Welcome, Alisha S Pettit | Procurement | Budgeting | Accounts Receivable | Accounts Payable

Solicitation Response(SR) | Dept: 0210 | ID: ESR06212400000007921 | Ver.: 1 | Function: New | Phase: Final | ▾ | Modified by batch , 06/21/2024

Header 🔖 3   ⬜ ➖

🗖 List View

| **General Information** | Contact | Default Values | Discount | Document Information | Clarification Request |

Procurement Folder: 1440403
Procurement Type: Central Purchase Order
Vendor ID: VS0000013257 🔼
Legal Name: BYTESPEED LLC
Alias/DBA:
Total Bid: $85,228.20
Response Date: 06/21/2024 📅
Response Time: 10:22
Responded By User ID: bytespeedap 🔼
First Name: Alex
Last Name: Peterson
Email: apeterson@bytespeed.cor
Phone: 8775530777

SO Doc Code: CRFQ
SO Dept: 0210
SO Doc ID: ISC2400000015
Published Date: 6/12/24
Close Date: 6/21/24
Close Time: 13:30
Status: Closed
Solicitation Description: Addendum No 2 Networking Equip Refresh for Bldg 4 & Logan
Total of Header Attachments: 3
Total of All Attachments: 3

Proc Folder:	1440403
Solicitation Description:	Addendum No 2 Networking Equip Refresh for Bldg 4 & Logan
Proc Type:	Central Purchase Order

Solicitation Closes	Solicitation Response	Version
2024-06-21 13:30	SR 0210 ESR06212400000007921	1

VENDOR
VS0000013257
BYTESPEED LLC

Solicitation Number:	CRFQ 0210 ISC2400000015		
Total Bid:	85228.1999999999708961695432 **Response Date:** 2024-06-21	**Response Time:**	10:22:02
Comments:			

FOR INFORMATION CONTACT THE BUYER
Toby L Welch
(304) 558-8802
toby.l.welch@wv.gov

Vendor
Signature X   **FEIN#**   **DATE**
All offers subject to all terms and conditions contained in this solicitation

Line	Comm Ln Desc	Qty	Unit Issue	Unit Price	Ln Total Or Contract Amount
1	3.1.1 Extreme Networks 48-Port Network Switch, or equal	36.00000	EA	1970.000000	70920.00

Comm Code	Manufacturer	Specification	Model #
43222612			

Commodity Line Comments:

Extended Description:

3.1.1 Extreme Networks 48-Port Network Switch, or equal

Line	Comm Ln Desc	Qty	Unit Issue	Unit Price	Ln Total Or Contract Amount
2	3.1.2 Extreme Networks 1M SFP+ Twinaxial Cable, or equal	36.00000	EA	87.000000	3132.00

Comm Code	Manufacturer	Specification	Model #
43222612			

Commodity Line Comments:

Extended Description:

3.1.2 Extreme Networks 1M SFP+ Twinaxial Cable, or equal

Line	Comm Ln Desc	Qty	Unit Issue	Unit Price	Ln Total Or Contract Amount
3	3.1.3 Extreme Networks 10000BSX SFP Module, or equal	36.00000	EA	59.450000	2140.20

Comm Code	Manufacturer	Specification	Model #
43222612			

Commodity Line Comments: submitted 36 by qty 4 8-packs and qty 4 individual to reduce cost. averages out to 59.45 per Transceiver

Extended Description:

3.1.3 Extreme Networks 10000BSX SFP Module, or equal

Line	Comm Ln Desc	Qty	Unit Issue	Unit Price	Ln Total Or Contract Amount
4	3.1.4 Extreme Networks 1000BSX SFP Module, or equal	36.00000	EA	230.000000	8280.00

Comm Code	Manufacturer	Specification	Model #
43222612			

Commodity Line Comments:

Extended Description:

3.1.4 Extreme Networks 1000BSX SFP Module, or equal

Line	Comm Ln Desc	Qty	Unit Issue	Unit Price	Ln Total Or Contract Amount
5	3.1.5 Extreme Networks Power Cord, or equal	36.00000	EA	21.000000	756.00

Comm Code	Manufacturer	Specification	Model #
43222612			

Commodity Line Comments:

Extended Description:

3.1.5 Extreme Networks Power Cord, or equal

RUCKUS®
COMMSCOPE

RUCKUS® ICX 8200

Enterprise-class stackable access switch with future-proof expandability

The RUCKUS ICX 8200 Switch series is purposely designed to handle next generation wireless first and IoT campus networks. These intelligent, scalable edge switches deliver enterprise-class functionality at an affordable price without compromising performance and reliability.

The RUCKUS ICX 8200 raises the bar with up to 8× 25 GbE ports for uplinks or stacking, PoE++ (802.3bt), VXLAN, advanced L2/L3 features and market-leading stacking density with up to 12 switches per stack. In addition, the RUCKUS ICX 8200 combines enterprise-class features, manageability, performance, and reliability with the flexibility, cost-effectiveness, and "pay as you grow" scalability of stackable solution.

Benefits

Maximum flexibility: Gigabit, Multigigabit edge ports and Fiber to the Room
- Optimized for latest generation Wi-Fi 6/6E/7 AP deployments with multigigabit ports.
- 8, 24 and 48 Gigabit Ethernet ports
- Up to 24x 1/2.5G Multigigabit RJ45 ports
- Up to 4× 1/2.5/5/10 Gbps Multigigabit RJ-45 ports
- Up to 48x 1G SFP fiber ports
- Up to 24x 10G SFP+ fiber ports

Power next generation APs and PoE devices
- PoE+ 802.3at, 30W per port on all ports
- PoE++ 802.3bt, 60/90W on multigigabit ports
- Up to 1480W PoE budget with two power supplies

25 GbE uplinks/stacking for maximum performance and future-proofing
- Stacking comes standard with all ICX 8200
- Up to 8x 1/10/25GbE SFP28 fiber ports for uplink and/or stacking

Enhanced Security and data privacy
- VXLAN* support for advanced network segmentation and data confidentiality

Advanced L3 routing delivers network design flexibility
- IPv4 and IPv6 L3 routing
- Static routes, RIP, OSPF, VRRP, VRF, GRE, PIM, PBR

Broad range of unified management options for maximum flexibility
- On Premises: SmartZone
- Cloud Based: RUCKUS Cloud*
- Controllerless: RUCKUS Unleashed*
- RUCKUS Analytics

Enhanced availability
- Redundant, load-sharing power supplies and fans on specific models

Services and Support Included
- 3 Years remote TAC support included with every ICX 8200 model
- Limited lifetime warranty

* Available in a future software release

RUCKUS ICX 8200 with RJ45 Copper ports and fixed power supply and fans

These stackable RUCKUS ICX 8200 models offer a single integrated power supply, one RJ-45 Ethernet port for out-of-band network management, one USB Type-C port for console management, one RJ-45 port for serial console management, and one USB port for external file storage.

