



Proposal for

Clay County School District

PCS Response to:

20-MI-89 2021
Switching



February 2nd, 2021

Clay County School District
Ref: 20-MI-89 2021 Switching

Dear Mr. Caren,

PC Solutions (PCS) is a leading provider of technology services to educational institutions, government agencies, and businesses. On behalf of PC Solutions & Integration, Inc. "PCS" and Aruba Networks, Inc. "Aruba," we are pleased to offer the following response.

PC Solutions was founded in 1995 as a provider of IT equipment and has become one of the largest networking firms in the SE United States. For more than 26 years, we have successfully provided information technology services and solutions to Florida, Georgia, Alabama academic institutions, state & local government agencies, and commercial businesses. PC Solutions enjoys a national reputation for precise technical design and proven performance.

Our SPIN# is 143035405.

PC Solutions retains highly skilled certified professional staff including Systems Engineers, Wireless Engineers (Wireless, voice, data), and Certified Network Experts. Our in-house engineers have certifications from a wide range of manufactures.

Our Aruba Certifications



About Aruba Networks

Aruba, a Hewlett Packard Enterprise company, is the global leader in secure, intelligent edge-to-cloud networking solutions that use AI to automate the network while harnessing data to drive powerful business outcomes. Aruba is the leading networking provider of K-12 institutions in the United States. Many of the largest school districts in Florida utilize Aruba wireless and wired products because of their dedication to creating products and solutions that adapt to ever-changing circumstances and address needs as they arise.

1. **Gartner** has scored Aruba Networks the **highest** in all 6 Critical Capabilities use cases.

Undisputed Leader in Wired and Wireless

The Complete and Clear Picture: Magic Quadrant + Critical Capabilities + Customer Choice

6 for 6!

Aruba #1 in all 6 Critical Capability Use Cases

Unified Wired and Wireless Access
Wired – Only Refresh/New Build
WLAN – Only Refresh/New Build
Remote Branch Office with Corporate HQ
Hands-Off NetOps
Performance Stringent Applications

Figure 1: Magic Quadrant for Wired and Wireless LAN Access Infrastructure



Gartner
Magic Quadrant

NONSTOP LEADERSHIP

Aruba positioned in the Leaders quadrant 15 years straight!

Gartner
CRITICAL CAPABILITIES

CONSISTENTLY #1

Only Aruba ranked #1 in 31 of all 41 Gartner Use Cases since 2014



THE CUSTOMERS' CHOICE

Gartner Peer Insight 2020 Customers' Choice Award for Wired and WLAN and Network Access Control

"Enterprises should evaluate Aruba globally for all Wired/WLAN access layer opportunities." – Gartner

2. **The Pentagon Modernizes Wired and Wireless Connectivity, Across All Classification Levels, with Aruba Infrastructure**

At the end of last year, Aruba Networks added the Pentagon, headquarters of the United States Department of Defense (DoD), to their extensive and impressive client list. Aruba's ESP-based architecture will provide the Pentagon an automated networking infrastructure that eliminates manual processes, like port mapping and initial switch configuration. Read the full press release [here](#).

PCS believes these groundbreaking achievements, along with many others, show the depth of Aruba's end-to-end portfolio. If institutions like the Pentagon and industry leaders like Gartner are putting their trust in Aruba, we believe your district's decision should be simple.

PCS is committed to assuring your district is extremely satisfied with their decision for years to come. All equipment proposed meets or surpasses the specs you requested. We appreciate the opportunity to submit a bid and look forward to developing a partnership with your district.

Regards,

David Rudnick
Vice-President
PC Solutions

Pricing Summary

- We have priced multiple options for your district.

Aruba branded optics – Aruba 5-year 24x7 support on all items-
Q64965 Option 1 - \$4,851,830.00

PCS branded optics – Aruba 5-year 24x7 support on all items-
Q65022 Option 1 - \$4,615,190.00

Aruba branded optics – Aruba 5-year 24x7 support on all core items – PCS 24x7 support on all edge items – **Q65214**
\$4,351,834.00. Standard manufacture support of 9x5 will still be available on the edge equipment.

PCS branded optics – Aruba 5-year 24x7 support on all core items – PCS 24x7 support on all edge items - \$4,115,194.00. **Q65216** Standard manufacture support of 9x5 will still be available on the edge equipment.

Training

Included in our offering at no additional cost is **quarterly training** for district personnel. These trainings can provide continuing education for existing personnel, or they can assist onboarding for new district personnel. The course material will be tailored to the skill level of the specific attendees and the topics the district feel is most relevant for those individuals.

Value Adds

At zero cost, PCS will house **spare equipment** at the district location to provide insurance and Reliability.

PCS has a local warehouse in Miami where we can provide a **Lab environment** for testing and implementing solutions including but not limited to the proposed solution.

