

# RA-B6520-48C8QC 100/400GbE Data Center Switch

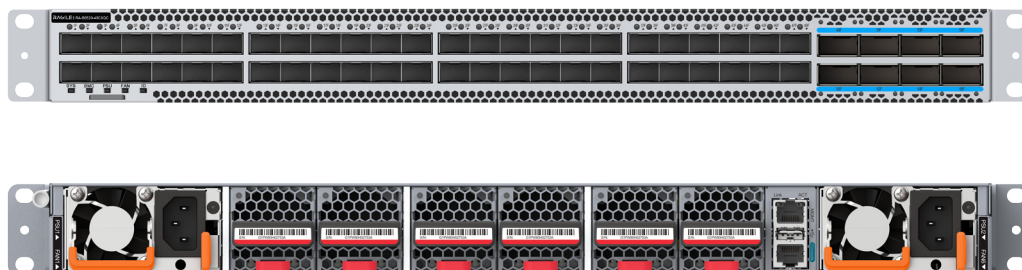


**RAGILE**

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# OVERVIEW

The Ragile RA-B6520-48C8QC data center switch offers 48-port 100GbE and 8-port 400GbE interface in 1RU chassis, which delivers the highest performance combined with complete L2 and L3 forwarding feature in modern large-scale data center networks. RA-B6520-48C8QC based on Broadcom BCM56780 (Trident 4) chip.



## PRODUCT HIGHLIGHTS

### First-class Performance

- 48 × DSFP 100GbE Ports and 8 × QSFPDD 400GbE Ports
- Highest density 100GbE in compact 1RU
- Up to 16 Tbps full duplex
- Up to 2.66Bpps
- Wire speed L2 and L3 forwarding

### Resilient Configuration

- Broadcom BCM56780 (Trident 4)
- Intel Xeon D-1627 Processor (Formerly Broadwell DE)
- 8GB DRAM
- System storage  $\geq$  240GB

### Data Center Optimized Design

- Typical power of under 4W per 100GbE port
- Typical power of under 14W per 400GbE port
- Over 94% efficient power supplies
- 1+1 redundant & hot-swappable power supplies
- 5+1 redundant & hot-swappable fans
- Front-to-rear cooling
- Tool-less maintenance and simple installation

### Cloud Networking Ready

- Dynamic Load Balancing for advanced multi-pathing
- Integrated high-performance 82MB SmartBuffer

# SOFTWARE FEATURES



## OS Compatibility

- Loaded with Open Network Install Environment (ONIE) software installer and OpenBMC.
- Compatible with SONiC (Software for Open Networking in the Cloud).

## Layer 2 Features

802.3ad LACP  
Storm suppression  
SPAN  
\*ERSPAN  
Mac address  
Monitor-link  
Interface traffic statistics  
Carrier Delay  
Port status detection  
802.1ab LLDP  
802.1q VLAN  
Jumbo Frame (9Kbytes)

## Layer 3 Features

ARP to host routing  
ARP linkage with MAC for layer 2 port switching  
IP conflict detection  
Aging of ARP entries  
Support to open local ARP proxy based on interface  
Support to set the three-layer MAC address on Vlan interface  
Send gratuitous ARP  
ARP entry aging detection  
\*ND to host routing  
\*ND to network segment routing  
Support IPv4 ECMP32  
Support IPv6 ECMP32  
Border Gateway Protocol (BGP) (v4, v6)  
iBGP  
eBGP  
Route Reflector  
Route Policies  
IPv4 Static Routing

IPv6 Static Routing  
Load Balance based on LAG/ECMP

## ACL & QoS

\* L2 ACL  
L3 ACL  
Control plane ACL  
L3 IPv6 ACL  
Interface ACL  
Global ACL  
Queue traffic statistics  
SP  
WRR  
DRR  
\*WFQ  
\*SP+WFQ  
SP+WRR  
SP+DRR  
Incoming flow rate limit  
Outgoing flow rate limit  
DSCP remarking

## Security Features

COPP  
\*NFPP  
SSH  
AAA  
TACACS+

## Application Protocol Features

DHCP relay  
\*DHCPv6 relay  
FTP  
SFTP

## Management Features

SNMP Version (V1, V2c, V3)  
SNMP Trap  
Syslog  
ZTP  
NTP  
Management VRF  
\*GRPC  
\*NETCONF  
\*SFLOW  
\*IPFIX  
\*INT  
\*MOD

