# RAISECOM
Raisecom Technology Co., Ltd

ISCOM3000G(B) series switches

L3 Gigabit Ethernet Switch

The ISCOM3000G(B) series switches are Layer 3 Gigabit Ethernet switches developed by Raisecom. This series adopt a new-generation route switching software platform based on the Linux OS, and provide flexible networking solutions, such as ISCOM3024G-4C (24GE RJ45+4*10G SFP+), ISCOM3024GF-4C (24*1G SFP+4*10G SFP+), ISCOM3048G-4C (48GE RJ45+4*10G SFP+), ISCOM3048GF-4C (48*1G SFP +4*10G SFP+), ISCOM3024GF-4GE (24*1G SFP +4*GE combo), and ISCOM3024G-4GE (24GE RJ45+4*GE combo).

The ISCOM3000G(B) series feature high reliability, high security, easy maintenance, simple administrator, etc. and adopt advanced OAM technology, meeting the carrier's requirements, which is complied with CE2.0 standards to deliver EPL, EVPL, EP-LAN, EVP-LAN, E-Access services The ISCOM3000G(B) series also support abundant IPv4/IPv6 unicast/multicast routing protocols and Intelligent Stacking Framework (ISF) technology.

With these features, they can be widely applied to various network scenarios. For example, they can function as edge devices on the MAN, aggregation switches on a campus or enterprise network, or gigabit access in the Internet/Enterprise Data Center (IDC/EDC).
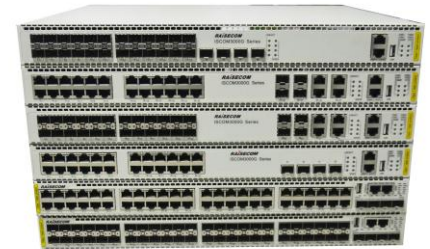
ISCOM3000G(B) Series

Highlights >>

High capacity, high density	1U standard chassis, easy to be installed in the cabinet, saving space, with a switching capacity of 176 Gbit/s Downlink interfaces: forty-eight 10/100/1000M Base-T electrical interfaces or 1GE SFP fiber interfaces. Uplink interfaces: four 1000 Mbit/s Combo interfaces or four 10 Gbit/s SFP+ interfaces.
ISF Stacking	ISF technology: multiple ISCOM3000G(B) series switches are connected with uplink ports to set a stack, which functions as a virtual switch. Compared with traditional networking technologies, ISF has great advantages in reliability, scalability, management, and maintenance.

High reliability: a stack consists of a master switch, a backup switch, and several slave switches. The backup switch takes over services when the master switch fails, improving the device-level reliability. And the link-level reliability is also improved through cross-device link aggregation. In most cases, the fault switching time between the master switch and the backup switch or between L2 link and L3 link is less than 250ms.*

High scalability: you can hot swap the switch when it fails, which reduces the impact of service interruption on customers. When the customer requires capacity expansion, you can easily expand the number of interfaces, bandwidth, and processing capability without interrupting the services by adding a switch to the stack. In this case, the performance of the stacking system doubles, which meets the capacity expansion requirements of high performance and high interface density on the core switching devices by the new-generation campus network.

Easy operation administration and maintenance: after the stack is established, multiple physical switches can be virtualized as one logical switch which can be managed through a single IP address. You can log in to the stacking system through any member switch to uniformly manage and configure all member switches in the stack. Meanwhile, it supports intelligent upgrade. When one switch is added to the stack, the master switch will automatically upgrade it, which greatly reduces the operation and maintenance cost.

Strong service capabilities

Support ready IPv4 L2/L3 multicast protocols: IGMP Snooping, MVR, VLAN copy, IGMP Proxy, IGMP filter, L2 multicast monitoring, IGMPv1/v2/v3, PIM-SM multicast routing protocols, meeting the requirements of multi-terminal HD videos monitoring and video conference access.

Support rich IPv4 routing protocols: RIP, OSPF, ISIS, BGP, VRRP and so on, meeting the requirements of enterprise access and carrying aggregation services. Support richer voice, video, and data applications.

