I5300M Series

Infinique Networks Layer 3 Aggregation Switch

10G, SDN Managed, Stackable for Large and Medium Campus Networks

Overview

Infinique's 5300M Series Switches are a high performance gigabit Layer 3 Stackable Managed network switches that are stable, reliable and are designed for ease of use. These switches offer excellent high speed performance through line-rate forwarding on all ports, and have advance redundancy and reliability features that are implemented through the industry standard protocols like the Ethernet Ring Protection Switching Protocol (ERPS), and the Virtual Router Redundancy Protocol (VRRP) which increases the availability through uplink backup capabilities.

The 5300M series switches provide easy and efficient network management through Software Defined Networking (SDN) and also offer a comprehensive set of options for management of switches through protocols like SNMP and Cloud, providing easy configuration and setup of switches using Web or Command Line Interface. These switches provide higher bandwidth connections through 10 Gigabit SFP+ Uplink ports and help improve fault tolerance and reliability via Virtual Stacking Technology .

Built with security and advance features, the switches can act as access switches in a large campus network or as aggregation switches in a small and mid-sized campus installations. They meet the very comprehensive demands of enterprise campus networks and help build highly reliable and easy to expand networks.

Product Highlights

- High performance Gigabit and 10G Ports for Fast Connections
- 10 Gigabit Uplink Ports for High Bandwidth Connections
- Supports IPv4/IPv6 Dual Stack ability facilitating a smooth transition of network infrastructure from IPv4 to IPv6
- Physical Stacking of up to 16 Switches to create a Single Virtual Switch or Logical Device for fault tolerance and reliability
- Supports Standard Spanning Tree Protocols ensuring seamless connectivity and high availability
- Effectively access and manage network switches using Software Defined Networking or Cloud platforms reducing management costs
- Zero Touch Provisioning for easy and quick deployment
- Effectively manage network bandwidth by traffic prioritization and resource allocation using advanced QoS
- Control network access with a range of features that provide user and device authentication and ensure network security
- Robust Aluminum metal alloy enclosure with Fan or Fan-less design for excellent heat dissipation
- Supports Industry Standards such as IEEE 802.3, IEEE 802.3u, IEEE 802.3z, IEEE 802.3ab, IEEE 802.3x, IEEE 802.3az, IEEE 802.3ah and more.

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Series Snapshot

Model/Max. Ports		30	30	54	54	54	54
Port Type	RJ45 (1G)	24	24	48	48		32
	SFP (1G)					48	16
	SFP+ (10G)	4	4	4	4	4	4
Ext Slot (2x 10G SFP+ Card)		1	1	1	1	1	1
PoE+ (Based on Power Supply)			380/760W		760/1440W		
Power (AC)		Dual Modular	Dual Modular	Dual Modular	Dual Modular	Dual Modular	Dual Modular
Switching Capacity (Gbps)		168	168	216	216	216	216

Refer Ordering Section for Part Numbers

Salient Features

Software Defined Networking

The I5300M series of campus switches provide an excellent way to manage campus switches through the IN-LAN controller software, an integrated Software Defined Networking (SDN) platform. This SDN platform helps to deploy, manage and secure the network through a single platform. Thus simplifying network administration, reducing deployment times and increasing network efficiency, making it easy to troubleshoot and provide network maintenance and ultimately leading to an overall cost savings in managing the network.

High Availability

The I5300M series switches offer excellent feature of redundancy and reliability and cater to very diverse networking requirements. In addition to supporting traditional spanning tree protocols such as STP, RSTP, and MSTP, the switches also comply with the ITU-T G.8032 international standard, the Ethernet Ring Protection Switching (ERPS) protocol which enables rapid failover within Ethernet ring network topologies, ensuring seamless connectivity and minimal downtime. Additionally the I5300M series campus switches incorporate the Virtual Router Redundancy Protocol (VRRP), which helps increase the availability through uplink backup capabilities.

Stack together for Bandwidth and Management

The I5300M series switches can be combined together to form a single virtual stack or logical unit. The stacking is achieved by connecting multiple switches together through the 10G SFP+ ports to form a single virtual switch that helps improve the switches link reliability, increase bandwidth and provide simple configuration and management, and ease of network expansion.