PCS will provide **dedicated pre-sales team** to have Best practice, Security, Future needs, road maps etc., discussions to keep the customer informed and moving towards a successful implementation.

Balance of line discounts for other HP/Aruba equipment the district would like to consider is a minimum 60% off Hardware and 12% off support.

Options the district may want to consider.

- Redundant Power supplies for the qty 820, 48 port switches are \$149 per switch
- Cable Guard for 8 port switch - \$20 - part # J9700A
- Shelf for 8 port switch - \$20 – part # J9820A

Notes and Points of Interest Regarding your evaluation criteria.

Definitions of Evaluation Criteria for Ranking of Proposals for RFP 20-MI-89

A. Price of the E-Rate eligible products/services (0-30 points).

- Switch cost, license/Maintenance cost at 5 years, SFP Cost, and any additional hardware/software/training to meet the needs of the district.
- PCS has very familiar with the stringent budgets of K-12 entities. PCS has provided the lowest possible pricing we can offer to your district.

B. Technical Solution meets the needs of CCDS (0-29 points).

Our solution meets or **exceeds** all requirements of your RFP.

- For instance, SFP28 ports were requested in certain switches. We have proposed SFP56 ports which also operate as SFP28 ports or at the higher speeds of SFP56 if necessary, to future proof your investment.
- Unlike other manufactures that only a few ports support multi-rate. In our solution all ports support multi-rate in the required switches.

C. Compliance with RFP requirements (0-16 points).

Vendor requirements completed original RFP required documents to include all Attachments/Exhibits.

We have completed and included all required documents, attachments, and exhibits requested in the RFP.

D. Price of E-Rate ineligible products, services, and/or fees (0-15 points).

There are no e-rate ineligible products or services in our offering. But we are offering a balance of line discounts if the district would require other HPE/Aruba products. These would be offered at 60% off hardware and 12% off support.

E. Previous Experience with the School District or provided References (0-10 points).

PCS is probably the most E-Rate experienced and focused company in the SE United States. We have worked with over 20 Florida school districts and over 30 Georgia districts on E-rate projects over the years. We have a primary focus on the networking and security needs of K-12 customers. We have listed many of these customers in our Educational Experience flyer.

Pricing

PCS has provided 4 different options for your district to choose from, ensuring that Clay County Schools get the best possible solution. Each option meets or exceeds the requirements you have requested in the RFP. All proposed items are E-rate eligible. We have not proposed any ineligible items.

Within each option, we have included *FREE* quarterly training for district personnel.

Please refer to the pricing excel sheet and/or our executive summary for the breakdowns and differences within each proposed solution.