Support IPv6 capabilities, such as MLD Snooping, MLDv1/v2, PIM-SMv6, RIPng, OSPFv3, and BGP4+.*

High reliability

Support STP, RSTP, and MSTP. RSTP and MSTP can implement millisecond-level protection switching and ensure network reliability. In addition, ISCOM3000G(B) series support multi-process RSTP (MRSTP). In different processes, interfaces are managed differently. The MSTP topology computation can be conducted independently in different process, which reduce the impact on the network caused by single device failure and facilitates capacity expansion and independent management on interfaces.

Support LACP and MLACP.

Support Ethernet Ring Protection Switching (ERPS), which complies with the ITU-T G.8032 standard. Provide a fault switching time less than 50ms. G.8032 supports link detection based on physical interfaces or end-to-end link detection based on CC.

Support loop detection to avoid access loops at the user side.

Support VRRP, which not only implements the backup of routing devices but also the backup of uplink links.

Support redundant power supplies: double AC, double DC, or a mix of AC and DC.

Support dual-system and dual-configuration-file redundancy backup.

Various security guarantees

Support IEEE802.1x-based interface authentication and MAC authentication, which implements the dynamic distribution of VLAN user policies.

Support various AAA modes, such as RADIUS and TACACS+.

Support port secure MAC and MAC address limit to prevent attacks from illegal users.

Support various ACL policies to control packet forwarding flexibly.

Support DHCPv4/v6 Snooping and Option 82/18/37 to avoid DHCP attacks.

Support DAI and IP Source Guard to prevent ARP flooding attacks and IP attacks.

Support broadcast storm to ensure the stability of the network.

Support lightning protection for the power supply and all Ethernet electrical interfaces, and reduce hardware investment for customers.

Individualized QoS

Support complex traffic classification. Support classifying traffic according to the customized fields in the packet.

Support rich scheduling policies, such as SP, WRR, SP+WRR, DRR, and SP+DRR.

Support a flow-based dual-rate three-color CAR and HCAR.

Support statistics based on traffic.

IPv6 Ready

Meet the requirement of IPv6 networking and support IPv6 remote management through Telnet or SNMP.

Support IPv6 ACL, DHCPv6 Snooping, RA Snooping, and Option18/37 to ensure the network security.

Support MLD Snooping to ensure the IPv6 multicast monitoring.

Full suite OAM & SLA

Support point-to-point IEEE802.3ah link monitoring.

Support end-to-end hardware IEEE802.1ag to implement 3.3ms CC monitoring.*

Support rich SLA, Y.1731 which can monitor the network performance of the L2/L3 data flow.*

|	
Advanced management system	Support SNMP, RMON, Telnet, and SSH.
	Support friendly WEB management to increase the usability of the device.
	Support automatic configuration and loading. The administrator can put the configuration file set in advance to the FTP/TFTP server for automatic loading while the switch is booting, thus simplifying the management and maintenance.

Application >>

The ISCOM3000G(B) series switches can be widely applied to various scenarios, such as serving as aggregation/core devices on campus/enterprise network and gigabit access in the IDC/EDC.

Campus networking

ISCOM3000G(B), ISCOM2600G, and ISCOM3000X together can provide an integrated solution to campus. In this solution, the ISCOM3000G(B) serves as an aggregation device. Technologies such as LACP, dual-homed protection, and stacking are used for networking, which greatly improves the network reliability.
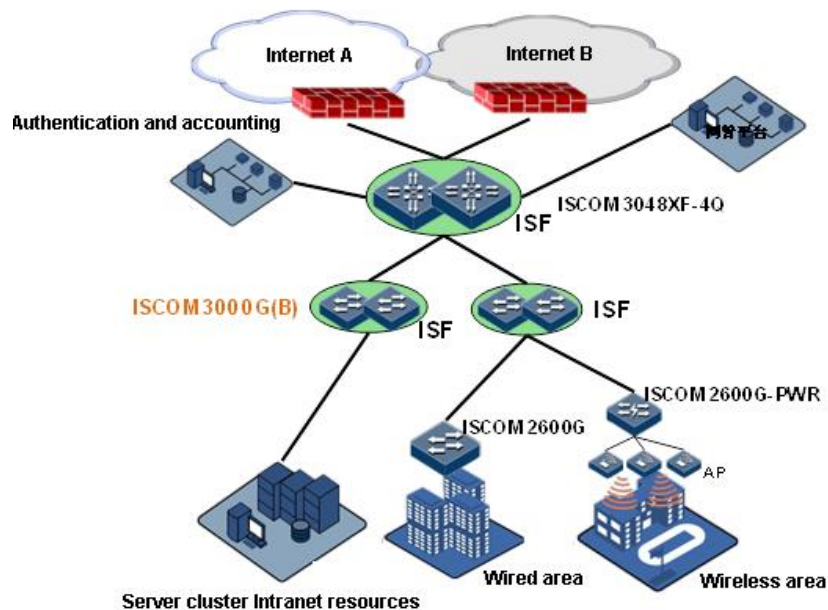
SMEs and shops networking