Quality of Service ensuring Performance

The Quality of Service (QoS) capabilities of switches guarantees the network traffic of various applications, such as streaming video, VoIP calls, and data transfer, is prioritized correctly and with the right resource allocation as per the requirements of the application. This is achieved with the advanced scheduling algorithms such as SP, WRR, WFQ, SP+WRR and SP+WFQ and diverse priority mapping techniques such as 802.1p and DSCP, that enable control over traffic classification and prioritization.

Zero Touch Provisioning for Quick Setup

Infinique's I5300M series provide advanced ZTP features for easy deployment. Using this feature the switches can discover and install necessary version files from a file server eliminating the need for manual setup during the initial setup. This helps reduce the configuration errors and accelerates the deployment process, while enhancing the overall network efficiency, making these switches an ideal choice for network administrators.

Management Options for Easy Administration

The I5300M series offer a comprehensive set of management features and options to provide an easy way to manage tasks. Available features include network management protocols like Cloud and SNMP, Configuration and Control options using Web and CLI, Monitoring and Diagnostics tools such as RMON and SYSLOG, help network administrators to monitor and maintain the network for optimum performance.

Authentication and Secure Access

These series of network switches offer a comprehensive suite of security features that provide both user and device authentication and protection. The features include user authentication, port security, Access Control Lists (ACL), Loopback Detection and 802.1x Authentication. Robust security functions such as IP Source Guard, DHCP Snooping, Dynamic ARP Inspection and PPPoE+ ensure excellent protection for network access. These network switches also support MAC binding, and counter measure against network storm, ARP snooping and protocol packet attacks making it an ideal access network switch.

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NETWORK MANAGEMENT FEATURES

Ports and Interface

Basic Port Configuration	Auto MDI/MDIX, Port Type UNI/NNI Port Speed, Port Duplex, Port MTU(Jumbo Frame), Port Isolation, Port Loopback, Port Energy Control
MAC Address Management	MAC Address Aging Time, MAC Address Learning ON|OFF, MAC Address Learning Limitation, Static MAC Address, MAC Address Filter, MAC address VLAN Binding, MAC Debug
Storm Control	Storm, Flood Control and Shutdown Control for BUM
Logical	Loop-back, Tunnel, Null, L2/L3 VLAN and L3 Ethernet interfaces

Ring Protection

Spanning Tree Protocols	STP/RSTP/MSTP, BPDU Guard, BPDU Filter, Flap Guard, Loop Guard, Root Guard, TC Guard, BPDU L2protocol Tunnel
Other Protocols	VIST/VIST+, G.8032 (Ethernet Ring Protection Switching) v1, v2

Link Aggregation

LACP Configuration	LACP Link Aggregation, LACP Port Priority, LACP Load Balance, LACP Rate Monitor, LACP Debug

VLAN

VLAN Management	VLAN, VLAN PVID, VLAN Trunk, VLAN Hybrid, VLAN Interface, MAC VLAN, Protocol VLAN, IP Subnet VLAN, Super VLAN, Voice VLAN, Private VLAN, Guest VLAN, GVRP, Basic QinQ, Selective QinQ, 802.1ad, VLAN Mapping, VLAN Debug, VLAN Isolation

IP Services

IP Protocol	ARP, DNS, NTP Server/Client, ICMP, ECMP, GRE, IPIP, IPv6 over IPv4, ISATAP, IPv4 over IPv6, IPv6 over IPv6
Routing Protocol	Static Routing v4/v6, RIP/RIPng, OSPF v2/v3, BGP/BGP+, ISIS/ISIS v6, VRRP/VRRP v3, VBRP, PBR/PBR v6, IP-VRF
DHCP Service	DHCP v4/v6 Server, DHCP v4/v6 Client, DHCP v4/v6 Relay, DHCP Snooping, DHCP Option 51/82

Multicast

L2 Multicast Protocols	IGMP v1/v2/v3 Snooping, Fast Leave, IGMP Snooping Proxy, MLD Snooping, MVR, MVP
L3 Multicast Protocols	IGMPv1/v2/v3, PIM v4/v6-SM, PIM v4/v6-SSM, PIM-DM, PIM-SDM,

Quality of Service (QoS)