ICX 8200-24
- 24× 10/100/1000 Mbps RJ-45 ports
- 4× 1/10/25 GbE uplink/stacking SFP28 ports

ICX 8200-24P PoE
- 24× 10/100/1000 Mbps RJ-45 PoE+ ports
- 4× 1/10/25 GbE uplink/stacking SFP28 ports
- 370 W PoE budget. PoE+ 802.3at

ICX 8200-24ZP Multigigabit PoE
- 24× 100/1000/2500 Mbps RJ-45 PoE++ 90W ports
- 4× 1/10/25 GbE uplink/stacking SFP28 ports
- 740 W PoE budget.

ICX 8200-48
- 48× 10/100/1000 Mbps RJ-45 ports
- 4× 1/10/25 GbE uplink/stacking SFP28 ports

ICX 8200-48P PoE
- 48× 10/100/1000 Mbps RJ-45 PoE+ ports
- 4× 1/10/25 GbE uplink/stacking SFP28 ports
- 370 W PoE budget. PoE+ 802.3at

ICX 8200-48PF PoE
- 48× 10/100/1000 Mbps RJ-45 PoE+ ports
- 4× 1/10/25 GbE uplink/stacking SFP28 ports
- 740 W PoE budget. PoE+ 802.3at

RUCKUS ICX 8200 with hot-swap power supplies and fans

These stackable RUCKUS ICX 8200 models offers 2 slots for redundant hot swappable load sharing power supplies, 2 slots for hot swappable fans, one RJ-45 Ethernet port for out-of-band network management, one USB Type-C port for console management, one RJ-45 port for serial console management, and one USB port for external file storage.

ICX 8200-48PF2 PoE
- 48× 10/100/1000 Mbps RJ-45 PoE+ ports
- 4× 1/10/25 GbE uplink/stacking SFP28 ports
- 1440 W PoE budget with two PSUs (740W with one PSU)
- Dual hot swappable power supplies and fans

ICX 8200-48ZP2 Multigigabit PoE
- 32× 10/100/1000 Mbps RJ-45 PoE+ ports
- 16× 100/1000/2500 Mbps RJ-45 PoE++ 90W ports
- 4× 1/10/25 GbE uplink/stacking SFP28 ports
- 1480 W PoE budget with two PSUs (740W with one PSU)
- Dual hot swappable power supplies and fans

RUCKUS ICX 8200 Compact

These RUCKUS ICX 8200 compact switches offer a single integrated power supply, one USB Type-C port for console management, one RJ-45 Ethernet port for out-of-band network management, one RJ-45 port for serial console management, and one USB port for external file storage.

ICX 8200-C08P PoE
- 8× 10/100/1000 Mbps RJ-45 PoE+ ports
- 2× 1/10GbE uplink/stacking SFP+ ports
- 124 W PoE budget PoE+ 802.3at

ICX 8200-C08ZP Multigigabit PoE
- 4× 100/1000/2500 Mbps RJ-45 PoE++ 90W ports
- 4× 1/2.5/5/10 Gbps RJ-45 PoE++ 90W ports
- 2× 1/10/25 GbE uplink/stacking SFP28 ports
- 240 W PoE budget

RUCKUS ICX 8200 Fiber

These stackable RUCKUS ICX 8200 models offer a single integrated power supply, one RJ-45 Ethernet port for out-of-band network management, one USB Type-C port for console management, one RJ-45 port for serial console management, and one USB port for external file storage

ICX 8200-24F Fiber
- 24× 1GbE SFP ports
- 4× 1/10/25 GbE uplink/stacking SFP28 ports

ICX 8200-48F Fiber
- 48× 1GbE SFP ports
- 4× 1/10/25 GbE uplink/stacking SFP28 ports

ICX 8200-24FX 10G Fiber
- 16× 1/10GbE SFP+ ports
- 8× 1/10/25 GbE uplink/stacking SFP28 ports

RUCKUS ICX 8200 Feature/Model Comparison

	Gigabit Compact	Gigabit Non-PoE		Gigabit PoE			
	RUCKUS ICX 8200-C08PF	RUCKUS ICX 8200-24	RUCKUS ICX 8200-48	RUCKUS ICX 8200-24P	RUCKUS ICX 8200-48P	RUCKUS ICX 8200-48PF	RUCKUS ICX 8200-48PF2
Feature							
Switching capacity (data rate, full duplex)	56 Gbps	248 Gbps	296 Gbps	248 Gbps	296 Gbps	296 Gbps	296 Gbps
Forwarding capacity (data rate, full duplex)	42 Mpps	184 Mpps	220 Mpps	184 Mpps	220 Mpps	220 Mpps	220 Mpps
10/100/1000 Mbps RJ45	8	24	48	24	48	48	48
1 Gbps SFP uplinks							
1/10 Gbps SFP/SFP+ uplinks	2						
1/10/25 Gbps SFP/SFP+/SFP28 uplinks		4	4	4	4	4	4
PoE/PoE+ 802.3at ports	8			24	48	48	48
Dual hot-swap power supplies and fan modules							Yes
Max PoE Class 3 ports (15.4 W per port)	8			24	48	48	48
Max PoE+ Class 4 ports (30 W per port)	4			12	12	24	48 (2 PSU)
Energy Efficient Ethernet (802.3az)	Yes						
Base IPv4/v6 Layer 3 routing (static routing, RIP)	Yes						
Advanced IPv4/v6 Layer 3 (OSPF, VRRP, VRF, GRE, PIM, PBR)	With License						
Aggregated stacking bandwidth (data rate, full duplex)	240 Gbps	1.2 Tbps					
Stacking density (maximum switches in a stack)	12						
Stacking ports (maximum ports usable for stacking)	Up to 2×10 GbE SFP+	Up to 4×25 GbE SFP28					
Maximum stacking distance (distance between stacked switches)	10 km						