The ISCOM3000G(B) series switches can be applied to the SME networking scenarios (street shops, Internet bar, and so on). In this solution, the downlink gigabit interfaces on the switches are connected to the access switches on the building floor (For GE switches, ISCOM2600G series are recommended. For FE switches, ISCOM2100 series are recommended.) While the 10 GE switch is connected upstream to the egress interface of the enterprise gateway or firewall.
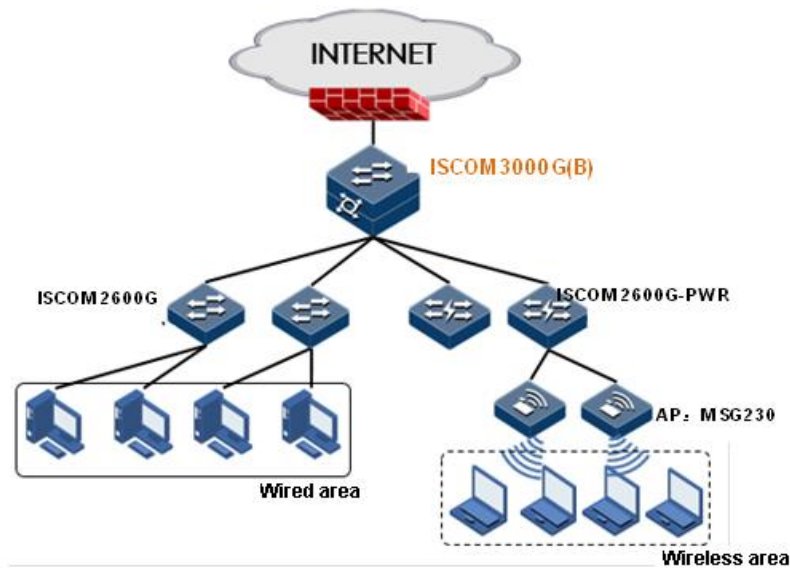
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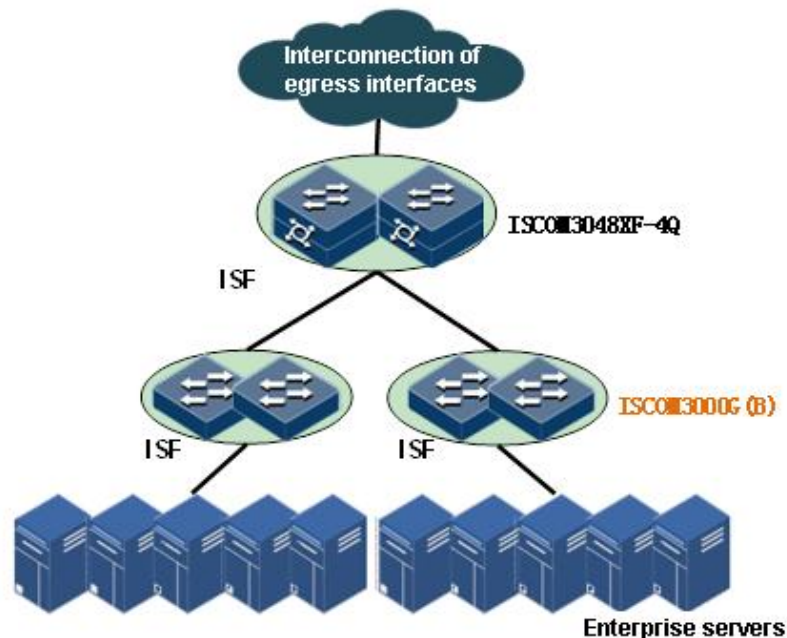Tampa, Florida 33607 USA

