

TiFRONT

Cloud Security Switch



• Management on the **Cloud**

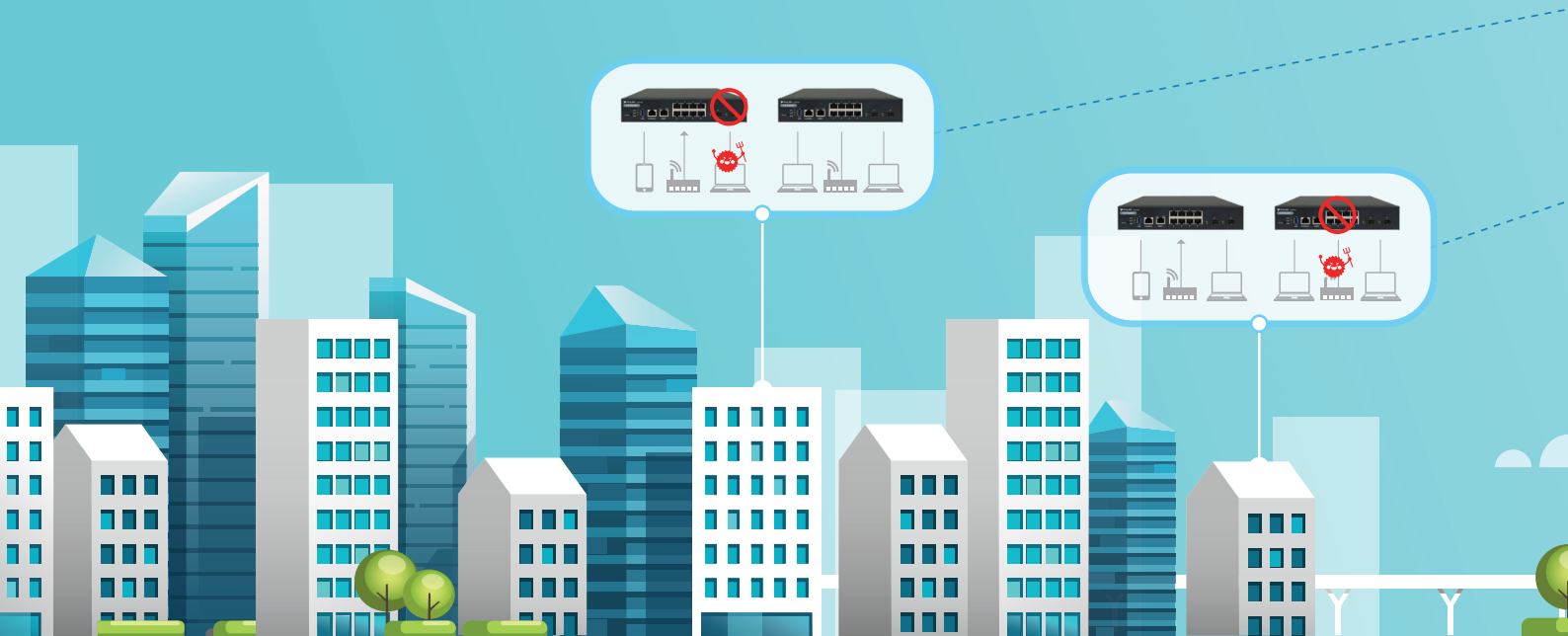
• L2/L3 **Switch**

• **Security**
for the Internal Network

TiFRONT

Cloud Managed Networking

Integrated operation for wired/wireless networks, connected terminals, and internal security



As the access network user and traffic has exponential growth, the security threats also get bigger due to remote working, using personal terminals for work and the access to various applications. However, unlike PC or server security, there is no adequate security solution for access gateway. In addition to that, the awareness of internal network management is low.

TiFRONT is designed to improve the access network with improper management and security blind spot by adding security functions to L2/L3 Switch and Access Point (AP). TiFRONT is designed for the centralized management device installation, troubleshooting, data analysis and security operation on one browser. It is also able to monitor third-party network equipment that has been established.

TiFRONT, Cloud managed networking solution, has advanced into new markets in Korea and Japan. Our key clients are the companies or public institutions managing branches/offices with limited IT resources, and the postsecondary education. It offers solutions for on-premise Cloud as well as public and private Cloud. IT managed service firms for SOHO/SMB companies are highly satisfied with this service. This service is highly rated as it allows the easy management of multiple customer sites on one browser and automatically issues various security reports.



