Nephos NPS4806

720G ToR Switch

April 4, 2016
ToR 720G Switch configuration

- 48 x SFP+ to support 1GbE or 10GbE,
- 6 x QSFP support 40GbE or 4 x 10GbE

- MediaTek/Nephos Aries MT3258 Silicon

- Intel Atom C2538 2.4GHz, 3.0V

- ONIE Support
Key Features

- Cost-effective, bare-metal switch infrastructure for data center fabric.
- 48 x SFP+ switch ports, supporting 10GbE (DAC, 10GBASE-SR/LR) or 1GbE (1000BASE-T/SX/LX).
- 6 x 40 QSFP switch ports, each supporting 40GbE (DAC, 40GBASE-SR4/LR4) or 4 x 10GbE (DAC or fiber breakout cable).
- Full line-rate Layer 2 or Layer 3 forwarding of 1.44 Tbps.
- Flexible operation mode support: legacy/SDN mode and Hybrid mode.
- Support VM Switching, VXLAN and NVGRE tunneling support in hardware for network virtualization.
- Rack mountable in standard 19" racks. Mountable in 21" Open Rack with the Open Rack Switch Adapter.
- Supports hot/cold aisle with port-to-power and power-to-port airflow SKUs.
- All ports on front; PSUs, fan tray on rear.
- Hot-swappable, load sharing, redundant AC or -48 VDC PSUs. 12 VDC power input option.
- Hot swappable 4+1 redundant fans.
- Management: Ethernet and console RJ-45 ports; USB storage port.
NPS4806 Reference Design

48 Ports 10G SFP+

6 Ports 40G QSFP+

MT3258

Optional CPU Board
MT3258 Overview

- 960Gbps Switching Capacity
- 1.44BPPS with 64B Frame Size
- 96 High Speed SerDes with 96 port slices
- 1GbE, 10GbE, 40GbE, 100GbE
- Cut-through/Store Forward
- Hybrid Switch Support
  - L2/L3 Forwarding
  - Flow Based
Chassis View

- 1+1 redundant PWR FRU
- 4+1 redundant FAN FRU
- 48* 10G (SFP+) with 6*40G (QSFP+)
- 1* Console with 1* management

- B-B Conn(M) For 240G EXB
- Switch board (MT3258)
- CPU board (Intel)
- FAN board (MT3258)
Physical and Environment

• Dimensions (WxDxH): 443 x 473 x 43.4 mm (17.4 x 18.6 x 1.71 in)
• Weight: 8.5 kg (18.74 lb)
  • with two installed PSU modules
  • Fans: hot-swappable 4+1 redundant fans

• Operating Temperature: 0°C to 40°C (32°F to 104°F)
• Storage Temperature: -40°C to 70°C (-40°F to 158°F)
• Operating Humidity: 5% to 95% non-condensing
Forty Eight SFP+ Ports
Six QSFP+ ports
System LEDs
Mini USB 2.0 type “A” port
RJ45 RS232 management port
RJ45 10/100/1000 Ethernet management port
Reset switch
Rear View

Five (4+1) redundant hot swappable fan modules

Two redundant hot swappable power supply modules
Main PCB Board
CPU Board

B2B Connector
PCIe / SGMII / GPIOs / Power

USB x1
UART1 x1
I2C x2
INTs
Reset
GPIOs

PCie x2
SGMII x1

TPM
FPGA

SPI
SPI Flash FPGA 4MB
SPI Flash GBE 256Kb

SODIMM
DDR3 RAM 4GB with ECC

DDR3 64bit

CHA

CDM3

SODIMM
DDR3 RAM 4GB with ECC

DDR3 64bit

CHB

USB to NAND Flash 8GB

USB

CPU
Intel Avoton/Rangley
2.4GHz C2538

SPI
SPI Flash Master 8MB
SPI Flash Backup 8MB

Nephos
Thank You