RUCKUS ICX 8200 Feature/Model Comparison

Features	Gigabit Compact	Gigabit Non-PoE		Gigabit PoE			
	RUCKUS ICX 8200-C08PF	RUCKUS ICX 8200-24	RUCKUS ICX 8200-48	RUCKUS ICX 8200-24P	RUCKUS ICX 8200-48P	RUCKUS ICX 8200-48PF	RUCKUS ICX 8200-48PF2
POWER							
Power inlet (AC)	C14						
Input voltage/frequency	AC: 100 to 240 VAC @ 50 to 60 Hz						
Power Supply Hold Time	10ms	10ms	10ms	20ms	20ms	10ms	10ms
Power supply rated max (AC)	240 W	65 W	100 W	525 W	525 W	880 W	920W x 2
PoE power budget (AC)	124 W			370 W	370 W	740 W	740W (1 PSU) 1440W (2 PSU)
Switch power usage (25°C) *10% traffic* (no PoE load)* *100% traffic** (full PoE load)*	18 W 150 W	31 W 38 W	47 W 54 W	36 W 445 W	49 W 451 W	51W 854 W	86 W 1667 W
Airflow	Fanless	Fanless Mode. Front to side & back		Fanless Mode. Front to side & back			Front to Back
Switch power dissipation (25°C) *10% traffic* (no PoE load)* *100% traffic** (full PoE load)*	61 BTU/hr 514 BTU/hr	106 BTU/hr 132 BTU/hr	160 BTU/hr. 184 BTU/hr	124 BTU/hr 1518 BTU/hr	167 BTU/hr 1539 BTU/hr	174 BTU/hr 2914 BTU/hr	294 BTU/hr 5692 BTU/hr
Features							
Net Weight	2.27 kg 5.00 lb	3.74 kg 8.24 lb	4.96 kg 10.93 lb	4.34 kg 9.57 lb	5.57 kg 12.28 lb	5.51kg 12.15 lb	6.39 kg 14.08 lb
Dimensions *Height*	4.40 cm 1.73 Inches	4.40 cm 1.73 Inches	4.40 cm 1.73 inches	4.40 cm 1.73 inches	4.40 cm 1.73 inches	4.40 cm 1.73 inches	4.40 cm 1.73 inches
Width	27.00 cm 10.63 inches	44.00 cm 17.32 inches	44.00 cm 17.32 inches	44.00 cm 17.32 inches	44.00 cm 17.32 inches	44.00 cm 17.32 inches	44.00 cm 17.32 inches
Depth	21.40 cm 8.42 inches	28.00 cm 11.02 inches	37.00 cm 14.57 inches	28.00 cm 11.02 inches	37.00 cm 14.57 inches	37.00 cm 14.57 inches	37.00 cm 14.57 inches
Acoustics (25°C, min fan speed)	Fanless	40.0 dBA	40.0 dBA	41.0 dBA	41.0 dBA	41.0 dBA	51.0 dBA
MTBF (25°C)	2,007,096hr	1,543,328hr	1,136,723hr	1,550,360hr	1,297,288hr	1,070,987hr	561,966hr
Features							
MANAGEMENT PORTS							
USB Type-C port *(For console management)*	Yes						
RJ45 serial port *(For serial console management)*	Yes						
USB Type-A port *(For external file storage)*	Yes						
RJ45 Ethernet port *(For out of band network management)*	Yes						

* All downlink ports, stacking ports, and uplink ports are linked up with 10% traffic rate. No PoE load on PoE models. Fans are at nominal speed.

** All downlink ports, stacking ports, and uplink ports are linked up with 100% traffic rate. 100% PoE load on PoE models. Fans are at high speed.

RUCKUS ICX 8200 Feature/Model Comparison

	Multigigabit Ethernet PoE++			Fiber Ethernet		
	RUCKUS ICX 8200-C08ZP	RUCKUS ICX 8200-24ZP	RUCKUS ICX 8200-48ZP2	RUCKUS ICX 8200-24F	RUCKUS ICX 8200-24FX	RUCKUS ICX 8200-48F
Features						
Switching capacity *(data rate, full duplex)*	200 Gbps	320 Gbps	344 Gbps	248 Gbps	720 Gbps	296 Gbps
Forwarding capacity *(data rate, full duplex)*	148 Mpps	237 Mpps	254 Mpps	184 Mpps	533 Mpps	219 Mpps
10/100/1000 Mbps RJ45			32			
100/1000 Mbps/2.5 Gbps RJ45 downlinks *(full duplex only)*	4	24	16			
100Mbps/1/2.5/5/10 Gbps RJ45 downlinks	4					
1 Gbps SFP				24		48
1/10 Gbps SFP+					16	
1/10/25 Gbps SFP/SFP+/SFP28 uplinks	2	4	4	4	8	4
PoE/PoE+ 802.3at ports			32			
PoH / PoE / PoE+ / PoE++ 802.3bt ports	8	24	16			
Dual hot-swap power supplies and fan modules			Yes			
Maximum PoE Class 3 ports *(15.4 W per port)*	8	24	48			
Maximum PoE+ Class 4 ports *(30 W per port)*	8	24	24 (1 PSU) 48 (2 PSU)			
Maximum PoE++ Class 6 ports *(60 W per port)*	4	12	12 (1PSU) 16 (2 PSU)			
Energy Efficient Ethernet (802.3az)		Yes				
Base IPv4/v6 Layer 3 routing *(static routing, RIP)*	Yes					
Advanced IPv4/v6 Layer 3 routing *(OSPF, VRRP, VRF, GRE, PIM, PBR)*	With License					
Aggregated stacking bandwidth *(data rate, full duplex)*	600 Gbps	1.2 Tbps				
Stacking density *(maximum switches in a stack)*	12					
Stacking ports *(maximum ports usable for stacking)*	Up to 2×25 GbE SFP28	Up to 4×25 GbE SFP28				
Maximum stacking distance *(distance between stacked switches)*	10 km					

RUCKUS ICX 8200 Feature/Model Comparison

	Multigigabit Ethernet PoE++			Fiber Ethernet		
	RUCKUS ICX 8200-C08ZP	**RUCKUS ICX 8200-24ZP**	**RUCKUS ICX 8200-48ZP2**	**RUCKUS ICX 8200-24F**	**RUCKUS ICX 8200-24FX**	**RUCKUS ICX 8200-48F**
Features	POWER					
Power inlet (AC)	C14					
Input voltage/frequency	AC: 100 to 240 VAC @ 50 to 60 Hz					
Power supply hold time	20ms	10ms	10ms	10ms	10ms	10ms
Power supply rated max (AC)	305W	950W	920W x 2	100W	150W	180W
PoE power budget (AC)	240W	740W	800W (1 PSU) 1480W (2 PSU)			
Switch power usage (25°C) *10% traffic* (no PoE load)* *100% traffic** (full PoE load)*	41W 300W	69W 920W	90W 1839W	65W 78W	82W 93W	106W 118W
Airflow	Fanless	Front to side & back		Front to side & back		
Switch power dissipation (25°C) *10% traffic* (no PoE load)* *100% traffic** (full PoE load)*	140 BTU/hr. 1023 BTU/hr.	235 BTU/hr. 3139 BTU/hr.	305 BTU/hr. 6275 BTU/hr.	223 BTU/hr. 264 BTU/hr.	279 BTU/hr. 316 BTU/hr.	362 BTU/hr. 402 BTU/hr.
Features						
Net Weight	3.23 Kg	5.22 Kg	6.64 Kg (2 PSUs)	3.77 Kg	3.81 Kg	4.30 Kg
Dimensions						
Height	4.40 cm 1.73 Inches	4.40 cm 1.73 inches	4.40 cm 1.73 inches	4.40 cm 1.73 inches	4.40 cm 1.73 inches	4.40 cm 1.73 inches
Width	27.00 cm 10.63 inches	44.00 cm 17.32 inches	44.00 cm 17.32 inches	44.00 cm 17.32 inches	44.00 cm 17.32 inches	44.00 cm 17.32 inches
Depth	26.00 cm 10.24 inches	28.00 cm 11.02 inches	37.00 cm 14.57 inches	28.00 cm 11.02 inches	28.00 cm 11.02 inches	28.00 cm 11.02 inches
Acoustics (25°C, min fan speed)	Fanless	41.0 dBA	51.0 dBA	41.0 dBA	41.0 dBA	41.0 dBA
MTBF (25°C)	539,091hr	936,765hr	536,710hr	1,190,512hr	890,716hr	1,699,974hr
Features						
USB Type-C port *(For console management)*	Yes					
RJ45 serial port *(For serial console management)*	Yes					
USB Type-A port *(For external file storage)*	Yes					
RJ45 Ethernet port *(For out of band network management)*	Yes					