SIMPLE

- Simple installation
- Operation and maintenance



SMART

- Data informatization
- Visibility and analysis



SECURE

- Internal network security
- IP & asset management



SERVICE

- Cloud Service type
- On-premise build-up



SCALE

- Multi-tenant
- Unlimited expansion



SPEED

- Easy equipment replacement
- Remote diagnosis

Integrated TiController Management System



TiController based on Cloud provides 'Easy management' which is the key feature of TiFRONT switch operations. It is managed centrally to distributed IT devices in the cloud by intuitive GUI with an at-a-glance view of connected user nodes, traffic status, and security threats, as well as a defined networks section that can be managed through multitenant features.



	TiController 100X	TiController 100	TiController 500	TiController 1000	TiController 2000
Managed Switches	up to 100 units	up to 100 units	up to 500 units	up to 1100 units	up to 2000 units

TiController Features

Easy Installation	Zero Touch Installation	<ul style="list-style-type: none"> • DHCP & wireless environment supported 	Configurations	QoS	<ul style="list-style-type: none"> • QoS rule add/remove, Port filtering, TCP/UDP filtering, Class MAP setting 				
	Plugins	<ul style="list-style-type: none"> • conguration install & OS update with USB storage device 		ACL	<ul style="list-style-type: none"> • system access control list, network access control list 				
	Switch Web UI	<ul style="list-style-type: none"> • switch conguration & OS update • uplink & TiController setting • switch port setting • live tools (ping, traceroute etc) 		IGMP Snooping	<ul style="list-style-type: none"> • Join/Leave, Multicast group 				
Easy Management	Multi-tenancy	<ul style="list-style-type: none"> • role-based 	Self-loop	<ul style="list-style-type: none"> • Enable/Disable self-loop 	Security	TiMatrix Security	<ul style="list-style-type: none"> • security level setting (high/middle/low) • Flood/Scanning/Protocol anomaly setting • ARP Spoofing/MAC flood setting • ransomware propagation block 		
	Devices	<ul style="list-style-type: none"> • topology, ports, trafc 	Service/Device Control	<ul style="list-style-type: none"> • SSH, Telnet, SNMP, HTTP, Console, MGMT, USB, Reset button, Remote reset, Perpetual PoE setting 		Interlock with Other Solutions	<ul style="list-style-type: none"> • PC filter • Kakao chatbot • IoT vulnerability analyzing solution • Anti-virus 		
	Traffic	<ul style="list-style-type: none"> • statistics on traffic usage per network/port/host 	Remote Access	<ul style="list-style-type: none"> • Remote console 	Host Management (IP Management)	Dashboard	Log Management	Reports	
	Integrated Search	<ul style="list-style-type: none"> • switch, client, alarm history, event log, security log 	Host Management (IP Management)	<ul style="list-style-type: none"> • collecting host information and setting policies, IP map, terminal management, terminal type registration 					<ul style="list-style-type: none"> • component-type user dashboard(organization status, security issue, device status, port usage, occurrence status per attack type, analysis on attack type, attack type TOP information, attacker IP TOP information, device traffic TOP information, traffic trends, security event occurrence trend component) • alarming dashboard(switch connection status, switch status, network alarm, port, client alarm) • integrated log analysis dashboard(alarm, event log, security issue)
	Maps	<ul style="list-style-type: none"> • network information and location of the switches 	IPT Form	<ul style="list-style-type: none"> • IPT form input 	Certication	CC Certification	<ul style="list-style-type: none"> • security logs, event logs, audit logs • store more than 6 months of switch and security events (observe the Information Security Basic Guidelines) 	<ul style="list-style-type: none"> • user-defined reports, scheduling 	
	Firmware	<ul style="list-style-type: none"> • overall/schedule updates 	Topology	<ul style="list-style-type: none"> • automatic formation of network topology map 		GS Certification	<ul style="list-style-type: none"> • integrated security management (EAL2) • TiController V1.1 (1 Level) 		
	Conguration Backup	<ul style="list-style-type: none"> • automatic conguration backup 	Virtual Conguration	<ul style="list-style-type: none"> • settings in advance on TiController without an actual switch 	Congurations	Port Schedule	<ul style="list-style-type: none"> • management VLAN, VLAN creation, VLAN name, subnet designation, port assignment, trunking 	<ul style="list-style-type: none"> • combining separate switches as a unit batch conguration for switches within a network 	
	Alarms	<ul style="list-style-type: none"> • switch state, port state, traffic usage, security issue 	Virtual Stacking	<ul style="list-style-type: none"> • one-step device replacement(enable to apply previous congurations without backup step) 					<ul style="list-style-type: none"> • disable/enable, root bridge setting, topology view, enable setting per VLAN, priority setting per VLAN
	Remote Diagnoses	<ul style="list-style-type: none"> • Live tools (ping, traceroute, cable test, reboot switch etc) • technical-assist 	Easy Replacement	<ul style="list-style-type: none"> • Jumbo-frame, Flow control, LLDP, Link speed 					
	User Account Change	<ul style="list-style-type: none"> • password change of TiFRONT user account 	Other Device H/C	<ul style="list-style-type: none"> • health check on other devices other than TiFRONT 					
Other Device H/C	<ul style="list-style-type: none"> • health check on other devices other than TiFRONT 	DDM	<ul style="list-style-type: none"> • SFP DDM (digital diagnostic monitoring) 						