Flow Classification	802.1P Priority, DSCP Priority, VLAN ID, MAC Prefix, IP Subnet, Protocol, IP Precedence, IPv6 Traffic Class, Ethernet Type
Traffic Control	Rate Limit and Port based Bandwidth, Traffic Shaping
Traffic Classification	Three Color Marker, Priority Remark, Traffic Redirect/Meter/Mirror
Scheduling	Port-based Priority, SP, WRR, WFQ, SP+WRR, SP+WDRR, SP+WFQ
Congestion Management	Tail-drop, RED, WRED

Error Handling and Fault Detection

Error-Disable Configuration	Error-Disable Based on BPDU-guard, Loopback-detect, Port Security; Error-Disable Recovery
Fault Detection	UDLD, Loop-back Detection, CFM, Monitor Link (MTLK)

Security

Port Security	Rule Based On IP/MAC/MAX/Sticky, Violation (Protect/Restrict/Shutdown), Recovery
Network Access Control	IP Source Guard (ISG), DHCP Snooping, ND Snooping, Host Guard
Access Control List	Standard IP ACL, Extended IP ACL, Standard MAC ACL, Extended MAC ACL, Standard Hybrid ACL, Extended Hybrid ACL, Standard IPv6 ACL, Extended IPv6 ACL, Time-based ACL
Threat Prevention	Dynamic ARP Inspection (DA), ARP Check, AARF ARP-Guard, ARP Speed Limit, ARP Source Suppression, PPPoE+
AAA	Local Authentication, Radius (Authentication, User Login Authorization, User Login Accounting), TACACS+ (Authentication, User Login Authorization, Command Authorization, User Login Accounting, Command Accounting)

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NETWORK MANAGEMENT FEATURES

802.1x	Port-based 802.1X, MAC-based 802.1X, MAC-Authentication, Guest-VLAN, VLAN Distribution (Auto-VLAN), ACL Distribution
Anti Attack	Anti-Attack Detect/Drop/Flood/Log, URPF, White List, Black List

Configuration and Management

Monitoring and Diagnostics	SPAN, RSPAN, VLAN SPAN, sFlow, Telemetry, IP SLA
Device Management	SNMP v1/v2/v3, SNMP Trap, RMON, SYSLOG (Logging to Terminal/Logging to Server/CLI Operation to Server), LLDP, WEB(HTTP), Console, Telnet, SSH, Cloud, System Upgrade (TFTP/FTP/SFTP/WEB), Configuration Management (Backup/Restore), Factory Reset, Password Reset, ISSU, Hot Patch, Keep-Alive Gateway, Cloud Management
Zero Touch Provisioning	ZTP Through DHCP Server, USB and Flash Disk

High Availability

Device Virtualization	H-VST, M-VST
Detection Mechanism	MAD LACP, MAD BFD, MAD Fast-Hello, MAD LACP
Protocols	HA, ULFD, UDLD, G.8032, ULPP, Monitor Link, VRRP, VRRPv3, VBRP, EEP, BFD with Static/RIP/OSPF/BGP/ISIS

Network Virtualization

Software Defined Networking	NETCONF/YANG

Stacking

Physical Stacking	Yes, Max Distance 80Km
Max No. of Switches	16
Bandwidth	20~80Gbps

Standards Compliance

IEEE Standard	802.1D Bridging and Spanning Tree Protocol
	802.1p Quality of Service and Class of Service Priority
	802.1Q Virtual LAN tagging
	802.1ad Double Tagging of Data
	802.1w Rapid Spanning Tree Protocol
	802.1s Multiple Spanning Tree Protocol
	802.1ag Connectivity Fault Management
	802.1x Port-Based Network Access Control
	802.1AB Link Layer Discovery Protocol
	802.3 10BASE-T
	802.3u 100BASE-T
	802.3z 1000BASE-X
	802.3ab 1000BASE-T
	802.3ae 10G BASE-X
	802.3by 25G BASE-X
	802.3ba 40G BASE-X
	802.3ah Ethernet in the First Mile Operations, Administration, and Maintenance
	802.3ad Link Aggregation
	802.3x Flow Control
	RFC 2460 Internet Protocol, Version 6 (IPv6) Specification
	RFC 4861 Neighbor Discovery for IP Version 6 (IPv6)
	RFC 4862 IPv6 Stateless Address Auto configuration
	RFC 4443 Internet Control Message Protocol (ICMPv6) for the Internet Protocol Version 6 (IPv6)