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IDC/EDC networking

For the super large IDC, the ISCOM3000G(B) series switches can be deployed to the management domain, serving as the gigabit access switches. For the EDC, the ISCOM3000G(B) series switches can work together with the ISCOM3000X series switches to provide a solution. ISCOM3000G(B) series switches stack together through the 10 Gbit/s interfaces, serving as the gigabit ToR, to access the gigabit server. The ISCOM3000X series switches stack together through the 40 Gbit/s interfaces, serving as the core devices, to aggregate the downlink ISCOM3000G(B) series switches.

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Key Features >>

Device	ISCOM3024G-4C	ISCOM3024GF-4C	ISCOM3048G-4C	ISCOM3048GF-4C	ISCOM3024GF-4GE	ISCOM3024G-4GE
Port type	Uplink: 4x10GE SFP+ Downlink: 24xGE RJ45	Uplink: 4x10GE SFP+ Downlink: 48xGE SFP	Uplink: 4x10GE SFP+ Downlink: 48xGE RJ45	Uplink: 4x10GE SFP+ Downlink: 48xGE SFP	Uplink: 4xGE Combo Downlink: 24xGE SFP	Uplink: 4xGE Combo Downlink: 24xGE RJ45
Management interface	1 out-of-band interface, 1 Console interface					
Switching capacity (Gbits/s)	128	128	176	176	56	56
Packet forwarding rate (Mpps)	95.23	95.23	130.94	130.94	41.66	41.66
Dimensions (mm)	440x360x43.6					
Weight(kg)	6	6	8	8	6	6
MAX Power consumption (W)	55	65	80	85	55	55
Voltage range	100–240V AC, -32 to -72V DC					
Hardware	• Dual power supply, supporting dual AC/DC and AC+DC Power options • Working temperature: 0–50°C • Relevant humidity: 10%–90% RH (non-condensing) • anti-thunder: AC: DM6kV/CM6kV, DC: DM1kV/CM2kV, Cable port: CM1kV					
Packet forwarding	• MTU (12KB) • DLF control					
MAC	• MAC address table (32K), static MAC address table (1024) • Blackhole MAC address • MAC addresses limits based on the interface • Port security MAC					
VLAN	• Dot1Q (4094 VLANs) • Basic QinQ, selective QinQ, protocol-based VLAN • VLAN mapping (1:1, inner and outer VLAN mapping)					
L2 Multicast	• L2 multicast table (1K) • IGMPv1, v2, v3 protocol • IGMP Snooping, MVR, IGMP VLAN copy					

	●	IGMP Proxy
	●	IGMP Filter
ACL	●	MAC ACL (400), IP ACL (1K), IPv6 ACL (128)
	●	User-defined ACL (128)
	●	ACL combination based on VLAN/CoS/MAC/EtherType/IPv4/IPv6/L4 protocol
QoS	●	Trust mode: port-priority/CoS/DSCP
	●	Priority mapping: cos-mapping/dscp-mapping/tos-mapping/dscp-mutation-mapping/cos-remark-mapping
	●	Scheduling (8 queues/ports): SP/WRR/SP+WRR/DRR/SP+DRR
	●	Congestion control: Tail Drop/WRED
	●	Policy (action: marking, mirror, statistics, policer)
	●	Shaping: per port/queue
	●	Bandwidth guarantee: CIR/CBS/EIR/EBS, MEF/RFC 4115, color aware
	●	CAR: based on ingress (128)
	●	HCAR: based on ingress (128)
	●	Performance statistics: based on ingress (64)
Security	●	AAA: user, DOT1X (based on port or MAC), RADIUS, TACAS+
	●	PPPOE+
	●	DAI and IPSG based on DHCP binding table
	●	Storm control: broadcast, multicast, DLF
Reliability	●	LACP (max groups = port number/2,max member = down link number), MLACP
	●	STP/RSTP/MSTP(64 instance), MRSTP(Multi-process RSTP)
	●	port backup
	●	Loopback detection
	●	G.8032 v1/v2 (32 rings, < 50ms)*
IPv4	●	Vlanif (256)
	●	Vlanif IPv4 address (1 master and 15 slave)
	●	ARP IPV4 (8K), static ARP IPV4 (1K)
	●	DHCP Server, DHCP Relay, DHCP Client, DHCP Snooping, DHCP Option(61, 82, 43)
	●	Proxy ARP
IPv6	●	ARP IPV6 (4K), static ARP IPV6 (1K)
	●	NDP
	●	RA Snooping
	●	DHCPv6 Option(18, 37)
	●	MLD Snooping/Proxy/Filter
	●	IPV6 management: Telnet(10 sessions), SSH(10 sessions), TFTP/FTP, SNTP/NTP, SNMP, and RADIUS
IPv4 Routing	●	IPv4 Routing Entry (12K), IPv4 static/default routing (512)
	●	RIPv1/v2
	●	OSPFv2
	●	BGP4