TiFRONT Cloud Managed Security Switch



It enhances internal network security with the exclusive TiMatrix engine, which is supported by detecting and blocking harmful traffic from bots and malicious codes that flow/spread into the internal network. It is included in L2/L3 security features for protecting end-user networks. The security features on the switch and TiController, integrated management, enable saving costs and time for troubleshooting by IT managers as managing user networks with remote analysis and controls.



CS2300 series

TiFRONT	CS2310GX	CS2310GXP	CS2328GX	CS2328GXP	CS2328GXPE	CS2354GX	CS2354GXP	CS2328FX
Switching Fabric	56 Gbps	56 Gbps	128 Gbps	128 Gbps	128 Gbps	216 Gbps	216 Gbps	128 Gbps
Forwarding Rate	83.33 Mpps	83.33 Mpps	190.48 Mpps	190.48 Mpps	190.48 Mpps	321.43 Mpps	321.43 Mpps	190.48 Mpps
Memory (RAM)	512 MB	512 MB	512 MB	512 MB	512 MB	512 MB	512 MB	512 MB
Flash Memory	64 MB	64 MB	64 MB	64 MB	64 MB	64 MB	64 MB	64 MB
Ethernet Ports (total)	10	10	28	28	28	54	54	28
1 GbE copper	8	8	24	24	24	48	48	-
1 GbE fiber (SFP)	-	-	-	-	-	-	-	24
10 GbE fiber (SFP+)	2	2	4	4	4	6	6	4
Power Input	AC100 ~ 240V (50/60Hz)							
PoE	-	802.3af, 802.3at	-	802.3af, 802.3at	802.3af, 802.3at	-	802.3af, 802.3at	-
Dual Power	-	-	-	-	supported	-	-	supported

CS2700 series

TiFRONT	CS2710G	CS2710GP	CS2728G	CS2728GP	CS2728GX	CS2728GXP
Switching Fabric	20 Gbps	20 Gbps	56 Gbps	56 Gbps	128 Gbps	128 Gbps
Forwarding Rate	29.76 Mpps	29.76 Mpps	83.33 Mpps	83.33 Mpps	190.48 Mpps	190.48 Mpps
Memory (RAM)	512 MB	512 MB	512 MB	512 MB	512 MB	512 MB
Flash Memory	512 MB	512 MB	512 MB	320 MB	512 MB	320 MB
Ethernet Ports (total)	10	10	28	28	28	28
1 GbE copper	8	8	24	24	24	24
1 GbE fiber (SFP)	2	2	8 (4 combo included)	8 (4 combo included)	4 (4 combo included)	4 (4 combo included)
10 GbE fiber (SFP+)	-	-	-	-	4	4
Power Input	AC100 ~ 240V (50/60Hz)					
PoE	-	802.3af, 802.3at	-	802.3af, 802.3at, 802.3bt	-	802.3af, 802.3at, 802.3bt
Dual Power	-	-	supported	supported	supported	supported

