RA-B6930-128DC
200GbE Data Center Switch
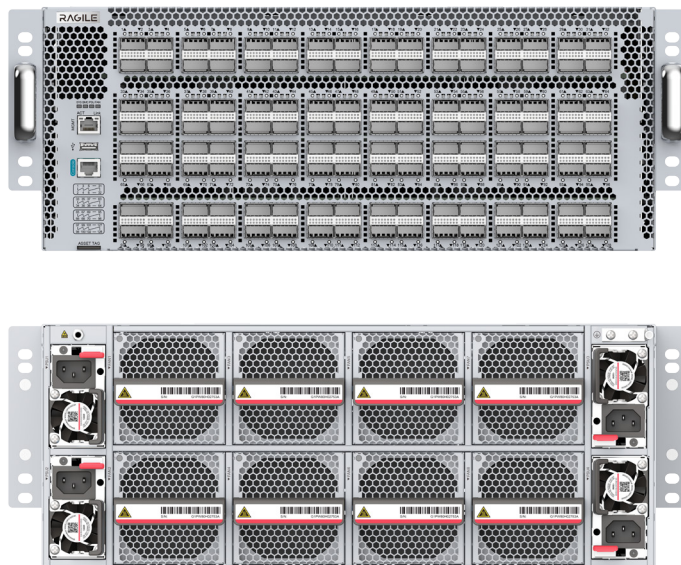
OVERVIEW

The Ragile RA-B6930-128DC data center switch offers 128-port 200GbE interface in 4RU chassis, which delivers the highest performance combined with complete L2 and L3 forwarding feature in modern large-scale data center networks. RA-B6930-128DC based on Broadcom BCM56990 (Tomahawk 4) chip.

PRODUCT HIGHLIGHTS

First-class Performance

- 128 × QSFP56 200GbE Ports
- Highest density 200GbE in compact 4RU
- Up to 51.2 Tbps full duplex
- Up to 10.6 Bpps
- Wire speed L2 and L3 forwarding
- Latency from 821~942ns（store and forward）

Resilient Configuration

- Broadcom BCM56990 (Tomahawk 4)
- Intel Xeon D-1527 Processor (Formerly Broadwell DE)
- 8GB DRAM
- System storage≥240GB

Data Center Optimized Design

- Typical power of under 7.5W per port
- Over 94% efficient power supplies
- 2+2 redundant & hot-swappable power supplies
- 7+1 redundant & hot-swappable fans
- Front-to-rear cooling
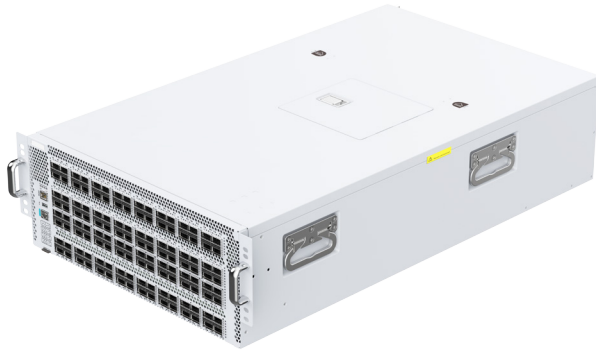- Tool less maintenance and simple installation

Cloud Networking Ready

- Dynamic Load Balancing for advanced multi-pathing
- 113.66MB Buffer；56.83MB per ingress traffic manager

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-B6930-128DC
Ports	128×QSFP56
Max 200GbE Ports	128
Throughput (full duplex)	51.2 Tbps
Packets/Second	10.6 Bpps
Latency (store and forward)	821~942ns
CPU	Intel Xeon D-1527
System Memory	8GB (Up to 32GB)
System Storage	≥240GB
BMC Option	Yes
Switch ASIC	Broadcom BCM56990 (Tomahawk 4)
Packet Buffer Memory	113.66MB
10/100/1000 MGMT Ports	1
RS-232 Serial Ports	1 (RJ-45)
USB Ports	1
Hot-swap Power Supplies	4 (2+2 redundant)
Hot-swappable Fans	8 (7+1 redundant)
Airflow	Front to rear
Max Power Draw	< 2600W
Max Heat Dissipation	< 8191.2 BTU/hr
Size(W×H×D)	17.40×6.89×29.92 in. (442×175×760mm)
Weight	95.9 pounds (43.5kg)
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

STANDARD COMPLIANCE

EMC	Emissions: FCC part15 Subpart B, EN55032, EN61000-3-2, EN61000-3-3 or EN61000-3-11, EN61000-3-12 (as applicable) Immunity: EN55035 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) European Union (EU) BSMI (Taiwan) C-Tick (Australia) CCC (PRC) MSIP (Korea) EAC (Customs Union) VCCI (Japan)
European Union Directives	2006/95/EC Low Voltage Directive 2004/108/EC EMC Directive 2011/65/EU RoHS Directive

ENVIRONMENTAL CHARACTERISTICS

Operating Temperature	32 to 104° F (0 to 40°C)
Storage Temperature	-40 to 158° F (-40 to 70°C)
Relative Humidity (Operating)	10 to 90% non-condensing
Altitude (Operating)	0 to 5906ft
Altitude (Non-operating)	-1640 to 16404ft

ORDER INFORMATION

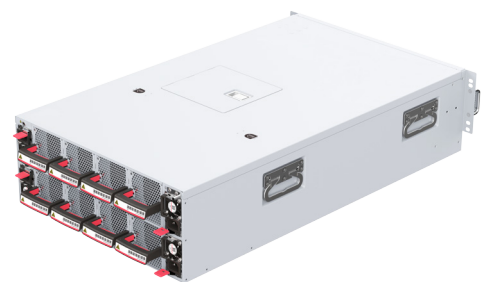| Model	Description
RA-B6930-128DC	128 fixed 200GbE QSFP56 ports. 4 slots for power supply modules. 8 slots for fan modules. 4 power supply modules and 8 fan modules already included.
P2EFAN II-F	Fan module for, front-to-rear airflow. With up to 8 fan modules, support 7+1 redundancy.
PA1300I-F	AC power supply module, front-to-rear airflow. With up to 4 power modules, support 2+2 redundancy.

NOTE：

The Ragile RA-B6930-128DC is a white box switch hardware system with basic SONiC OS. Software and other services need to be purchased separately.