Item	Make	Model	Part No. / SKU	Quantity	Price	Discount Eligible?	Totals
OPTION 1 Q64965 - Aruba Optics & Aruba Support							
Copper Switch	HPE	ARUBA 6300M 48SR5 CL6 POE 4SFP56 SWCH	JL659A	820	\$3,099.80	<input checked="" type="checkbox"/>	\$2,541,836.00
License (5 Year)	N/A					<input checked="" type="checkbox"/>	\$0.00
Maintenance (5 Year)	HPE	HPE 5Y 24x7 SW E/RAruba6300M48P SRPoESVC [for JL659A]	HL6J1E	820	\$1,084.30	<input checked="" type="checkbox"/>	\$889,126.00
1000Base-SX SFP	HPE	ARUBA 1G SFP LC SX 500M MMF XCVR PL	J4858D	450	\$68.00	<input checked="" type="checkbox"/>	\$30,600.00
SFP28 DAC	HPE	ARUBA 25G SFP28 TO SFP28 3M DAC CABLE PL-NV	JL488A	50	\$69.80	<input checked="" type="checkbox"/>	\$3,490.00
Stacking Module	N/A					<input checked="" type="checkbox"/>	\$0.00
Stacking Cable	HPE	ARUBA 10G SFP+ TO SFP+ 1M DAC CABLE	J9281D	820	\$21.00	<input checked="" type="checkbox"/>	\$17,220.00
Misc Hardware 1	HPE	ARUBA X372 54VDC 680W PL-35	JL086A#ABA	820	\$149.80	<input checked="" type="checkbox"/>	\$122,836.00
Misc Hardware 2	N/A					<input checked="" type="checkbox"/>	\$0.00
TOTAL						<input checked="" type="checkbox"/>	\$3,605,108.00
Option 2 Q65022 - PCS Optics & Aruba Support						<input checked="" type="checkbox"/>	\$0.00
Copper Switch	HPE	ARUBA 6300M 48SR5 CL6 POE 4SFP56 SWCH	JL659A	820	\$3,099.80	<input checked="" type="checkbox"/>	\$2,541,836.00
License (5 Year)	N/A					<input checked="" type="checkbox"/>	\$0.00
Maintenance (5 Year)	HPE	HPE 5Y 24x7 SW E/RAruba6300M48P SRPoESVC [for JL659A]	HL6J1E	820	\$1,084.30	<input checked="" type="checkbox"/>	\$889,126.00
1000Base-SX SFP	PCS	PCS1G SFP LC SX 500M MMF XCVR PL CODE-35	J4858D-pcs	450	\$20.00	<input checked="" type="checkbox"/>	\$9,000.00
SFP28 DAC	HPE	ARUBA 25G SFP28 TO SFP28 3M DAC CABLE PL-NV	JL488A	50	\$69.80	<input checked="" type="checkbox"/>	\$3,490.00
Stacking Module	N/A					<input checked="" type="checkbox"/>	\$0.00
Stacking Cable	HPE	ARUBA 10G SFP+ TO SFP+ 1M DAC CABLE	J9281D	820	\$21.00	<input checked="" type="checkbox"/>	\$17,220.00
Misc Hardware 1	HPE	ARUBA X372 54VDC 680W PL-35	JL086A#ABA	820	\$149.80	<input checked="" type="checkbox"/>	\$122,836.00
Misc Hardware 2	N/A					<input checked="" type="checkbox"/>	\$0.00
TOTAL						<input checked="" type="checkbox"/>	\$3,583,508.00
Option 3 Q65214 - Aruba Optics, Aruba Core Support, and PCS Edge Support						<input checked="" type="checkbox"/>	\$0.00
Copper Switch	HPE	ARUBA 6300M 48SR5 CL6 POE 4SFP56 SWCH	JL659A	820	\$3,099.80	<input checked="" type="checkbox"/>	\$2,541,836.00
License (5 Year)	N/A					<input checked="" type="checkbox"/>	\$0.00
Maintenance (5 Year)	PCS	PCS 5Y 24x7 SW E/RAruba6300M48P SRPoESVC [for JL659A]	HL6J1E-PCS	820	\$508.50	<input checked="" type="checkbox"/>	\$416,970.00
1000Base-SX SFP	HPE	ARUBA 1G SFP LC SX 500M MMF XCVR PL	J4858D	450	\$68.00	<input checked="" type="checkbox"/>	\$30,600.00
SFP28 DAC	HPE	ARUBA 25G SFP28 TO SFP28 3M DAC CABLE PL-NV	JL488A	50	\$69.80	<input checked="" type="checkbox"/>	\$3,490.00
Stacking Module	N/A					<input checked="" type="checkbox"/>	\$0.00
Stacking Cable	HPE	ARUBA 10G SFP+ TO SFP+ 1M DAC CABLE	J9281D	820	\$21.00	<input checked="" type="checkbox"/>	\$17,220.00
Misc Hardware 1	HPE	ARUBA X372 54VDC 680W PL-35	JL086A#ABA	820	\$149.80	<input checked="" type="checkbox"/>	\$122,836.00
Misc Hardware 2	N/A					<input checked="" type="checkbox"/>	\$0.00
TOTAL						<input checked="" type="checkbox"/>	\$3,132,952.00
Option 4 Q65216 - PCS Optics, PCS Edge Support, and Aruba Core Support						<input checked="" type="checkbox"/>	\$0.00
Copper Switch	HPE	ARUBA 6300M 48SR5 CL6 POE 4SFP56 SWCH	JL659A	820	\$3,099.80	<input checked="" type="checkbox"/>	\$2,541,836.00
License (5 Year)	N/A					<input checked="" type="checkbox"/>	\$0.00
Maintenance (5 Year)	PCS	PCS 5Y 24x7 SW E/RAruba6300M48P SRPoESVC [for JL659A]	HL6J1E-PCS	820	\$508.50	<input checked="" type="checkbox"/>	\$416,970.00
1000Base-SX SFP	PCS	PCS1G SFP LC SX 500M MMF XCVR PL CODE-35	J4858D-pcs	450	\$20.00	<input checked="" type="checkbox"/>	\$9,000.00
SFP28 DAC	HPE	ARUBA 25G SFP28 TO SFP28 3M DAC CABLE PL-NV	JL488A	50	\$69.80	<input checked="" type="checkbox"/>	\$3,490.00
Stacking Module	N/A					<input checked="" type="checkbox"/>	\$0.00
Stacking Cable	HPE	ARUBA 10G SFP+ TO SFP+ 1M DAC CABLE	J9281D	820	\$21.00	<input checked="" type="checkbox"/>	\$17,220.00

Misc Hardware 1	HPE	ARUBA X372 54VDC 680W PL-35	JL086A#ABA	820	\$149.80	<input checked="" type="checkbox"/>	\$122,836.00
Misc Hardware 2	N/A					<input checked="" type="checkbox"/>	\$0.00
TOTAL						<input checked="" type="checkbox"/>	\$3,111,352.00