CS3800 series

TiFRONT	CS3852G	CS3852GX	CS3852GXP
Switching Fabric	104 Gbps	176 Gbps	176 Gbps
Forwarding Rate	154.76 Mpps	261.91 Mpps	261.91 Mpps
Memory (RAM)	1 GB	1 GB	1 GB
Flash Memory	256 MB	256 MB	256 MB
Ethernet Ports (total)	52	52	52
1 GbE copper	48	48	48
1 GbE fiber (SFP)	4	-	-
10 GbE fiber (SFP+)	-	4	4
Power Input	AC100 ~ 240V (50/60Hz)		
PoE	-	-	802.3af, 802.3at
Dual Power	supported	supported	supported

TiFRONT Cloud Switch

These series as below do not support TiMatrix security.

CS2200 series

TiFRONT	CS2228GX	CS2228GXP	CS2254GX	CS2254GXP
Switching Fabric	128 Gbps	128 Gbps	216 Gbps	216 Gbps
Forwarding Rate	190.48 Mpps	190.48 Mpps	321.43 Mpps	321.43 Mpps
Memory (RAM)	512 MB	512 MB	512 MB	512 MB
Flash Memory	64 MB	64 MB	64 MB	64 MB
Ethernet Ports (total)	28	28	54	54
1 GbE copper	24	24	48	48
1/10 GbE fiber (SFP+)	4	4	6	6
Power Input	AC100 ~ 240V (50/60Hz)			
PoE	-	802.3af, 802.3at	-	802.3af, 802.3at
Dual Power	-	-	-	-

CS2600 series

TiFRONT	CS2628GX	CS2628GXPE	CS2628GXPR
Switching Fabric	128 Gbps	128 Gbps	128 Gbps
Forwarding Rate	190.48 Mpps	190.48 Mpps	190.48 Mpps
Memory (RAM)	512 MB	512 MB	512 MB
Flash Memory	256 MB	512 MB	512 MB
Ethernet Ports (total)	28	28	28
1 GbE copper	24	24	24
1/10 GbE fiber (SFP+)	4	4	4
Power Input	AC100 ~ 240V (50/60Hz)		
PoE	-	802.3af, 802.3at	802.3af, 802.3at
Dual Power	-	-	-

CS3800E/Q series

TiFRONT	CS3832GXE	CS3852GXE	CS3826XQ
Switching Fabric	136 Gbps	176 Gbps	760 Gbps
Forwarding Rate	202.38 Mpps	261.91 Mpps	1130.96 Mpps
Memory (RAM)	1GB	1GB	1GB
Flash Memory	512MB	512MB	1GB
Ethernet Ports (total)	32	52	26
1 GbE copper	24	48	-
1/10 GbE fiber (SFP+)	4	4	20
10/25 GbE fiber (SFP28)	-	-	4
40 GbE fiber (QSFP+)	-	-	2
Power Input	AC100 ~ 240V (50/60Hz)		
PoE	-	-	-
Dual Power	supported	supported	supported

Switch Features

Layer 2	
Port Management	<ul style="list-style-type: none"> Autonego/Speed/Duplex Flow control Autonego-status
VLAN	<ul style="list-style-type: none"> Port-based VLAN Protocol/MAC/Subnet VLAN Voice VLAN 802.1Q Hybrid VLAN Private VLAN Ingress/Egress tagging Max VLAN (4K) 802.1ad VLAN stacking (QinQ)
Spanning Tree	<ul style="list-style-type: none"> STP RSTP MSTP PvST+ PvRST+
MAC learning	<ul style="list-style-type: none"> MAC address aging MAC filtering Duplicate MAC address learning prevention Reserve MAC learning prevention Static entry support Independent VLAN learning Max. MAC entry (16K)
Port Mirroring	<ul style="list-style-type: none"> Port Mirroring RSPAN
Link Aggregation	<ul style="list-style-type: none"> LACP Link trunking LACP load balancing Trunk groups (8) Members per group (8) Static Trunk load balancing
IGMP snooping	<ul style="list-style-type: none"> Join/Leave, Multicast group (1K) v1/v2/v3 Multicast-filter mode (flood-all/unknown/none)
QoS	<ul style="list-style-type: none"> L2, L3, L4 header based classification 8 CoS Queues per port Diffserv 802.1P Priority CoS, DSCP, IP Precedence Priority Marking/Remarking Rate Limit/Shaping
QoS	<ul style="list-style-type: none"> Service-queue schedule (DRR) Action (tos-to-priority, priority-to-tos) DMAC, SMAC
ACL	<ul style="list-style-type: none"> L2/L3/L4 based filtering VLAN ACL ACL filter naming Time-Based ACL SMAC, DMAC (Deny/Allow)
PoE	<ul style="list-style-type: none"> PoE+ standard support (802.3at) Enable/disable for each port Priority setting of power supply for each port Power scheduling for each PoE port PoE operation status monitoring PoE Auto Power-up, Perpetual PoE (certain models)
Redundancy	<ul style="list-style-type: none"> ERPS (ethernet ring protection switching)
Jumbo Frame	<ul style="list-style-type: none"> Supported

