

NEC ProgrammableFlow

UNIVERGE PF5240



Product Benefits

- Deployed together with the NEC ProgrammableFlow Controller, the PF5240 delivers extensive network virtualization, multipath, security, and programmability capabilities.
- 176 Gigabits per Second non-blocking bidirectional throughput in a 1U form factor.
- 48x UTP ports that operate at 10/100/1000 Gigabit speeds.
- 4x SFP/+ ports that operate at 1GbE or 10GbE
- OpenFlow Support - Flow Entries capabilities of 64,000-160,000
- Hybrid OpenFlow - Connects OpenFlow Networks to L2/L3 Networks
- Virtual switch instance for running OpenFlow and distributed protocols on the same equipment
- L2/L3 - OSPF, BGP, RIP, VRRP, PIM, MLD, STP, RSTP, MSTP, PVST, IGMP, Rate limiting, bandwidth control
- Modular design with internal redundant hot-swappable power supplies and fan
- Front to Back or Back to Front Airflow

Business Benefits

- Reduced TCO - OpenFlow Dramatically reduces network operation costs by eliminating the need for traditional distributed protocols such as Spanning Tree and OSPF
- Investment Protection - By decoupling network services from the hardware operating system, ProgrammableFlow protects customer investment in internal business process and know how.
- Programmability – the PF5240 enables the quick development and deployment of OpenFlow based service
- Higher Throughput and Availability – ProgrammableFlow provides 8-way multipath for higher availability and improved cross sectional network bandwidth

NEC Univerge PF5240

Specifications

MODEL		PF5240F-48T4XW	PF5240R-48T4XW
Maximum Switching Capacity		176Gbps	
Maximum Packet Processing Performance		131Mpps	
Network Interface Features	10/100/1000BASE-T	48	
	1000BASE-X SFP(SX/LX/ZX)	4	
	10GBASE-R SFP+(SR/LR)		
OpenFlow Features	Version	OpenFlow Version 1.0.0	
	Switch Instance	RSI(Real Switch Instance),VSI(Virtual Switch Instance)	
	Secure Channel	TLS Connection, TCP Connection	
	Protocol	Hello, Error, Echo, Features, Get Configuration, Set Configuration, Packet In, Port Status, Packet Out, Flow Mod, Flow Removed, Port Mod, Statistics, Barrier, Queue Get Config	
	Matching Fields	Ingress Port, Ethernet source address, Ethernet destination address, VLAN ID, VLAN priority, Ethernet type, IP protocol/ARP Op-code, IPv4 ToS bits, IP source address/ARP IP source address, IP destination address/ARP IP destination address, Transport source port/ICMP Type, Transport destination port/ICMP Code	
	Actions	Out port (Unicast), Out Multiple Port (Multicast), All, Controller, Local, In Port, Normal, Flood, Enqueue, Drop	
	Field-modify Actions	Ethernet source address, Ethernet destination address, VLAN ID, VLAN priority, Strip VLAN Header, IPv4 ToS Bits IP source address, IP destination address, Transport source port, Transport destination port	
Flow entries	64K - 160K(Maximum)		
MAC Address Table		32,768	
VLANs		4,094	

MODEL			PF5240F-48T4XW	PF5240R-48T4XW
Routing Protocol	IPv4	Unicast	Static, RIP, RIP2, OSPF, BGP4	
		Multicast	IGMPv2/v3, PIM-SM, PIM-SSM	
	IPv6	Unicast	Static, RIPng, OSPFv3, BGP4+	
		Multicast	MLDv1/ v 2, PIM-SM, PIM-SSM	
Layer2 Features	VLAN		Port-VLAN, Tag-VLAN(IEEE802.1Q), Tag translation	
	Spanning Tree Protocol		STP(IEEE802.1D), RSTP(IEEE802.1w), MSTP(IEEE802.1s), PVST+, BPDU Filter, Root Guard	
	Layer3 Cooperation		IGMP/MLD snooping	
	Jumbo Frame		Maximum 9,234bytes (tagged), 9230 bytes (untagged)	
Network Features	Security		Filter (L2/IPv4/L4), Interruption of relays between ports	
	QoS		Classifier L2/IPv4/L4, Rate Limiting, Marking(DSCP/User Priority), Discard Control, Shaping(8class, Port Bandwidth Control, Scheduling(PQ, WPR, WFQ)), Diffserv	
	Reliability, Availability		ECMP(IPv4/IPv6), VRRP(IPv4/IPv6), Static Polling(IPv4/IPv6), VRRP Polling (IPv4/IPv6), Link Aggregation(IEEE802.3ad), Strom Limiting, Graceful Restart(helper), UDLD(IEEE802.3ah), Ring Protocol, Local ProxyARP, L2 Loop Detection, Uplink trunk redundant, CFM(IEEE802.1ag)	
	L2-VPN		VLAN Tunneling(Extended VLAN)	
Operational & Management Features			SNMPv1/v2c/v3 , MIB II, IPv6 MIB, RMON, syslog, CLI, ping, traceroute, SSHv2, telnet, ftp, tftp, NTP, IPv4 DHCP Server/Relay, Prefix Delegation, LLDP, OADP, Port Mirroring, RADIUS, TACACS+, sFlow	
Power Saving Features			Remote Power Control, Port LED Brightness Control, Power Consumption Monitor	
Redundancy			Internal redundant power supply Hot-swappable	
Input Voltage			AC100V, 120V, 220-230V, 240V	
Maximum Power Consumption			264W	
Operating Conditions			Temperature 0 to 40°C, Humidity 20 to 85% Non-condensing	
Dimensions WxDxH (mm)			445x588x44(1U)	
Weight			15kg	
Air Flow			Front to Rear	Rear to Front

Switch Configurations

- Q24-HL000000007114 - OpenFlow Switch, Front to Rear Airflow, Standard Power
- Q24-HL000000007115 - OpenFlow Switch, Front to Rear Airflow, Redundant Power
- Q24-HL000000007116 - OpenFlow Switch, Rear to Front Airflow, Standard Power
- Q24-HL000000007117 - OpenFlow Switch, Rear to Front Airflow, Redundant Power

Repair Parts

- B02035-W0F11 - AC PSU, front to rear airflow
- B02035-W0F21 - Fan Unit, front to rear airflow
- B02035-W0N31 - Memory Card (SD1G)
- B02035-W0N51 - AC Power Cable (CBLACA1X)
- B02035-W0R11 - AC PSU, rear to front airflow
- B02035-W0R21 - Fan Unit, rear to front airflow

Interfaces

- B02035-W0N41 - SFP 1000Base-SX Optical Transceiver
- B02035-W0N42 - SFP 1000BASE-LX transceiver
- B02035-W0N43 - 1000BASE-ZX transceiver
- B02035-W0N44 - SFP+ 10GBase-SR Short Range Transceiver
- B02035-W0N45 - SFP+ 10GBase-LR Long Range Transceiver



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