* All downlink ports, stacking ports, and uplink ports are linked up with 10% traffic rate. No PoE load on PoE models. Fans are at nominal speed.

** All downlink ports, stacking ports, and uplink ports are linked up with 100% traffic rate. 100% PoE load on PoE models. Fans are at high speed.

RUCKUS ICX 8200 Specifications

Features	SPECIFICATIONS	
Connector options	10/100/1000 Mbps RJ-45 1/2.5 Gbps RJ-45 1/2.5/5/10 Gbps RJ-45 1 Gbps SFP ports 1/10 Gbps SFP+ ports 1/10/25 Gbps SFP28 ports	- Out-of-band Ethernet management: 10/100/1000 Mbps RJ-45 - Console management: RJ45 serial port and USB Type-C port with serial communication device class support - File transfer: USB port, standard-A plug For the latest information about supported optics, please visit www.commscope.com/ruckus.
DRAM NVRAM (eMMC) Packet buffer size	4 GB 8 GB 4 MB	
Maximum MAC addresses	32K	
Maximum VLANs Maximum PVLANs	4,095 32	
Maximum STP (spanning trees instances)	253	
Maximum VEs	512	
Maximum ARP entries	8192	
Maximum routes (in hardware)	16k IPv4, 4k IPv6 - Next hop address: 8k	
Trunking	- Maximum ports per LAG : 8 - Maximum Link Aggregation Groups : 128	
Maximum jumbo frame size	9,216 bytes	
QoS priority queues	8 per port	
Multicast groups	4096 (Layer2 IGMP) 512 (Layer2 MLD) 4096 (IPv4 PIM) 512 (IPv6 PIM)	
Quality of Service (QoS	- ACL Mapping and Marking of ToS/DSCP (CoS) - ACL Mapping and Marking of 802.1p - ACL Mapping to Priority Queue - Classifying and Limiting Flows Based on TCP Flags - DiffServ Support	- Honoring DSCP and 802.1p (CoS) - MAC Address Mapping to Priority Queue - Priority Queue Management using Weighted Round Robin (WRR), Strict Priority (SP), and a combination of WRR and SP
Traffic management	- ACL-based inbound rate limiting and traffic policies - Broadcast, multicast, and unknown unicast rate limiting - Inbound rate limiting per port - Outbound rate limiting per port and per queue	
Security	802.1X authentication - MAC authentication - Flexible authentication - Web authentication - DHCP snooping - Dynamic ARP inspection - Neighbor Discovery (ND) Inspection - Bi-level Access Mode (Standard and EXEC Level) - EAP pass-through support - IEEE 802.1X username export in sFlow - Protection against Denial of Service (DoS) attacks - Authentication, Authorization, and Accounting (AAA)	- MAC Address Locking MAC Port Security - Advanced Encryption Standard (AES) with SSHv2 - RADIUS/TACACS/TACACS+ - Secure Copy (SCP) - Secure Shell (SSHv2) - Protected Ports - Local Username/Password - Change of Authorization (CoA) RFC 5176 - Trusted Platform Module - RADSEC (RFC 6614) - Encrypted Syslog (RFC 5425
SDN features	- OpenFlow1 v1.0 and v1.3 - Operates with OpenDayLight Controller - OpenFlow hybrid port mode (Supports both OpenFlow traffic forwarding and regular traffic forwarding on the same port)	

RUCKUS ICX 8200 Specifications

Features	SPECIFICATIONS	
High availability	• Layer 3 VRRP/VRRP-E protocol redundancy • Real-time state synchronization across the stack • Hitless failover and switchover from master to standby stack controller • Hot insertion and removal of stacked units • Layer 2 VSRP switch redundancy • In Service Software Update (ISSU	
Layer 2 feature set	• 802.1s Multiple Spanning Tree • 802.1x Authentication • Auto MDI/MDIX • BPDU Guard, Root Guard • Dual-Mode VLANs • MAC-based VLANs, Dynamic MAC-based VLAN activation • Dynamic VLAN Assignment • Dynamic Voice VLAN Assignment • Fast Port Span • GVRP : GARP VLAN Registration Protocol • IGMP Snooping (v1/v2/v3) • IGMP Proxy for Static Groups • IGMP v2/v3 Fast Leave • Inter-Packet Gap (IPG) adjustment • Link Fault Signaling (LFS) • MAC Address Filtering • MAC Learning Disable	• MLD Snooping (v1/v2) • Multi-device Authentication • Per-VLAN Spanning Tree (PVST/PVST+/PRST) • Mirroring: Port-based, ACL-based, MAC Filter-based, and • VLAN-based • PIM-SM v2 Snooping • Port Loop Detection • Private VLAN • Remote Fault Notification (RFN) • Single-instance Spanning Tree • Trunk Groups (static, LACP) • Uni-Directional Link Detection (UDLD) • Metro-Ring Protocol (MRP) (v1, v2) • Virtual Switch Redundancy Protocol (VSRP) • Q-in-Q and selective Q-in-Q • VLAN Mapping • Topology Groups
Base Layer 3 IP routing feature set	• IPv4 and IPv6 static routes • RIP v1/v2, RIPng • ECMP • Port-based Access Control Lists • Layer 3/Layer 4 ACLs	• Host routes • Virtual Interfaces • Routed Interfaces • Route-only Support • Routing Between Directly Connected Subnets
Premium Layer 3 IP routing feature set with software license	• IPv4 and IPv6 dynamic routes • OSPF v2, v3 • PIM-SM, PIM-SSM, PIM-DM, PIM passive (IPv4, IPv6) • PBR	• Virtual Route Redundancy Protocol VRRP (IPv4) • VRRP v3 (IPv6) • VRRP-E(IPv4/IPv6) • VRF (IPv4 and IPv6 • GRE