Layer 3	
Static routing	<ul style="list-style-type: none"> IPv4 Static routing (ECMP/Blackhole)
Dynamic routing	<ul style="list-style-type: none"> VRRP IPv4 RIPv1/v2, OSPFv2, BGPv4 PIM-SM/SSM
Security	
Flood	<ul style="list-style-type: none"> TCP syn flooding, TCP ack flooding, UDP flooding, ICMP flooding, IP spoofing, ARP flooding
Port Scan	<ul style="list-style-type: none"> TCP syn scan, TCP ack scan, UDP scan, Stealth scan
Network Scan	<ul style="list-style-type: none"> TCP network scan, UDP network scan, ICMP network scan, Non-echo ICMP network scan, ARP network scan
Protocol Anomaly	<ul style="list-style-type: none"> Land attack, Invalid TCP flags, ICMP fragments, Smurf attack, TCP fragments
Advance Security	<ul style="list-style-type: none"> SMB-trace, SMB-scan, MAC flooding, ARP Spoofing, IP-Screen
Profile	<ul style="list-style-type: none"> Filter-profile Flood-profile Networkscan-profile
IPv6 Security	<ul style="list-style-type: none"> Host scan, Neighbor spoofing, DAD DoS
Port Protection	<ul style="list-style-type: none"> Storm control, Assigns maximum MAC
Accounting	<ul style="list-style-type: none"> Records Login/Logout Command-fulfillment record
Others	<ul style="list-style-type: none"> IP Source Guard Dynamic ARP Inspection Embedded RADIUS NAT Detection/OS Detection SMB/DCHP/NetBIOS filtering Self-loop detect/block EtherType filtering System Access Web Alert
Management	
SNMP	<ul style="list-style-type: none"> SNMP v1/v2c/v3 Public MIB (System, Interface, IP address, UCD, Router (RFC-1213), Protocol (TCP, UDP, SNMP, ICMP), RFC1573 Private Interface MIB) Private MIB (Learning MAC table, security configuration) SNMP Trap (Authentication, Port Link up/down, Security)
CLI Interface	<ul style="list-style-type: none"> Telnet, SSH, Console
EMS Interface	<ul style="list-style-type: none"> SNMP, Syslog, SSH
Authentication	<ul style="list-style-type: none"> RADIUS, TACACS+ 802.1X, MAC auth, Web auth, Multi-step auth, Fall-back auth
User Management	<ul style="list-style-type: none"> Login with password, Session timeout configuration, Multi user, Authority for each user, Multi-configure
Configuration and OS Management	<ul style="list-style-type: none"> OS update via TFTP/FTP
Logging	<ul style="list-style-type: none"> Syslog server, Monitoring, Log threshold management, Log backup, System/Security log
Monitoring	<ul style="list-style-type: none"> Port statistics, CPU/Memory usage, Fan, Watchdog, Temperature sensor
Others	<ul style="list-style-type: none"> UDLD Device Control DHCP Snooping DHCP Server/Relay LLDP, LLDP-MED Remote reset

PIOLINK is specialized in network and security.

We ensure the industry's best application availability and performance and own unrivaled technologies and leadership in this intelligent, advanced IT environment by offering the build-up of Cloud infrastructure, the easy management of networks and data protection.

Our flagship products are Application Delivery Controller (ADC) having Korea's No.1 market share, Web Application Firewall (WAF/WAAP), Cloud Managed Networking and Hyper Converged Infrastructure and services, Managed Security Service (MSS or MSSProvider) and Security Consulting.



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