Item	Make	Model	Part No. / SKU	Quantity	Price	Discount Eligible?	Totals
OPTION 1 Q64965 - Aruba Optics & Aruba Support						<input checked="" type="checkbox"/>	
Fiber Switch	HPE	ARUBA 8325-48Y8C FB 6 F 2 PS BDL PL-NV	JL624A#ABA	60	\$7,359.00	<input checked="" type="checkbox"/>	\$441,540.00
License (5 Year)	N/A					<input checked="" type="checkbox"/>	\$0.00
Maintenance (5 Year)	HPE	5YR ARUBA FOUNDATION CARE NBD EXHE/R 8325-48 SWT SVC	HK6R3E	60	\$2,618.70	<input checked="" type="checkbox"/>	\$157,122.00
1000Base-SX SFP	HPE	ARUBA 1G SFP LC SX 500M MMF XCVR PL	J4858D	2880	\$68.00	<input checked="" type="checkbox"/>	\$195,840.00
Stacking Module	N/A					<input checked="" type="checkbox"/>	\$0.00
Stacking Cable	HPE	ARUBA 100G QSFP28 TO QSFP28 1M DAC CABLE	R0Z25A	60	\$94.00	<input checked="" type="checkbox"/>	\$5,640.00
Misc Hardware 1	HPE	ARUBA X472 2-POST RACK KIT	JL482B	60	\$19.00	<input checked="" type="checkbox"/>	\$1,140.00
Misc Hardware 2	N/A					<input checked="" type="checkbox"/>	\$0.00
TOTAL						<input checked="" type="checkbox"/>	\$801,282.00
Option 2 Q65022 - PCS Optics & Aruba Support						<input checked="" type="checkbox"/>	
Fiber Switch	HPE	ARUBA 8325-48Y8C FB 6 F 2 PS BDL PL-NV	JL624A#ABA	60	\$7,359.00	<input checked="" type="checkbox"/>	\$441,540.00
License (5 Year)	N/A					<input checked="" type="checkbox"/>	\$0.00
Maintenance (5 Year)	HPE	5YR ARUBA FOUNDATION CARE NBD EXHE/R 8325-48 SWT SVC	HK6R3E	60	\$2,618.70	<input checked="" type="checkbox"/>	\$157,122.00
1000Base-SX SFP	PCS	PCS 1G SFP LC SX 500M MMF XCVR PL CODE-35	J4858D-pcs	2880	\$20.00	<input checked="" type="checkbox"/>	\$57,600.00
Stacking Module	N/A					<input checked="" type="checkbox"/>	\$0.00
Stacking Cable	HPE	ARUBA 100G QSFP28 TO QSFP28 1M DAC CABLE	R0Z25A	60	\$94.00	<input checked="" type="checkbox"/>	\$5,640.00
Misc Hardware 1	HPE	ARUBA X472 2-POST RACK KIT	JL482B	60	\$19.00	<input checked="" type="checkbox"/>	\$1,140.00
Misc Hardware 2	N/A					<input checked="" type="checkbox"/>	\$0.00
TOTAL						<input checked="" type="checkbox"/>	\$663,042.00
Option 3 Q65214 - Aruba Optics, Aruba Core Support, and PCS Edge Support						<input checked="" type="checkbox"/>	
Fiber Switch	HPE	ARUBA 8325-48Y8C FB 6 F 2 PS BDL PL-NV	JL624A#ABA	60	\$7,359.00	<input checked="" type="checkbox"/>	\$441,540.00
License (5 Year)	N/A					<input checked="" type="checkbox"/>	\$0.00
Maintenance (5 Year)	HPE	5YR ARUBA FOUNDATION CARE NBD EXHE/R 8325-48 SWT SVC	HK6R3E	60	\$2,618.70	<input checked="" type="checkbox"/>	\$157,122.00
1000Base-SX SFP	HPE	ARUBA 1G SFP LC SX 500M MMF XCVR PL	J4858D	2880	\$68.00	<input checked="" type="checkbox"/>	\$195,840.00
Stacking Module	N/A					<input checked="" type="checkbox"/>	\$0.00
Stacking Cable	HPE	ARUBA 100G QSFP28 TO QSFP28 1M DAC CABLE	R0Z25A	60	\$94.00	<input checked="" type="checkbox"/>	\$5,640.00
Misc Hardware 1	HPE	ARUBA X472 2-POST RACK KIT	JL482B	60	\$19.00	<input checked="" type="checkbox"/>	\$1,140.00
Misc Hardware 2	N/A					<input checked="" type="checkbox"/>	\$0.00
TOTAL						<input checked="" type="checkbox"/>	\$801,282.00
Option 4 Q65216 - PCS Optics, PCS Edge Support, and Aruba Core Support						<input checked="" type="checkbox"/>	
Fiber Switch	HPE	ARUBA 8325-48Y8C FB 6 F 2 PS BDL PL-NV	JL624A#ABA	60	\$7,359.00	<input checked="" type="checkbox"/>	\$441,540.00
License (5 Year)	N/A					<input checked="" type="checkbox"/>	\$0.00
Maintenance (5 Year)	HPE	5YR ARUBA FOUNDATION CARE NBD EXHE/R 8325-48 SWT SVC	HK6R3E	60	\$2,618.70	<input checked="" type="checkbox"/>	\$157,122.00
1000Base-SX SFP	PCS	PCS 1G SFP LC SX 500M MMF XCVR PL CODE-35	J4858D-pcs	2880	\$20.00	<input checked="" type="checkbox"/>	\$57,600.00
Stacking Module	N/A					<input checked="" type="checkbox"/>	\$0.00
Stacking Cable	HPE	ARUBA 100G QSFP28 TO QSFP28 1M DAC CABLE	R0Z25A	60	\$94.00	<input checked="" type="checkbox"/>	\$5,640.00
Misc Hardware 1	HPE	ARUBA X472 2-POST RACK KIT	JL482B	60	\$19.00	<input checked="" type="checkbox"/>	\$1,140.00
Misc Hardware 2	N/A					<input checked="" type="checkbox"/>	\$0.00
TOTAL						<input checked="" type="checkbox"/>	\$663,042.00