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TECHNICAL SPECIFICATIONS

Non-POE Models

	I5300M-24T-4X	I5300M-48T-4X	I5300M-48G-4X	I5300M-32T-16G-4X
General				
10/100/1000 Ports	24x RJ-45 Ports	48x RJ-45 Ports	NA	32x RJ-45 Ports
SFP 1G Ports	NA	NA	48x 1G Fiber Ports	16x 1G Fiber Ports
SFP+ 10G Ports	4x 10G Fiber Ports	4x 10G Fiber Ports	4x 10G Fiber Ports	4x 10G Fiber Ports
Expansion Slot (2-Port SFP+ Card)	1x (Not Stackable)			
Console Ports	1x RJ-45, 1x USB			
Host Support	IPv4 / IPv6 ready			
LED Indicator Status	Power: Yellow, System: Yellow, Network: Link/Act Yellow, SFP: Link/Act Green, PoE: Green			
Fan	Fixed	Fixed	Fixed	Fixed
Performance				
Switching Bandwidth	168Gbps	216Gbps	216Gbps	216Gbps
Transmission	Store and Forward			
Forwarding Rate	1640.62mpps	2109.37mpps	2109.37mpps	2109.37mpps
Buffer Memory	1G	1G	1G	1G
Jumbo Frame	12K	12K	12K	12K
MAC Addresses Table Size	32K	32K	32K	32K
VLAN Entries	4K	4K	4K	4K
IPv4 Host Table (ARP)	8K	8K	8K	8K
IPv4 Routing Entries	12K	12K	12K	12K
IPv6 Host Table (ND)	8K	8K	8K	8K
IPv6 Routing Entries	4K	4K	4K	4K
L3 Multicast Entries	6K	6K	6K	6K
VRRP Group	255	255	255	255
MTBF	300,000 hours			
Power Management				
Power Supply Type	Dual Modular	Dual Modular	Dual Modular	
Power Input	AC 100~240V 50~60Hz DC 40~57V			
Max Power Consumption	34W	46W	76W	49W
Environment				
Temperature (Celsius)	Operating: -5 °C to +45 °C; Storage: -40 °C to +70 °C			
Humidity	Operating: 10% to 90% non-condensing; Storage: 5% to 95% non-condensing			
Heat Dissipation (BTU)	90	190	198	190
Physical				
Dimensions (WxDxH) mm	442×420×44.2	442×420×44.2	442×420×44.2	442×420×44.2
Weight	6.0Kg	7.0Kg	6.0Kg	6.0Kg
Mounting Options				
Standards and Compliance				
Safety	CE/LVD EN 62368-1 RoHS			
EMC/EMI	EN 55032, EN 55035, EN 61000-3-2, EN 61000-3-3			
Green Energy (EEE)	IEEE802.3az Energy Efficient Ethernet Task Force			
Lighting Protection	6KV			