Features	STANDARD COMPLIANCE	
IEEE standards compliance	• 802.1AB LLDP/ LLDP-MED • 802.1D MAC Bridging • 802.1p Mapping to Priority Queue • 802.1s Multiple Spanning Tree (MST) • 802.1w Rapid Reconfiguration of Spanning Tree (RSTP) • 802.1x Port-based Network Access Control (PNAC) • 802.3 Carrier Sense Multiple Access/Collision Detection • (CSMA/CD) • 802.3ab 1000BASE-T • 802.3 10Base-T • 802.3ad Link Aggregation (Dynamic and Static) • 802.1 AX-2008 Link Aggregation	• 802.3ae 10 Gigabit Ethernet • 802.3af Power over Ethernet • 802.3at Power over Ethernet Plus • 802.3bz Multigigabit Ethernet • 802.3u 100Base-TX • 802.3x Flow Control • 802.3z 1000Base-SX/LX • 802.3 MAU MIB (RFC 2239) • 802.1Q VLAN Tagging • 802.1BR Bridge Port Extension • 802.3az Energy Efficient Ethernet • 802.3bt PoE++
RFC standards compliance	For a complete list of RFCs supported by the ICX 8200 product family, please visit www.commscope.com/ruckus.	

RUCKUS ICX 8200 Specifications

Features	FEATURE SETS	
Management	• DHCP Auto-Configuration • Configuration Logging • Digital Optical Monitoring • Display Log Messages on Multiple Terminals • Embedded Web Management (HTTP/HTTPS) • Embedded DHCP Server • Industry-standard Command Line Interface (CLI) • RUCKUS SmartZone, RUCKUS Cloud*, RUCKUS Unleashed* • CLI activation of optional software features • USB file management and storage • Macro for batch execution • Out-of-band Ethernet Management • RSPAN • TFTP • TELNET Client and Server • SSH / SSH V2	• Bootp • SNMPv1/v2c • DHCP Server and DHCP Relay • SNMPv3 Intro to Framework • Architecture for Describing SNMP Framework • SNMP Message Processing and Dispatching • SNMPv3 Applications • SNMPv3 User-based Security Model • SNMP View-based Access Control Model SNMP • sFlow • Network Time Protocol (NTP) • Multiple Syslog Servers • SCP • Virtual Cable Tester (VCT) • From management MIB, please see the ICX technical documentation at www.commscope.com/ruckus

Features	ENVIRONMENT
Ambient Temperature	• Operational: 0°C to 45°C (32°F to 113°F) at sea level • Non-operational: 40°C to 70°C (-40°F to 158°F)
Relative Humidity (non-condensing)	• Operational: 10% to 90% at 50°C (122°F) • Non-operational: 10% to 90% at 70°C (158°F)
Altitude (above sea level)	• Operational 0 to 3,048 m (10,000 ft) • Non-operational: 0 to 12,000 m (39,370 ft)

Features	COMPLIANCE/CERTIFICATION
Electromagnetic emissions	• FCC Part 15, Subpart B (Class A) • EN 55032 (CE mark) (Class A) • EN 55035 (CE mark) (Immunity) for Information Technology Equipment • EN 55024 (CE mark) (Immunity) for Information Technology Equipment • ICES-003 (Canada) (Class A) • AS/NZ 55032 (Australia/New Zealand) (Class A) • VCCI (Japan) (Class A) • EN 300 386 • CNS 15936-1 (BSMI) (Taiwan) (Class A) • KN 32 (South Korea) (Class A) • KN 35 (South Korea) (Class A) • TCVN 7189 / TCVN 7317 (Vietnam) (Class A) • EN 61000-3-2 • EN 61000-3-3
Safety	• CAN/CSA-C22.2 No. 62368-1/UL 62368-1 - Safety of Information Technology Equipment • EN 60825 Safety of Laser Products - Part 1: Equipment Classification, Requirements and User's Guide • EN 60950-1/IEC 60950-1/EN 62368-1/EC 62368-1 Safety of Information Technology Equipment • CNS 15598-1 (BSMI) (Taiwan)
Environmental regulatory compliance	• 2014/35/EU and 2014/30/EU • 2011/65/EU – Restriction of the use of certain hazardous substance in electrical and electronic equipment (EU RoHS) • 2012/19/EU – Waste electrical and electronic equipment (EU WEEE) • 94/62/EC – packaging and packaging waste (EU) • 2006/66/EC – batteries and accumulators and waste batteries and accumulators (EU battery directive) • 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (EU REACH) • Section 1502 of the Dodd-Frank Wall Street Reform and Consumer Protection Act of 2010 – U.S. Conflict Minerals • 30/2011/TT-BCT – Vietnam circular • SJ/T 11363-2006 Requirements for Concentration Limits for Certain Hazardous Substances in EIPs (China) • SJ/T 11364-2006 Marking for the Control of Pollution Caused by EIPs (China) • CNS 15663 (BSMI) (Taiwan)
Vibration	• IEC 68-2-36, IEC 68-2-6
Shock and drop	• IEC 68-2-27, IEC 68-2-32
TAA (Trade Agreement Act)	• All ICX 8200 SKUs are TAA compliant