Item	Make	Model	Part No. / SKU	Quantity	Price	Discount Eligible?	Totals
OPTION 1 Q64965 - Aruba Optics & Aruba Support						<input checked="" type="checkbox"/>	
Copper Switch	HPE	2530-8G-POE+ SWITCH PL-35 PROMO	J9774A#ABA	1600	\$153.00	<input checked="" type="checkbox"/>	\$244,800.00
License (5 Year)	N/A					<input checked="" type="checkbox"/>	\$0.00
Maintenance (5 Year)	HPE	HPE 5Y 24x7 SW EDU/RAruba 2530 8G sw SVC	HQ0M1E	1600	\$57.40	<input checked="" type="checkbox"/>	\$91,840.00
1000Base-SX SFP	HPE	ARUBA 1G SFP LC SX 500M MMF XCVR PL	J4858D	1600	\$68.00	<input checked="" type="checkbox"/>	\$108,800.00
Misc Hardware 1	N/A					<input checked="" type="checkbox"/>	\$0.00
Misc Hardware 2	N/A					<input checked="" type="checkbox"/>	\$0.00
TOTAL						<input checked="" type="checkbox"/>	\$445,440.00
Option 2 Q65022 - PCS Optics & Aruba Support						<input checked="" type="checkbox"/>	
Copper Switch	HPE	2530-8G-POE+ SWITCH PL-35 PROMO	J9774A#ABA	1600	\$153.00	<input checked="" type="checkbox"/>	\$244,800.00
License (5 Year)	N/A					<input checked="" type="checkbox"/>	\$0.00
Maintenance (5 Year)	HPE	HPE 5Y 24x7 SW EDU/RAruba 2530 8G sw SVC	HQ0M1E	1600	\$57.40	<input checked="" type="checkbox"/>	\$91,840.00
1000Base-SX SFP	PCS	PCS 1G SFP LC SX 500M MMF XCVR PL COD	J4858D-PCS	1600	\$20.00	<input checked="" type="checkbox"/>	\$32,000.00
Misc Hardware 1	N/A					<input checked="" type="checkbox"/>	\$0.00
Misc Hardware 2	N/A					<input checked="" type="checkbox"/>	\$0.00
TOTAL						<input checked="" type="checkbox"/>	\$368,640.00
Option 3 Q65214 - Aruba Optics, Aruba Core Support, and PCS Edge Support						<input checked="" type="checkbox"/>	
Copper Switch	HPE	2530-8G-POE+ SWITCH PL-35 PROMO	J9774A#ABA	1600	\$153.00	<input checked="" type="checkbox"/>	\$244,800.00
License (5 Year)	N/A					<input checked="" type="checkbox"/>	\$0.00
Maintenance (5 Year)	PCS	PCS 5Y 24x7 SW EDU/RAruba 2530 8G sw SVC	HQ0M1E-PCS	1600	\$40.00	<input checked="" type="checkbox"/>	\$64,000.00
1000Base-SX SFP	HPE	ARUBA 1G SFP LC SX 500M MMF XCVR PL	J4858D	1600	\$68.00	<input checked="" type="checkbox"/>	\$108,800.00
Misc Hardware 1	N/A					<input checked="" type="checkbox"/>	\$0.00
Misc Hardware 2	N/A					<input checked="" type="checkbox"/>	\$0.00
TOTAL						<input checked="" type="checkbox"/>	\$417,600.00
Option 4 Q65216 - PCS Optics, PCS Edge Support, and Aruba Core Support						<input checked="" type="checkbox"/>	
Copper Switch	HPE	2530-8G-POE+ SWITCH PL-35 PROMO	J9774A#ABA	1600	\$153.00	<input checked="" type="checkbox"/>	\$244,800.00
License (5 Year)	N/A					<input checked="" type="checkbox"/>	\$0.00
Maintenance (5 Year)	PCS	PCS 5Y 24x7 SW EDU/RAruba 2530 8G sw SVC	HQ0M1E-PCS	1600	\$40.00	<input checked="" type="checkbox"/>	\$64,000.00
1000Base-SX SFP	PCS	PCS 1G SFP LC SX 500M MMF XCVR PL COD	J4858D-PCS	1600	\$20.00	<input checked="" type="checkbox"/>	\$32,000.00
Misc Hardware 1	N/A					<input checked="" type="checkbox"/>	\$0.00
Misc Hardware 2	N/A					<input checked="" type="checkbox"/>	\$0.00
TOTAL						<input checked="" type="checkbox"/>	\$340,800.00

