# RA-B6910-64C
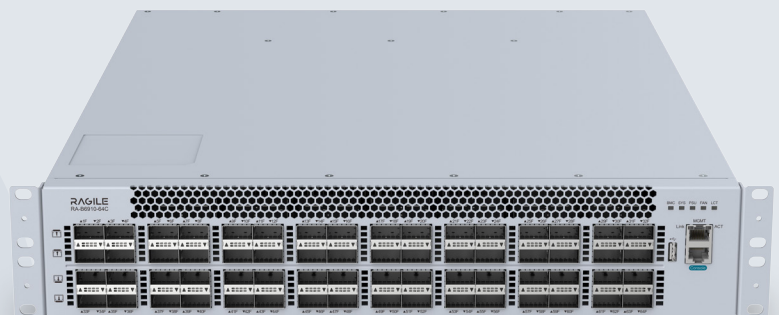# 100GbE Data Center Switch
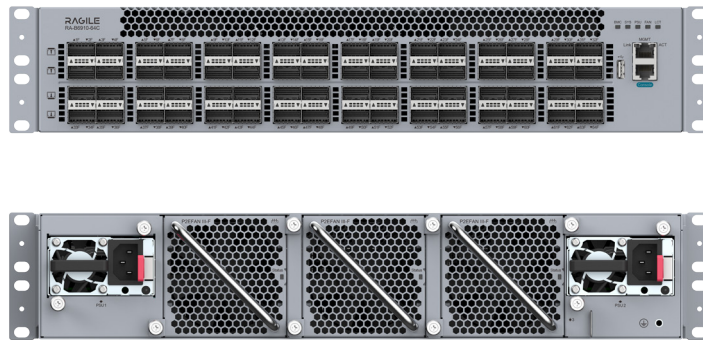
**RAGILE**

# OVERVIEW

The Ragile RA-B6910-64C switch is a new generation high density 100GbE switch designed for cloud-scale data center and campus networks, which provide a powerful cache capacity and advanced scheduling mechanism driven large scale line-rate non-blocking network.

RA-B6910-64C provides 64-port backward-compatible 100GbE QSFP28 interface to transparently migrate existing data center fabrics from 40Gbps speeds to 100Gbps. The platform provide hot-pluggable 1+1 redundancy power module and 2+1 redundancy cooling fan module to meet the high reliability requirement of datacenter and carrier networks.

# PRODUCT HIGHLIGHTS

## First-class Performance

- 64 × QSFP28 100GbE Ports
- Flexible 100GbE, 40GbE support
- Up to 12.8 Tbps (full duplex)
- Up to 4400 Mpps
- Wire speed L2 and L3 forwarding
- Latency from 1137ns for 100G (cut-through mode)

## Resilient Configuration

- Broadcom BCM56970 (Tomahawk 2)
- Intel Xeon D-1527 Processor (Formerly Broadwell DE)
- 8GB DRAM
- System storage≥240GB

## Data Center Optimized Design

- Typical power of under 4W per 100GbE port
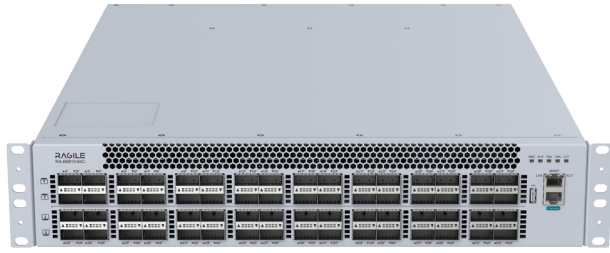- Over 94% efficient power supplies

- 1+1 redundant & hot-swappable power supplies
- 2+1 redundant & hot-swappable fans
- Front-to-rear or reversed cooling
- Tool-less maintenance and simple installation

## Cloud Networking Ready

- 128-way ECMP for hyper-scale networks
- Dynamic Load Balancing for advanced multi-pathing
- Advanced Congestion Management for NVMe and AI workloads
- Flow aware traffic scheduling
- Shared 42MB Buffer with burst absorption
- Up to 264K MAC and 128K Host entries
- Over 384K IPv4 Routes
- Over 128K IPv6 Routes

**\* Above is the maximum capacity that the switching chip can provide.**

# 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-B6910-64C |
| **Ports** | 64×QSFP28 |
| **Max100/40GbE Ports** | 64 |
| **Throughput (full duplex)** | 12.8Tbps |
| **Packets/Second** | 4400Mpps |
| **Latency (cut-through mode)** | 1137ns |
| **CPU** | Intel Xeon D-1527 |
| **System Memory** | 8GB (Up to 32GB) |
| **System Storage** | ≥240GB |
| **BMC Option** | Yes |
| **Switch ASIC** | Broadcom BCM56970(Tomahawk 2) |
| **Packet Buffer Memory** | 42MB (Dynamic Buffer Allocation) |
| **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** | 3 (2+1 redundant) |
| **Airflow Option** | Forward airflow |
| **Typical/Max Power Draw** | 610W/785W |
| **Typical/Max Heat Dissipation** | 2081.41/2678.53 BTU/hr |
| **Size(W×H×D)** | 17.32×3.39×22.83 in. (440×86×580mm) |
| **Weight** | 38.5 pounds (17.5kg) |
| **Power Supplies** | 800W (Forward airflow) |

# STANDARD COMPLIANCE

| | |
|---|---|
| **EMC** | 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 |
| **Safety** | UL/CSA 62368-1, EN 62368-1, IEC 62368-1 CB Scheme with all country differences |
| **Certifications** | 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) |
| **European Union Directives** | 2006/95/EC Low Voltage Directive<br>2004/108/EC EMC Directive<br>2011/65/EU RoHS Directive |

# POWER SUPPLY SPECIfICATIONS

| | | |
|---|---|---|
| **Power Supply** | 800W | |
| **Input Voltage** | 100-240V AC | 240V DC |
| **Typical Input Current** | 10-5A (AC) | 4.5A (DC) |
| **Input Frequency (AC)** | 50~60Hz | |
| **Input Connector** | IEC 320-C13 | |
| **Efficiency (Typical)** | 94% Platinum | |

# ENVIRONMENTAL CHARACTERISTICS

| | |
|---|---|
| **Operating Temperature** | 32 to 104° F (0 to 40°C) |
| **Storage Temperature** | -40 to 158° F (-40 to 70°C) |
| **Relative Humidity** | 5 to 95% non-condensing |
| **Altitude (Operating)** | Designed to meet: 0 to 5,906ft |
| **Altitude (Non-operating)** | -1640ft to 16,404ft |

# ORDER INFORMATION

| Model | Description |
|---|---|
| **RA-B6910-64C** | 64 fixed 100GbE QSFP28 ports.<br>2 slots for power supply modules.<br>3 slots for fan modules.<br>2 power supply modules and 3 fan modules already included. |
| **P2EFAN III-F** | Fan module for, front-to-rear airflow.<br>With up to 3 fan modules, support 2+1 redundancy. |
| **PA800I-F** | AC power supply module, front-to-rear airflow.<br>With up to 2 power modules, support 1+1 redundancy. |

**NOTE：**

The Ragile RA-B6910-64C is a white box switch hardware system with basic SONiC OS. Software and other services need to be purchased separately.

# MORE INFORMATION

**Phone:** +1-408-772-9724     **Email:** info@ragilenetworks.com

**Address:** 35649 Embassy Common,Fremont,CA

For more information about the Ragile RA-B6910-64C switch, please visit

http://www.ragilenetworks.com or contact your local Ragile sales representative.