RUCKUS ICX 8200 Ordering Information

Part Number	RUCKUS ICX 8200 Switches with Three-Year Remote TAC support TAA-Compliant
ICX8200-C08PF	RUCKUS ICX 8200 Compact Switch, 8×10/100/1000 Mbps PoE+ ports, 2×10 GbE SFP+ stacking/uplink-ports, 124 W PoE budget, three-year remote TAC support. Power cord not included.
ICX8200-C08ZP	RUCKUS ICX 8200 Compact Switch, 4×100/1000/2500 Mbps PoE++ ports, 4× 1/2.5/5/10Mbps PoE++ ports, 2×25 GbE SFP28 stacking/uplink-ports, 240 W PoE budget, three-year remote TAC support. Power cord not included.
ICX8200-24	RUCKUS ICX 8200 Switch, 24×10/100/1000 Mbps ports, 4×25 GbE SFP28 stacking/uplink-ports, three-year remote TAC support. Power cord not included.
ICX8200-24P	RUCKUS ICX 8200 Switch, 24×10/100/1000 Mbps PoE+ ports, 4×25 GbE SFP28 stacking/uplink-ports, 370 W PoE budget, three-year remote TAC support. Power cord not included.
ICX8200-24ZP	RUCKUS ICX 8200 Switch, 24×100/1000/2500 Mbps PoE++ ports, 4×25 GbE SFP28 stacking/uplink-ports, 740 W PoE budget, three-year remote TAC support. Power cord not included.
ICX8200-48	RUCKUS ICX 8200 Switch, 48×10/100/1000 Mbps ports, 4×25 GbE SFP28 stacking/uplink-ports, three-year remote TAC support. Power cord not included.
ICX8200-48P	RUCKUS ICX 8200 Switch, 48×10/100/1000 Mbps PoE+ ports, 4×25 GbE SFP28 stacking/uplink-ports, 370 W PoE budget, three-year remote TAC support. Power cord not included.
ICX8200-48PF	RUCKUS ICX 8200 Switch, 48×10/100/1000 Mbps PoE+ ports, 4×25 GbE SFP28 stacking/uplink-ports, 740 W PoE budget, three-year remote TAC support. Power cord not included.
ICX8200-48PF2-E	RUCKUS ICX 8200 Switch, 48×10/100/1000 Mbps PoE+ ports, 4×25 GbE SFP28 stacking/uplink-ports, 740 W PoE budget (with one PSU), hot swap power supplies and fans, one power supply and one fan included, three-year remote TAC support. Power cord not included.
ICX8200-48PF2-E2	RUCKUS ICX 8200 Switch, 48×10/100/1000 Mbps PoE+ ports, 4×25 GbE SFP28 stacking/uplink-ports, 1440 W PoE budget, hot swap power supplies and fans, two power supplies and two fans included, three-year remote TAC support. Power cords not included.
ICX8200-48ZP2-E	RUCKUS ICX 8200 Switch, 32×10/100/1000 Mbps PoE+ ports, 16×100/1000/2500 Mbps RJ-45 PoE++ ports, 4×25 GbE SFP28 stacking/uplink-ports, 740 W PoE budget (with one PSU), hot swap power supplies and fans, one power supply and one fan included, three-year remote TAC support. Power cord not included.
ICX8200-48ZP2-E2	RUCKUS ICX 8200 Switch, 32×10/100/1000 Mbps PoE+ ports, 16×100/1000/2500 Mbps RJ-45 PoE++ ports, 4×25 GbE SFP28 stacking/uplink-ports, 1480 W PoE budget, hot swap power supplies and fans, two power supplies and two fans included, three-year remote TAC support. Power cords not included.
ICX8200-24F	RUCKUS ICX 8200 Switch, 24×10/100/1000 Mbps SFP ports, 4×25 GbE SFP28 stacking/uplink-ports, three-year remote TAC support. Power cord not included.
ICX8200-48F	RUCKUS ICX 8200 Switch, 48×10/100/1000 Mbps SFP ports, 4×25 GbE SFP28 stacking/uplink-ports, three-year remote TAC support. Power cord not included.
ICX8200-24FX	RUCKUS ICX 8200 Switch, 16×1/10GbE SFP+ ports, 8×25 GbE SFP28 stacking/uplink-ports, three-year remote TAC support. Power cord not included.

Part Number	RUCKUS ICX 8200 Power Supplies, Fans and Accessories
ICX8200-PREM-LIC	ICX 8200 Layer 3 premium license. Enables advanced layer 3 features (OSPF, VRRP, PIM, PBR, VRF, GRE)
RPS23-E	Hot-swap 920 W AC PoE power supply, front to back airflow. Only applicable to the ICX8200 models with hot swap power supplies (up to 2 per switch) Power cord not included
ICX-FAN13-E	Hot-swap fan tray front to back airflow. Only applicable to the ICX8200 models with hot swap fans (up to 2 per switch)
XBR-R000295	1U, 1.5U, and 2U Universal Kit for Four-Post Racks
ICX7000-RMK	Two-post fixed rack mount kit
ICX7000-C12-RMK	Rack mount kit for compact switches
ICX7000-C12-WMK	Wall Mount Bracket Kit for compact switches
ICX-DIN-MNT	DIN rail mount kit
CC-USBC-USBA	USB 2.0 Cable, Type-C to Type-A, 1 meter (for USB Type-C console port)
CC-RJ45-DB9	Console cable RJ45-RJ45 with RJ-45-DB9 Adapter (for RJ-45 console port)

RUCKUS ICX 8200 Ordering Information

Part Number	Power Cords
PCUSA2	C13 POWER CORD for USA, NEMA5-15/C13, 13A, 125V
PCEURO	C13 Power Cord for Europe
PCAUS	C13 POWER CORD FOR AUSTRALIA
PCCHINA2-IEC309	C13 Power Cord for China, 250V 10A
PCINDIA	C13 6 FOOT AC POWER CORD FOR INDIA
PCJAPAN	C13 Power Cord for Japan version
PCSWISS-C1312G-HF	C13 POWER CORD for Switzerland, SEV1011 TO C13, 10A, 250V, HALOGEN-FREE
PCUK	C13 Power Cord for United Kingdom
PC-C13C14	C13/C14 15A Power Cord

Warranty

RUCKUS ICX 8200 Switches are covered by the RUCKUS Assurance Limited Lifetime Warranty. For details, visit www.ruckusnetworks. com/warranty.

Best-in-Class Support

RUCKUS ICX 8200 switches are supported by next-business-day advance replacement where available, as well as software defect repairs and maintenance updates. 3 years remote TAC support is included with the product purchase. Many on-site and TAC support options are available and can be purchased bundled with the product or separately.

Legal Disclaimer

Product features, functionality and specifications may change or be discontinued without notice. Nothing in this document shall be deemed to create a warranty of any kind, either express or implied, statutory or otherwise, including but not limited to, any implied warranties of merchantability, fitness for a particular purpose, non-infringement of third-party rights or availability with respect to any products and services.

Refer to www.commscope.com/ruckus for the latest version of this document.

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About RUCKUS Networks

RUCKUS Networks builds and delivers purpose-driven networks that perform in the demanding environments of the industries we serve. Together with our network of trusted go-to-market partners, we empower our customers to deliver exceptional experiences to the guests, students, residents, citizens and employees who count on them.

RUCKUS®
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ADDENDUM ACKNOWLEDGEMENT FORM
SOLICITATION NO.: CRFQ ISC24*015

Instructions: Please acknowledge receipt of all addenda issued with this solicitation by completing this addendum acknowledgment form. Check the box next to each addendum received and sign below. Failure to acknowledge addenda may result in bid disqualification.

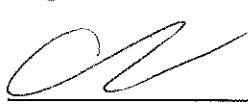**Acknowledgment:** I hereby acknowledge receipt of the following addenda and have made the necessary revisions to my proposal, plans and/or specification, etc.
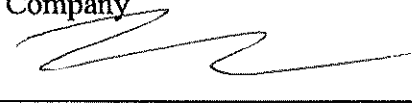
Addendum Numbers Received:
(Check the box next to each addendum received)

[X] Addendum No. 1   [ ] Addendum No. 6

[X] Addendum No. 2   [ ] Addendum No. 7

[ ] Addendum No. 3   [ ] Addendum No. 8

[ ] Addendum No. 4   [ ] Addendum No. 9

[ ] Addendum No. 5   [ ] Addendum No. 10

I understand that failure to confirm the receipt of addenda may be cause for rejection of this bid. I further understand that any verbal representation made or assumed to be made during any oral discussion held between Vendor's representatives and any state personnel is not binding. Only the information issued in writing and added to the specifications by an official addendum is binding.

