PICA8
OPEN NETWORKING

48 x 1 GbE
With 10 GbE Uplink Options

Key Features

- **First open switch for open networks leveraging hardware-agnostic operating system**
- **High-performance Layer 2 / Layer 3 switches with industry-leading OpenFlow* integration**
- **Fully non-blocking fabric with ultra-low latency**

Overview

Pica8's purpose-built open switches are ideal for cloud or virtualized data centers that require flexibility and adaptability. Pica8™ open switches seamlessly integrate with today's data center applications on traditional network architectures, while allowing the exploration of new software-defined networking (SDN) technologies, such as OpenFlow.

Pica8 white box switches run PicOS™, an open network operating system (OS) that runs standards-based Layer 2/Layer 3 protocols with industry-leading OpenFlow 1.3 and Open vSwitch (OVS) v1.10 integration. OVS runs as a process within PicOS, and provides the OpenFlow interface for external programmability. PicOS utilizes proven high-performance hardware with a maximum switching fabric capacity of 176 Gbps for 1 GbE and 1.28 Tbps for 10 GbE platforms.

Two Models to Choose

Pica8 P-3290 (top)

- 48 x 10/100/1000BASE-T RJ45 port base unit, with four 10 GbE SFP+ uplinks for cost-effective 1 GbE server aggregation

Pica8 P-3295 (bottom)

- 48 x 10/100/1000BASE-T RJ45 port base unit, with four 10 GbE SFP+ uplinks and redundant hot swappable power supplies for mission critical environments

Leverage Pica8's operating system — PicOS — for two powerful modes of operation

	Layer 2 / Layer 3 Mode	Open vSwitch (OVS) Mode
OPEN	• Switching platform with Debian Linux on board and accessible • Programmable and customize by leveraging vast high-quality Linux tools	• Industry-leading OpenFlow 1.3 support through Open vSwitch (OvS) 1.10 integration • Leverage production-ready OVS switches for your CloudStack and OpenStack projects
FLEXIBLE	• High-performance Layer 2 / Layer 3 switching platform for both IPv4 and IPv6 networks, seamlessly integrating into existing architectures • Tune the fabric to meet your application needs, selectable store-and-forward or cut-through switching modes for ultra-low latency	• Interoperable with multiple Open Source OpenFlow controllers such as Ryu, Floodlight, NOX, and Trema • Leverage different controllers and reference architectures
ADAPTIVE	• PicOS a multiprocess OS, ensures each process has independent memory space, thread control, and interrupt handling for improved feature scaling	• Seamlessly add new protocols to PicOS, a multiprocess OS • Investment protection as your application needs change

* Only OpenFlow features available in hardware are supported, to ensure optimum performance

PRODUCT REFERENCE GUIDE

	P-3290	P-3295
Performance		
Switch Fabric Capacity (Gbps)	176	176
Forwarding Capacity (Mpps)	132	132
Forwarding Options	Store-and-Forward / Cut-Through	Store-and-Forward / Cut-Through
Packet Buffer Memory (MB)	4	4
Latency	1 µs (64 Byte Frames)	1 µs (64 Byte Frames)
System Memory (MB)	512	512
SD/CF Memory (GB)	2	2
CPU	MPC8541	MPC8541
Ports		
48-Port Base Unit	10/100/1000BASE-T	10/100/1000BASE-T
Uplink Options	4 x 1 GbE (SFP) or 4 x 10 GbE (SFP+)	4 x 1 GbE (SFP) or 4 x 10 GbE (SFP+)
SFP+ / QSFP+ Options	SR, LR, LRM, CR4	SR, LR, LRM, CR4
Console Port	1 x RJ45 Serial	1 x RJ45 Serial
Management Port	2 x 10/100/1000BASE-T	1 x 10/100/1000BASE-T
Layer 2 / Layer 3 Features		
Maximum MAC Addresses	32K	32K
Maximum VLANs	4,094	4,094
Link Aggregation (Groups/Ports)	24/8	24/8
Jumbo Frames (Bytes)	9,216	9,216
Maximum Routes	12,000	12,000
Spanning Tree	STP/RSTP/MSTP	STP/RSTP/MSTP
IPv4 Routing	RIP, OSPFv2/ECMP, Static	RIP, OSPFv2/ECMP, Static
IPv6 Routing	RIPng, OSPFv3, Static	RIPng, OSPFv3, Static
Multicast Routing	PIM-SM, IGMP, IGMP-Snooping	PIM-SM, IGMP, IGMP-Snooping
OpenFlow Support		
Open vSwitch	v1.10	v1.10
GRE Tunneling	Yes	Yes
Physical & Environmental Specifications		
Size (Inches)	1.67 (H) x 17.33 (L) x 11.17 (D)	1.69 (H) x 17.13 (L) x 15.5 (D)
Weight (lbs)	8.58	15.73
MTBF (Hours)	175,699	200,384
Air Flow	Front to Back	Front to Back
Hot-Swappable Redundant Power	–	Yes
Power Draw (Watts)	101	95
Input Voltage / Frequency	100 - 240 VAC / 50 - 60 Hz	
Operating Temperature	50 - 122 °F (10 - 50 °C)	
Operating Humidity	80% Maximum Relative Humidity	
LEDs	Link, Transmit, Receive, Port Status	
Regulatory Compliance		
Emissions	FCC, CE, VCCI-A, CCC, KCC, BSMI	FCC, CE, VCCI-A, CCC, KCC, BSMI
Safety	UL, CE	
RoHS	Yes	

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