**\*Future features**

## SPECIFICATIONS

|                          |  |
|--------------------------|--|
| Switch Model             | RA-B6520-48C8QC                              |
| Ports                    | 48 × DSFP + 8 × QSFPDD                       |
| Max 100GbE Ports         | 48   |
| Max 400GbE Ports         | 8  |
| Throughput (full duplex) | 16 Tbps                                      |
| Packets/Second           | 2.66Bpps                                     |
| Latency                  | 1250ns                                       |
| CPU                      | Intel Xeon D-1627                            |
| System Memory            | 8GB (Up to 32GB)                             |
| System Storage           | ≥240GB                                       |
| BMC Option               | Yes  |
| Switch ASIC              | Broadcom BCM56780 (Trident 4)                |
| Packet Buffer Memory     | Integrated high-performance 82MB SmartBuffer |
| 10/100/1000 MGMT Ports   | 1  |
| RS-232 Serial Ports      | 1 (RJ-45)                                    |
| USB Ports                | 1  |
| Hot-swap Power Supplies  | 2 (1+1 redundant)                            |
| Hot-swappable Fans       | 6 (5+1 redundant)                            |
| Airflow                  | Front to rear                                |
| Max Power Draw           | <700W  |
| Max Heat Dissipation     | < 8191.2 BTU/hr                              |
| Size(W×H×D)              | 17.40×1.72×26.38 in.<br>(442×43.6×670mm)     |
| Weight                   | 11kg   |
| Power Supplies           | 1300W AC & HVDC                              |

## POWER SUPPLY SPECIFICATIONS

|                       |                         |
|-----------------------|-------------------------|
| Power Supply          | 1300W                   |
| Input Voltage         | 100-240V AC 180-310V DC |
| Typical Input Current | 12-7A (AC) 6A (DC)      |
| Input Frequency (AC)  | 50-60Hz                 |
| Input Connector       | IEC 320-C13             |
| Efficiency (Typical)  | 94% Platinum            |

## ORDER INFORMATION

| Model           | Description   |
|-----------------|---|
| RA-B6520-48C8QC | 48 fixed 100GbE DSFP ports, 8 fixed 400GbE QSFPDD ports.<br>2 slots for power supply modules.<br>6 slots for fan modules.<br>2 power supply modules and 6 fan modules already included. |
| P1HFAN II-F     | Fan module for, front-to-rear airflow.<br>With up to 6 fan modules, support 5+1 redundancy.   |
| PA1300I-F       | AC power supply module, front-to-rear airflow.<br>With up to 2 power modules, support 1+1 redundancy.   |

### NOTE:

The Ragile RA-B6520-48C8QC is a white box switch hardware system with basic SONiC OS. Software and other services need to be purchased separately.

## STANDARD COMPLIANCE

|                                  |   |
|----------------------------------|---|
| <b>EMC</b>                       | Emissions: FCC part15 Subpart B, EN55032, EN61000-3-2, EN61000-3-3 or EN61000-3-11, EN61000-3-12 (as applicable)<br>Immunity: EN55035<br>Emissions and Immunity: EN300386 |
| <b>Safety</b>                    | UL/CSA 62368-1, EN 62368-1, IEC 62368-1 CB Scheme with all country differences  |
| <b>Certifications</b>            | North America (NRTL)<br>European Union (EU)<br>BSMI (Taiwan)<br>C-Tick (Australia)<br>CCC (PRC)<br>MSIP (Korea)<br>EAC (Customs Union)<br>VCCI (Japan)                    |
| <b>European Union Directives</b> | 2006/95/EC Low Voltage Directive<br>2004/108/EC EMC Directive<br>2011/65/EU RoHS Directive  |

## ENVIRONMENTAL CHARACTERISTICS

|                                      |                             |
|--------------------------------------|-----------------------------|
| <b>Operating Temperature</b>         | 32 to 104° F (0 to 40°C)    |
| <b>Storage Temperature</b>           | -40 to 158° F (-40 to 70°C) |
| <b>Relative Humidity (Operating)</b> | 10 to 90% non-condensing    |
| <b>Altitude (Operating)</b>          | 0 to 5906ft                 |
| <b>Altitude (Non-operating)</b>      | -1640 to 13123ft            |



## MORE INFORMATION

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For more information about the Ragile RA-B6520-48C8QC switch, please visit <http://www.ragilenetworks.com> or contact your local Ragile sales representative.