Byte Speed
_____
Company

_____
Authorized Signature

_6/21/24_
_____
Date

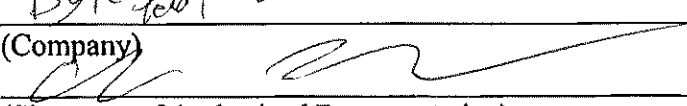NOTE: This addendum acknowledgement should be submitted with the bid to expedite document processing.
Revised 6/8/2012

DESIGNATED CONTACT: Vendor appoints the individual identified in this Section as the Contract Administrator and the initial point of contact for matters relating to this Contract.

(Printed Name and Title) _Alex Peterson Territory Manager_

(Address) _313 24th Ave S Moorhead, MN 56560_

(Phone Number) / (Fax Number) _218-227-0490, 218-227-0498_

(email address) _gpeterson@byteged.com_

CERTIFICATION AND SIGNATURE: By signing below, or submitting documentation through *wvOASIS*, I certify that: I have reviewed this Solicitation/Contract in its entirety; that I understand the requirements, terms and conditions, and other information contained herein; that this bid, offer or proposal constitutes an offer to the State that cannot be unilaterally withdrawn; that the product or service proposed meets the mandatory requirements contained in the Solicitation/Contract for that product or service, unless otherwise stated herein; that the Vendor accepts the terms and conditions contained in the Solicitation, unless otherwise stated herein; that I am submitting this bid, offer or proposal for review and consideration; that this bid or offer was made without prior understanding, agreement, or connection with any entity submitting a bid or offer for the same material, supplies, equipment or services; that this bid or offer is in all respects fair and without collusion or fraud; that this Contract is accepted or entered into without any prior understanding, agreement, or connection to any other entity that could be considered a violation of law; that I am authorized by the Vendor to execute and submit this bid, offer, or proposal, or any documents related thereto on Vendor's behalf; that I am authorized to bind the vendor in a contractual relationship; and that to the best of my knowledge, the vendor has properly registered with any State agency that may require registration.
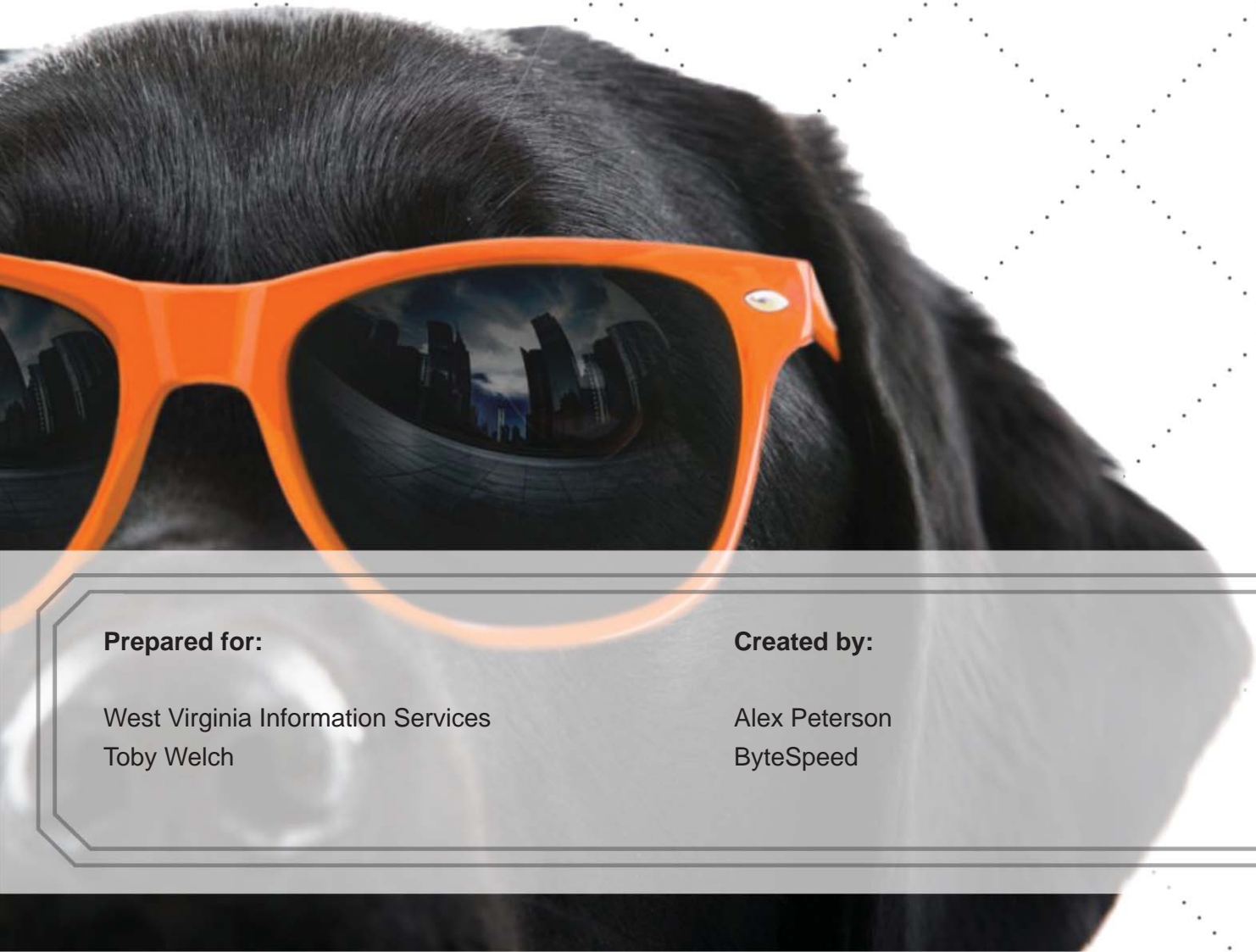
By signing below, I further certify that I understand this Contract is subject to the provisions of West Virginia Code § 5A-3-62, which automatically voids certain contract clauses that violate State law; and that pursuant to W. Va. Code 5A-3-63, the entity entering into this contract is prohibited from engaging in a boycott against Israel.