	Q64965 Option 1	Q65022 Option 2	Q65214 Option 3	Q65216 Option 4
Copper	\$ 3,605,108.00	\$ 3,583,508.00	\$ 3,132,952.00	\$ 3,111,352.00
Fiber	\$ 801,282.00	\$ 663,042.00	\$ 801,282.00	\$ 663,042.00
Portables	\$ 445,440.00	\$ 368,640.00	\$ 417,600.00	\$ 340,800.00
Total	\$ 4,851,830.00	\$ 4,615,190.00	\$ 4,351,834.00	\$ 4,115,194.00

Option 1



PC Solutions & Integration, Inc

4937 SW 75 Ave, Miami, FL 33155
Ph:305-667-0633 Fax:305-667-0618

Sales Quote

Q64965

1/13/21

Sales Rep

DAVID

Quote Prepared For

Ship To

Customer

Clay County Schools

Line#	Part Number	Description	Qty	Unit Price	Extended Price
1					\$0.00
2		48P EDGE			
3	JL659A	ARUBA 6300M 48SR5 CL6 POE 4SFP56 SWCH	820	\$3099.80	\$2541836.00
4	JL086A#ABA	ARUBA X372 54VDC 680W PL-35 PROMO NO DEAL REG	820	\$149.80	\$122836.00
5					
6	J9281D	ARUBA 10G SFP+ TO SFP+ 1M DAC CABLE PROMO NO DEAL REG PL-NV	820	\$21.00	\$17220.00
7		*** STACKING CABLES			
8					
9	HL6J1E	HPE 5Y 24X7 SW E/RARUBA6300M48P SRPOESVC [FOR JL659A]	820	\$1084.30	\$889126.00
10		**** SUPPORT			
11					
12	J4858D	ARUBA 1G SFP LC SX 500M MMF XCVR PL CODE-35 PROMO NO DEAL REG	450	\$68.00	\$30600.00
13	JL488A	ARUBA 25G SFP28 TO SFP28 3M DAC CABLE PL-NV	50	\$69.80	\$3490.00
14					
15		48P CORE			
16	JL624A#ABA	ARUBA 8325-48Y8C FB 6 F 2 PS BDL PL-NV	60	\$7359.00	\$441540.00
17	JL482B	ARUBA X472 2-POST RACK KIT	60	\$19.00	\$1140.00
18		*** DUAL POWER SUPPLY			
19					
20	R0Z25A	ARUBA 100G QSFP28 TO QSFP28 1M DAC CABLE	60	\$94.00	\$5640.00
21		*** STACKING CABLES			
22					
23	J4858D	ARUBA 1G SFP LC SX 500M MMF XCVR PL CODE-35 PROMO NO DEAL REG	2880	\$68.00	\$195840.00
24	HK6R3E	5YR ARUBA FOUNDATION CARE NBD EXHE/R 8325-48 SWT SVC	60	\$2618.70	\$157122.00
25		**** SUPPORT			
26					
27					
28					\$0.00
29		8-PORT			
30	J4858D	ARUBA 1G SFP LC SX 500M MMF XCVR PL CODE-35 PROMO NO DEAL REG	1600	\$68.00	\$108800.00
31	J9774A#ABA	2530-8G-POE+ SWITCH PL-35 PROMO PROMO NO DEAL REG	1600	\$153.00	\$244800.00
32	HQ0M1E	HPE 5Y 24X7 SW EDU/RARUBA 2530 8G SW SVC [FOR J9774A]	1600	\$57.40	\$91840.00
33					\$0.00