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TECHNICAL SPECIFICATIONS

POE Models

	I5300M-24P-4X	I5300M-48P-4X	
General			
10/100/1000 Ports	24x RJ-45 Ports	48x RJ-45 Ports	
SFP+ 10G Ports	4x 10G Fiber Ports	4x 10G Fiber Ports	
Expansion Slot (2-Port SFP+ Card)	1x (Not Stackable)		
Console Ports	1x RJ-45, 1x USB		
Host Support	IPv4 / IPv6 ready		
LED Indicator Status	Power: Yellow, System: Yellow, Network: Link/Act Yellow, SFP: Link/Act Green, PoE: Green		
Fan	Fixed	Fixed	
Performance			
Switching Bandwidth	168Gbps	216Gbps	
Transmission	Store and Forward		
Forwarding Rate	1640.62mpps	2109.37mpps	
Buffer Memory	1G	1G	
Jumbo Frame	12K	12K	
MAC Addresses Table Size	32K	32K	
VLAN Entries	4K	4K	
IPv4 Host Table (ARP)	8K	8K	
IPv4 Routing Entries	12K	12K	
IPv6 Host Table (ND)	8K	8K	
IPv6 Routing Entries	4K	4K	
L3 Multicast Entries	6K	6K	
VRRP Group	255	255	
MTBF	300,000 hours		
Power Management			
Power Supply Type	Dual Modular	Dual Modular	
Power Input	AC 100~240V 50~60Hz DC 40~57V		
Max Power Consumption	34W	46W	
PoE Standard	IEEE802.3af/at		
PoE Power Budget	380/760W	380/760/1440W	(Based on Power Supply Module Used)
Environment			
Temperature (Celsius)	Operating: -5 °C to +45 °C; Storage: -40 °C to +70 °C		
Humidity	Operating: 10% to 90% non-condensing; Storage: 5% to 95% non-condensing		
Heat Dissipation (BTU)	120	240	
Physical			
Dimensions (WxDxH) mm	442×420×44.2	442×420×44.2	
Weight	6Kg	7Kg	
Mounting Options			
Standards and Compliance			
Safety	CE/LVD EN 62368-1 RoHS		
EMC/EMI	EN 55032, EN 55035, EN 61000-3-2, EN 61000-3-3		
Green Energy (EEE)	IEEE802.3az Energy Efficient Ethernet Task Force		
Lighting Protection	6KV		

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Ordering Information

Part Number	Description
Switches	
I5300M-24T-4X	Infinique I5300M Series 1G/10G L3 Access Campus Switch, 24x 100/1000M Ethernet Ports, 4x 10G SFP+ Ports, 1x Expansion Slot, 2x Power Slots
I5300M-24P-4X-380	Infinique I5300M Series 1G/10G L3 Access Campus Switch, 24x 100/1000M Ethernet Ports, 4x 10G SFP+ Ports, 1x Expansion Slot, 380W PoE+, 2x Power Slots
I5300M-24P-4X-760	Infinique I5300M Series 1G/10G L3 Access Campus Switch, 24x 100/1000M Ethernet Ports, 4x 10G SFP+ Ports, 1x Expansion Slot, 760W PoE+, 2x Power Slots
I5300M-48T-4X	Infinique I5300M Series 1G/10G L3 Access Campus Switch, 48x 100/1000M Ethernet Ports, 4x 10G SFP+ Ports, 1x Expansion Slot, 2x Power Slots
I5300M-48P-4X	Infinique I5300M Series 1G/10G L3 Access Campus Switch, 48x 100/1000M Ethernet Ports, 4x 10G SFP+ Ports, 1x Expansion Slot, PoE+, 380W/760W/1440W Options , 2x Power Slots
I5300M-48G-4X	Infinique I5300M Series 1G/10G L3 Access Campus Switch, 48x 1000M SFP interfaces, 4x 10G SFP+ Ports, 1x Expansion Slot, 2x Power Slots
I5300M-32T-16G-4X	Infinique I5300M Series 1G/10G L3 Access Campus Switch, 32x 100/1000M Ethernet Ports, 16x 1G Ports, 4x 10G SFP+ Ports, 1x Expansion Slot, 2x Power Slots
Expansion Module	
I5300M-2X-EM	Infinique I5300M Series 1G/10G L3 Access Campus Switch, 2x 10G SFP+ Ports Expansion Module (Stacking Not Available)
Power Module	
I5300M-ACT-120-PWR	Infinique I5300M Series 1G/10G L3 Access Campus Switch, 120W AC Power Supply Module (For Non-PoE Model)
I5300M-DCT-120-PWR	Infinique I5300M Series 1G/10G L3 Access Campus Switch, 120W DC Power Supply Module (For Non-PoE Model)
I5300M-ACP-500-PWR	Infinique I5300M Series 1G/10G L3 Access Campus Switch, 500W AC Power Supply Module (For PoE Model)
I5300M-DCP-500-PWR	Infinique I5300M Series 1G/10G L3 Access Campus Switch, 500W DC Power Supply Module (For PoE Model)
I5300M-ACP-880-PWR	Infinique I5300M Series 1G/10G L3 Access Campus Switch, 880W AC Power Supply Module (For I5300M-48P-4X only)

Customer Support, Service and Warranty

Infinique network switches come with a standard one-year limited hardware warranty that covers repair or replacement of parts.
Cloud and Software: 90 days, can be extended with support contract