Byte Sped, LLC

(Company)

[signature]

(Signature of Authorized Representative)

Alexander Peterson, Territory Manager, 6/21/24

(Printed Name and Title of Authorized Representative) (Date)

_218-227-0490   218-227-0498_

(Phone Number) (Fax Number)

gpeterson@byteged.com

(Email Address)

PROPOSAL FOR

RUCKUS NETWORKING SOLUTIONS

Prepared for:

West Virginia Information Services
Toby Welch

Created by:

Alex Peterson
ByteSpeed

Document Date: 10 / 19 / 2024

Prepared for:

West Virginia Information Services
Toby Welch
908 Bullitt St
Charleston, WV 25301

Prepared by:

Alex Peterson
Territory Manager
218-227-0490
apeterson@bytespeed.com

QUOTE PRODUCT	PRICE	QTY	SUBTOTAL
NETWORK CABLE, RUCKUS/BROCADE DIRECT ATTACHED SFPP PASSIVE COPPER, 1M, 10G-SFPP-TWX-P-0101	$87.00	36	$3,132.00
SWITCH, RUCKUS 48 x 10/100/1000MBPS CLASS 4 POE, 370W BUDGET 4 x 1/10/25GBE SFP28, ICX8200-48P	$1,970.00	36	$70,920.00
POWER CORD, RUCKUS 6' NEMA 5-15/C13, 13A, FOR RPS4, PCUSA2	$21.00	36	$756.00
TRANSCEIVER, RUCKUS 1000BASE-SX SFP OPTIC, E1MG-SX-OM	$196.00	4	$784.00
TRANSCEIVER, RUCKUS 1000BASE-SX SFP OPTIC, 8 PACK, E1MG-SX-OM-8	$339.00	4	$1,356.00
TRANSCEIVER, RUCKUS BROCADE 10GBASE-LR SFPP OPTIC, STD TEMP, 10G-SFPP-LR-S	$230.00	36	$8,280.00

Subtotal	**$85,228.00**
Tax	**$0.00**
Total	**$85,228.00**

AGREED TO AND ACCEPTED:

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RUCKUS®

Don't see what you need above? Check out the Ruckus Product Portfolio in the following pages and let us know what additions you would like included!

Why Ruckus?

- Better performance
- Lower cost of ownership
- Simplified central switch and access point management
- Easy deployment with multiple management platforms to choose from
- Zero touch provisioning
- Better IT experience with enterprise level features and consumer level ease of use
- Mobile applications for for managing a network on the go

Learn what it means to have ByteSpeed standing behind your network deployments.

"Without a doubt, ByteSpeed support is #1. If we run into any issues at all, their support team is quick to respond and are always able to resolve the problem for us. Getting price quotes is so painless with ByteSpeed. I ask for a quote and I receive it quickly without being hassled or pressured into purchasing. ByteSpeed is an all-around fantastic company to work with!"

Chuck Whiteley III   IT Manager, Central Point School District 6, Oregon

Got a Minute?

90 Day **FREE TRIAL** of Ruckus Analytics with your Ruckus Purchase from ByteSpeed

Get deeper insight into your new Ruckus network with your 90 day trial of Ruckus Analytics.

Ruckus Analytics delivers complete visibility into the operation and health of your RUCKUS network.

It simplifies troubleshooting by providing in-depth information on the network, access point health, and even client health.

With Ruckus Analytics you will receive:
- Incident classification by severity.
- Granular troubleshooting.
- Flexible access to your network data warehouse.

All you need to do is reach out to your ByteSpeed Territory Manager once you have your new network in place and we will take it from there!

Use the tool for 90 days to fine-tune your new deployment, or invest long-term into complete network health visibility. The choice is yours!

Cloud Wi-Fi with Easy Management.

Give your end users a consistently great Wi-Fi experience that is fast, reliable, and secure.

Exceptional Wi-Fi User Experience

Ruckus is known for exceptional Wi-Fi performance even under the most challenging network conditions.
This means exceptionally happy users. Get the best of both worlds—easy cloud Wi-Fi management together with the best APs in the industry.

Intuitive Cloud Managed Wi-Fi

Ruckus Cloud Wi-Fi takes the complexity out of deploying and managing your Wi-Fi network. Even a small IT staff can keep pace with the longest list of Wi-Fi demands—new users, guest networks, Wi-Fi-enabled buildings and campuses. Ruckus checks all the boxes for simple, intuitive cloud managed Wi-Fi.

Lower Total Cost of Ownership

Here's one way to keep growth and budgets aligned: reduce the TCO of your WLAN infrastructure. Our APs offer better capacity and coverage, often able to support 30-50% more clients than competitive solutions. Think of all the APs you **won't** need to buy, plus the associated expenses you'll save. A more cost-efficient infrastructure is definitely the way to grow.
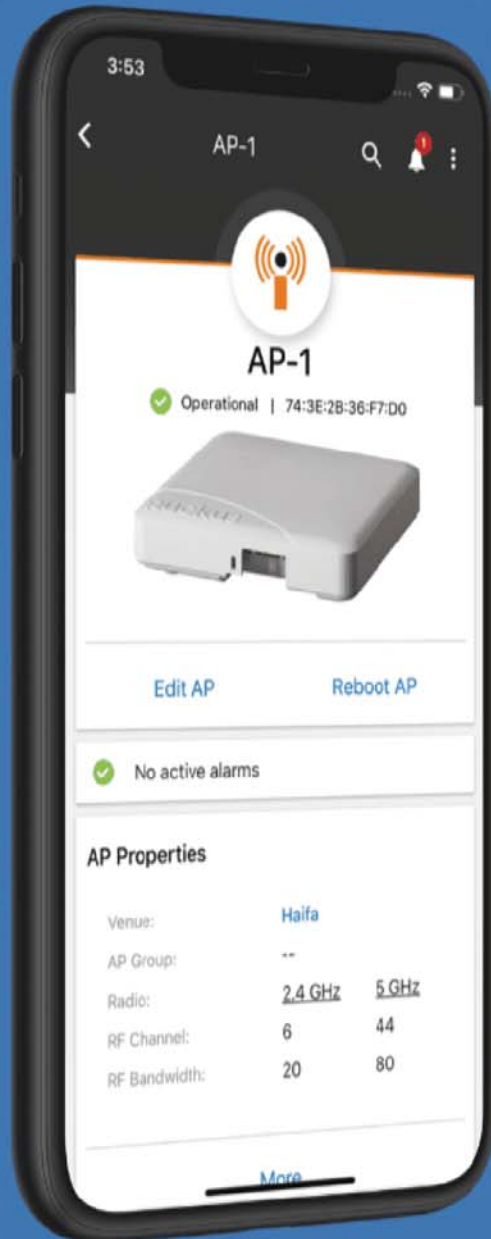
Complete Investment Protection

Wi-Fi technology is changing at a dizzying rate. Your own wireless environment is probably changing constantly, too. You may decide to shift your WLAN management approach. With Ruckus Cloud Wi-Fi, your Wi-Fi network investments are protected.

Control is Just a Tap Away.

A simple layout with powerful control, all from your mobile device.

Provision, monitor and manage your WLANs.

Set up and configure new employee and guest networks.

Shorten response time, speed up troubleshooting.

View network status information anytime, anywhere.

Customize captive portal on the go.