PC Solutions & Integration, Inc

4937 SW 75 Ave, Miami, FL 33155
Ph:305-667-0633 Fax:305-667-0618

Customer

Clay County Schools

Sales Quote

Q64965

1/13/21

Sales Rep

DAVID

Quote Prepared For

Ship To

Line#	Part Number	Description	Qty	Unit Price	Extended Price
SubTotal		Tax	Ground Shipping		Total
\$4,851,830.00		\$0.00			\$4,851,830.00

Terms & Conditions

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Option 2



PC Solutions & Integration, Inc

4937 SW 75 Ave, Miami, FL 33155
Ph:305-667-0633 Fax:305-667-0618

Sales Quote

Q65022

1/18/21

Sales Rep

DAVID

Quote Prepared For

Customer

Clay County Schools

Ship To

Line#	Description	Qty	Unit Price	Extended Price
1				\$0.00
2	48P EDGE			
3	ARUBA 6300M 48SR5 CL6 POE 4SFP56 SWCH	820	\$3099.80	\$2541836.00
4	ARUBA X372 54VDC 680W PL-35 PROMO NO DEAL REG	820	\$149.80	\$122836.00
5				
6	ARUBA 10G SFP+ TO SFP+ 1M DAC CABLE PROMO NO DEAL REG PL-NV	820	\$21.00	\$17220.00
7	*** STACKING CABLES			
8				
9	HPE 5Y 24X7 SW E/RARUBA6300M48P SRPOESVC [FOR JL659A]	820	\$1084.30	\$889126.00
10	**** SUPPORT			
11				
12	ARUBA 1G SFP LC SX 500M MMF XCVR PL CODE-35 PROMO NO DEAL REG	0	\$68.00	\$0.00
13	PCS 1G SFP LC SX 500M MMF XCVR PL CODE-35 PROMO NO DEAL REG	450	\$20.00	\$9000.00
14	ARUBA 25G SFP28 TO SFP28 3M DAC CABLE PL-NV	50	\$69.80	\$3490.00
15				
16				
17	48P CORE			
18	ARUBA 8325-48Y8C FB 6 F 2 PS BDL PL-NV	60	\$7359.00	\$441540.00
19	ARUBA X472 2-POST RACK KIT	60	\$19.00	\$1140.00
20	*** DUAL POWER SUPPLY			
21				
22	ARUBA 100G QSFP28 TO QSFP28 1M DAC CABLE	60	\$94.00	\$5640.00
23	*** STACKING CABLES			
24				
25	ARUBA 1G SFP LC SX 500M MMF XCVR PL CODE-35 PROMO NO DEAL REG	2880	\$0.00	\$0.00
26	PCS 1G SFP LC SX 500M MMF XCVR PL CODE-35 PROMO NO DEAL REG	2880	\$20.00	\$57600.00
27	5YR ARUBA FOUNDATION CARE NBD EXHE/R 8325-48 SWT SVC	60	\$2618.70	\$157122.00
28	**** SUPPORT			
29				
30				\$0.00
31	8-PORT			
32	PCS 1G SFP LC SX 500M MMF XCVR PL CODE-35 PROMO NO DEAL REG	1600	\$20.00	\$32000.00
33	2530-8G-POE+ SWITCH PL-35 PROMO NO DEAL REG	1600	\$153.00	\$244800.00
34	HPE 5Y 24X7 SW EDU/RARUBA 2530 8G SW SVC [FOR J9774A]	1600	\$57.40	\$91840.00
35				



PC Solutions & Integration, Inc

4937 SW 75 Ave, Miami, FL 33155
Ph:305-667-0633 Fax:305-667-0618

Customer

Clay County Schools

Sales Quote

Q65022

1/18/21

Sales Rep

DAVID

Quote Prepared For

Ship To

Line#	Description	Qty	Unit Price	Extended Price
SubTotal		Tax		Ground Shipping
\$4,615,190.00		\$0.00		Total
				\$4,615,190.00

