Empowered by Innovation NEC

PF5400

Data sheet

OpenFlow product
to easily and cost-effectively deploy, control, monitor, and manage networks

PF5459-48XP-4Q

4x 40Gb Ethernet (QSFP+) ,
48x 10Gb/1Gb Ethernet (SFP+/SFP)

PF5459-48GT-4X2Q

2x 40Gb Ethernet (QSFP+) ,
4x 10Gb/1Gb Ethernet (SFP+/SFP),
48x 1Gb Ethernet

PF5459-48XT-4Q

4x 40Gb Ethernet (QSFP+) ,
48x 10Gb/1Gb Ethernet

PF5468-32QP

32x 40Gb Ethernet (QSFP+)

- OpenFlow version 1.3.1 - By managing route control features in a centralized way at the controller, The system develops and deploys simple and flexible network based on new network technology for next generation data center.
- Enhancement of scalability - The PF5459 dynamically records path by itself using information of MAC address like normal layer 2 switches. And then the PF5459 reduces load of the controller based on the record. It means that the system deploys more scalable data center and the PF5459 is available as a TOR(Top of Rack) switch.
- Full-wire-rate packet forwarding - It makes effective packet forwarding that hardware executes OpenFlow features, searching flow entry and performing action.
- Compatibility - Normal LAN features (multilayer switch, IP router functionality etc.) and OpenFlow features can coexist.

ProgrammableFlow

Specifications

PF5400

MODEL				PF5459-48XP-4Q	PF5459-48GT-4X2Q	PF5459-48XT-4Q	PF5468-32QP
Maximum Switching Capacity				1,280Gbps	336Gbps	1,280Gbps	2,560Gbps
Maximum Packet Processing Performance				952Mpps	250Mpps	952Mpps	1428.57Mpps (*1)
Network Interface Features	10/100/1000BASE-T			—	48	—	—
	1000/10GBASE-T			—	—	48	—
	1000BASE-X	SFP(SX/LX/ZX/T)		48 (*2) (+16 (*3))	4 (*2) (+8 (*3))	—	—
	10GBASE-R	SFP+(SR/LR, 1M/3M/5M DAC)				(16 (*3))	(96 (*3))
	40GBASE-R	QSFP+(SR4, 1M/3M/5M DAC, 1M/3M SFP+x4 DAC Splitter Cable)		4 (*3)	2 (*3)	4 (*3)	8 + 24 (*3)
		QSFP+(LR4)		—	—	—	
Sirial (Console) Interface				Serial console			Serial console / USB mini console (Exclusive)
Management Interface				10/100/1000BASE-T x 1			
Memory Card Slot				USB x 1 (*4)			
OpenFlow Features	Version			OpenFlow Version 1.3.1			
	Switch Instance			—			
	Secure Channel			TCP Connection			
	OpenFlow Interface			Physical port [Physical], Lag [Logical], Controller [Reserved]			
	Protocol			Hello, Error, Echo Request, Echo Reply, Features Request, Features Reply, Get Configuration Request, Get Configuration Reply, Set Configuration, Packet In, Flow Removed, Port Status, Packet Out, Flow Mod, Group Mod(type=ALL),Port Mod, Multipart Request, Multipart Reply, Barrier Request, Barrier Reply		
		NEC Vendor Extensions		—			
	Dynamic MAC Flow Table	Matching Fields (Exact/Wildcard)		Ethenet destination address, VLAN ID			
		Instructions		Write-Action, Write-Metadata, Goto-Table			
		Acsions		Output, Drop, Next-table			
		Field-modify Actions (Set Filed)		—			
		OpenFlow Statistics		—			
		Flow Entries		128k (Maximum)			288k (Maximum)
	Flow Table (Standard)	Matching Fields (Exact/Wildcard)		Ingress port, Metadata, Ethernet source address (maskable),Ethernet destination address (maskable), Ethernet Type, VLAN ID, VLAN PCP, IP DSCP, IP protocol number, IPv4 source address (subnet maskable), IPv4 destination address (subnet maskable), TCP/UDP source port, TCP/UDP Destionation port, ICMPv4/v6 Type, ICMPv4/v6 Code, ARP SPA (subnet maskable)		
		Instructions		Apply-Action, Write-Action			
		Actions		Output, Set-Queue, Group (type=ALL), Set-Field, Drop			
		Field-modify Actions (Set Filed)		Ethernet source address, Ethernet destination address, VLAN ID, VLAN PCP, IP DSCP			
		OpenFlow Statistics		Flow Counter - Receive Packets, Received Bytes, Duration (seconds) (*5), Port Counter			
		Flow Entries		640 (Maximum)			1.5k
Normal LAN Features (*6)	Routing Protocol	IPv4	Unicast	Static, RIP, RIP2, OSPF, Policy based routing			Static, RIP, RIP2, OSPF
		IPv6	Unicast	Static, RIPng, OSPFv3			
	Layer2 Features	VLAN		Port-VLAN, Tag-VLAN(IEEE802.1Q)			
		Spanning Tree Protocol		STP(IEEE802.1D), RSTP(IEEE802.1w)			
	Network Features	Reliability, Availability		Link Aggregation(IEEE802.3ad), CFD(IEEE802.1ag)			
	Operationl			SNMPv1/v2c/v3 , MIB Ⅱ, syslog, CLI, ping, traceroute, SSH, telnet, ftp, tftp, NTP, Port Mirroring, RADIUS, sFlow			
Redundancy				Internal redundant power supply Hotswappable, Internal fan Hot-swappable			
Input Voltage(AC)				100 VAC - 240 VAC @ 50 or 60 Hz			
Input Voltage(DC)				-40 VDC - -60 VDC			
Maximum Power Consumtion				AC:305W DC:384W	AC:174W DC:226W	AC:455W DC:452W	AC:438W DC:432W
Maximim Heat Value				1390kJ/h	820kJ/h	1640kJ/h	1577kJ/h
Operating Conditions	Temperature			0 - 45℃			
	Humidity			10 - 90% Non-condensing			
	Noise			62dB			79dB
	Vibration			—			
Dimensions WxDxH (mm)				440 × 660 × 43.6(1U)	440 × 460 × 43.6(1U)	440 × 660 × 43.6(1U)	
Weight				13.5kg	10.5kg	13.7kg	
Air Flow				Front to Rear Rear to Front (*7)			

*1: The packet processing rate indicates the guarantee value.
*2: SFP/SFP+ are available as 1000BASE-X/10GBASE-R.
*3: The slots of QSFP+ (40GBASE-R) are available as the SFP+ (10GBASE-R) ports using DAC Splitter Cable of [QSFP+ - SFP+x4 port].
*4: The ethernet switch provide a USB port for you to copy files from a USB flash drive.
*5: Combinations of Flow Counter are NOT available at the same time.
*6: With the exception of some feature, normal LAN features are NOT available via OpenFlow interface.
*7: Air flow is adjustable by changing direction of fan.

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