x H)	Chassis without cable management bracket: 442 mm x 313 mm x 175 mm (17.4 in. x 12.32 in. x 6.89 in.)  EA card: 438.5 mm x 196 mm x 40.2 mm (17.26 in. x 7.72 in. x 1.58 in.)
Weight	9.6 kg (21.16 lbs) (including the empty chassis and one fan module, without packaging materials)
Shipping weight	13 kg (28.66 lbs) (including packaging materials, empty chassis, and one fan module)
<b>Environment and Reliability</b>	
Hot swapping of fan modules	Yes
Fan	1 x fan module (1 x fan module for factory delivery)
Cooling	Device: Air cooling, front-to-rear airflow + left-to-rear airflow + right-to-rear airflow

# Hardware Specifications

Model	RG-NBS7003
	Line card: Air cooling, right-to-rear airflow Power module: Air cooling, front-to-rear airflow
Acoustic noise	25°C (77°F): 60 dB
Mounting options	Rack
Hot swapping of cables	Power connectors and all interfaces of line cards support hot swapping of cables.
MTBF	400,000 hours
Operating temperature	0°C to +50°C (32°F to 122°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)
Altitude	Operating altitude: -500 m to +5,000 m (-1,640.42 ft. to +16,404.20 ft.) Storage altitude: -500 m to +5,000 m (-1,640.42 ft. to +16,404.20 ft.)
Corrosion class	No
ESD protection	Contact discharge: 6 kV Air discharge: 8 kV
Surge protection	Service port: ±6 kV for common mode Power connector: ±6 kV for both common mode and differential mode
<b>Certification and Regulatory Compliance</b>	
EMC	EN 55032 EN 61000-3-2 EN 61000-3-3 EN 55035 EN 300 386
Safety compliance	IEC 62368-1
Certification	CE

# Software Specifications

Model	RG-NBS7003
<b>Authentication</b>	
RADIUS	Yes
802.1X authentication	Yes
Port-based 802.1X authentication	Yes
MAC address-based 802.1X authentication	Yes
Guest VLAN	Yes
<b>Basic Configurations</b>	
PoE watchdog	No
Online upgrade	Yes
<b>Ethernet Switching</b>	
Maximum number of VLANs	4094
Maximum number of MAC address entries	32000
Interface flow control	Yes
MAC address-based VLAN	No
IP subnet - based VLAN assignment	No
IEEE 802.1Q VLAN	Yes
Basic QinQ	No
VLAN configuration supported on LAN ports	Yes
Voice VLAN	Yes
STP (IEEE 802.1d)	Yes
RSTP (IEEE 802.1w)	Yes
MSTP (IEEE 802.1s)	Yes
LLDP	Yes

# Software Specifications

Model	RG-NBS7003
LLDP-MED	Yes
Static MAC address	Yes
MAC address filtering	Yes
Static aggregation	Yes
LACP	Yes
Inbound or outbound rate limiting based on interface traffic	Yes
<b>Gateway Features</b>	
802.1p priority-based traffic classification	Yes
DSCP priority-based traffic classification	Yes
Egress queues based on 802.1p and DSCP priorities	Yes
SP	Yes
WRR	Yes
SP+WRR	Yes
Global QoS	Yes
<b>Interface</b>	
Jumbo frame length (MTU)	9216 bytes (interface configuration mode)
EEE	Yes
Cable test	Yes
<b>IP Routing</b>	
Maximum number of IPv4 static routes	2000
IPv6 routing table size (network route)	2000
Maximum number of IPv6 static routes	500

# Software Specifications

Model	RG-NBS7003
IPv4 static route	Yes
IPv6 static route	Yes
OSPFv2	Yes
OSPFv3	Yes
IP Service	
Maximum number of ARP entries	8000
IPv4 routing table size (host route)	12000
ARP	Yes
IPv4 ping	Yes
IPv4 traceroute	Yes
IPv6	Yes
ICMPv6	Yes
IPv6 ping	Yes
IPv6 traceroute	Yes
DNS client	Yes
DNSv6 client	Yes
DHCP relay	Yes
DHCP server	Yes
DHCP client	Yes
Multicast	
IGMPv1 snooping	Yes
IGMPv2 snooping	Yes
Basic IGMPv3 snooping	Yes
Full IGMPv3 snooping	Yes

# Software Specifications

Model	RG-NBS7003
IGMP filtering	Yes
IGMPv1, v2, and v3	Yes
<b>Network Management and Monitoring</b>	
Fan speed adjustment	Intelligent speed adjustment
Port mirroring	Yes
Mirroring	Yes
HTTP login	Yes
HTTPS login	Yes
RLOG	Yes
SON	Yes
Syslog	Yes
Client auto-discovery	Yes
PoE service failure	No
PoE power overload	No
SSH	No
Camera detection	Yes
Loop alarm	Yes
MAC address entries	Yes
IP address pool conflicts	Yes
Full ARP table	Yes
eWeb management	Yes
Ruijie Cloud management	Yes
Ruijie Reyee App management	Yes
SNMPv1, v2c, and v3	Yes

# Software Specifications

Model	RG-NBS7003
<b>Reliability</b>	
Number of VCS members	2
System dual backup	Yes
Enabling dual backup for the partition Uboot (based on a single flash memory)	Yes
Load balancing	No
ERPS	No
<b>Security</b>	
Maximum number of ACEs	Number of ACEs in the inbound direction of an interface: 1900 Number of ACEs in the outbound direction of an interface: 0
Port isolation	Yes
Broadcast storm control	Yes
Multicast storm control	Yes
Unknown unicast storm control	Yes
DHCP snooping	Yes
Standard ACL	Yes
Extended MAC ACL	Yes
Extended IP ACL	Yes
IPv6 ACL	Yes
IP-MAC-port binding	Yes
ARP anti-spoofing	Yes
IP source guard	Yes
CPU Protection Policy	Yes
<b>System Performance Capacity</b>	
Recommended camera limit	RG-NBS7003: Number of line cards x Recommended number of cameras per service interface board

## Software Specifications

Model	RG-NBS7003
	Recommended number of cameras connected to a line card: 200 W H265: 400 400 W H265: 200

## Package Contents

Model	RG-NBS7003
<b>Device</b>	
Device	1
<b>Accessories</b>	
Rubber pad	No
Power cord retention clip	No
Screw	12 M6 x 16 mm cross recessed countersunk head screws 8 M3 x 10 mm cross recessed countersunk head screws 12 M6 cage nuts
Grounding cable	1 x 2 m (6.56 ft.)
Power cord	No
Rack-mount bracket	2
<b>Manual</b>	
User Manual	1
Warranty Card	1

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