- ISIS*
- IPv4 Multicast Routing Entry (2K)
- PIM-SM
- IGMPv1/v2/v3
- ECMP (8 MAX devices)
- Policy Routing
- VRRP (255 sessions)

IPv6 Routing	●	Ipv6 Routing Entry (6K), IPv6 static/default routing (512)
	●	RIPng*
	●	OSPFv3*
	●	BGP4+*
	●	IPv6 Multicast Routing Entry (2K)
	●	PIM-SMv6*
	●	MLDv1/v2*
OAM	●	IEEE802.3ah EFM
	●	IEEE802.1ag CFM (CC 3.3ms)*
	●	SLA: ITU-T Y.1731 (LM/DM/SLM)*
	●	L2 loopback (swap MAC)
	●	IPv4/v6 Ping/Traceroute
System management	●	Console CLI, SNMPv1/v2/v3, telnet (10 sessions), SSHv1/v2 (10 sessions)
	●	RMON
	●	LLDP
	●	DDM
	●	Alarm management, syslog management
	●	Automatic configuration
	●	Mirror (based on port or flow, 4 groups)
	●	RSPAN
	●	Backup system
ISF stacking	●	Max four devices stacking
	●	Merge and split of stacking devices
	●	1(master) : 1(backup) : n(slave)
	●	linear/ring stacking

*roadmap

Ordering Information >>

ISCOM3024G-4C-AC/DC/ D	24x10/100/1000 BASE-T + 4x1000M/10G SFP+, dual AC/DC power.
ISCOM3024G-4C-AC_DC	24x10/100/1000 BASE-T + 4x1000M/10G SFP+, AC plus DC power.
ISCOM3024GF-4C-AC/DC/D	24x100/1000 SFP + 4x1000M/10G SFP+, dual AC/DC power.

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ISCOM3024GF-4C-AC_DC	24x100/1000 SFP + 4x1000M/10GE SFP+, AC plus DC power.
ISCOM3048G-4C-AC/DC/D	48x10/100/1000 BASE-T + 4x1000M/10G SFP+, dual AC/DC power.
ISCOM3048G-4C-AC_DC	48x10/100/1000 BASE-T + 4x1000M/10G SFP+, AC plus DC power.
ISCOM3048GF-4C-AC/DC/D	48x100/1000 SFP + 4x1000M/10G SFP+, dual AC/DC power.
ISCOM3048GF-4C-AC_DC	48x100/1000 SFP + 4x1000M/10G SFP+, AC plus DC power.
ISCOM3024G-4GE-AC/DC/D	24x10/100/1000 BASE-T + 4x COMBO (100/1000BASE-X or10/100/1000BASE-T), dual AC/DC power.
ISCOM3024G-4GE-AC_DC	24x10/100/1000 BASE-T + 4x COMBO (100/1000BASE-X or10/100/1000BASE-T), AC plus DC power.
ISCOM3024GF-4GE-AC/DC/D	24x100/1000 SFP + 4x COMBO (100/1000BASE-X or10/100/1000BASE-T), dual AC/DC power.
ISCOM3024GF-4GE-AC_DC	24x100/1000 SFP + 4x COMBO (100/1000BASE-X or10/100/1000BASE-T), AC plus DC power.