Terms & Conditions

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Option 3



PC Solutions & Integration, Inc

4937 SW 75 Ave, Miami, FL 33155
Ph:305-667-0633 Fax:305-667-0618

Sales Quote

Q65214

2/1/21

Sales Rep

DAVID

Quote Prepared For

Customer

Clay County Schools

Ship To

Line#	Part Number	Description	Qty	Unit Price	Extended Price
1					\$0.00
2		48P EDGE			
3	JL659A	ARUBA 6300M 48SR5 CL6 POE 4SFP56 SWCH	820	\$3099.80	\$2541836.00
4	JL086A#ABA	ARUBA X372 54VDC 680W PL-35 PROMO NO DEAL REG	820	\$149.80	\$122836.00
5					
6	J9281D	ARUBA 10G SFP+ TO SFP+ 1M DAC CABLE PROMO NO DEAL REG PL-NV	820	\$21.00	\$17220.00
7		*** STACKING CABLES			
8					
9	HL6J1E-PCS	PCS 5Y 24X7 SW E/RARUBA6300M48P SRPOESVC [FOR JL659A]	820	\$508.50	\$416970.00
10		**** SUPPORT			
11					
12	J4858D	ARUBA 1G SFP LC SX 500M MMF XCVR PL CODE-35 PROMO NO DEAL REG	450	\$68.00	\$30600.00
13	JL488A	ARUBA 25G SFP28 TO SFP28 3M DAC CABLE PL-NV	50	\$69.80	\$3490.00
14					
15		48P CORE			
16	JL624A#ABA	ARUBA 8325-48Y8C FB 6 F 2 PS BDL PL-NV	60	\$7359.00	\$441540.00
17	JL482B	ARUBA X472 2-POST RACK KIT	60	\$19.00	\$1140.00
18		*** DUAL POWER SUPPLY			
19					
20	R0Z25A	ARUBA 100G QSFP28 TO QSFP28 1M DAC CABLE	60	\$94.00	\$5640.00
21		*** STACKING CABLES			
22					
23	J4858D	ARUBA 1G SFP LC SX 500M MMF XCVR PL CODE-35 PROMO NO DEAL REG	2880	\$68.00	\$195840.00
24	HK6R3E	5YR ARUBA FOUNDATION CARE NBD EXHE/R 8325-48 SWT SVC	60	\$2618.70	\$157122.00
25		**** SUPPORT			
26					
27					
28					\$0.00
29		8-PORT			
30	J4858D	ARUBA 1G SFP LC SX 500M MMF XCVR PL CODE-35 PROMO NO DEAL REG	1600	\$68.00	\$108800.00
31	J9774A#ABA	2530-8G-POE+ SWITCH PL-35 PROMO PROMO NO DEAL REG	1600	\$153.00	\$244800.00
32	HQ0M1E-PCS	PCS 5Y 24X7 SW EDU/RARUBA 2530 8G SW SVC [FOR J9774A]	1600	\$40.00	\$64000.00
33					\$0.00



PC Solutions & Integration, Inc

4937 SW 75 Ave, Miami, FL 33155
Ph:305-667-0633 Fax:305-667-0618

Customer

Clay County Schools

Sales Quote

Q65214

2/1/21

Sales Rep

DAVID

Quote Prepared For

Ship To

Line#	Part Number	Description	Qty	Unit Price	Extended Price
SubTotal		Tax	Ground Shipping		Total
\$4,351,834.00		\$0.00			\$4,351,834.00

Terms & Conditions

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Option 4



PC Solutions & Integration, Inc

4937 SW 75 Ave, Miami, FL 33155
Ph:305-667-0633 Fax:305-667-0618

Sales Quote

Q65216

2/1/21

Sales Rep

DAVID

Quote Prepared For

Customer

Clay County Schools

Ship To

Line#	Part Number	Description	Qty	Unit Price	Extended Price
1					\$0.00
2		48P EDGE			
3	JL659A	ARUBA 6300M 48SR5 CL6 POE 4SFP56 SWCH	820	\$3099.80	\$2541836.00
4	JL086A#ABA	ARUBA X372 54VDC 680W PL-35 PROMO NO DEAL REG	820	\$149.80	\$122836.00
5					
6	J9281D	ARUBA 10G SFP+ TO SFP+ 1M DAC CABLE PROMO NO DEAL REG PL-NV	820	\$21.00	\$17220.00
7		*** STACKING CABLES			
8					
9	HL6J1E-PCS	HPE 5Y 24X7 SW E/RARUBA6300M48P SRPOESVC [FOR JL659A]	820	\$508.50	\$416970.00
10		**** SUPPORT			
11					
12	J4858D	ARUBA 1G SFP LC SX 500M MMF XCVR PL CODE-35 PROMO NO DEAL REG	0	\$68.00	\$0.00
13	J4858D-pcs	PCS 1G SFP LC SX 500M MMF XCVR PL CODE-35 PROMO NO DEAL REG	450	\$20.00	\$9000.00
14	JL488A	ARUBA 25G SFP28 TO SFP28 3M DAC CABLE PL-NV	50	\$69.80	\$3490.00
15					
16					
17		48P CORE			
18	JL624A#ABA	ARUBA 8325-48Y8C FB 6 F 2 PS BDL PL-NV	60	\$7359.00	\$441540.00
19	JL482B	ARUBA X472 2-POST RACK KIT	60	\$19.00	\$1140.00
20		*** DUAL POWER SUPPLY			
21					
22	R0Z25A	ARUBA 100G QSFP28 TO QSFP28 1M DAC CABLE	60	\$94.00	\$5640.00
23		*** STACKING CABLES			
24					
25	J4858D	ARUBA 1G SFP LC SX 500M MMF XCVR PL CODE-35 PROMO NO DEAL REG	2880	\$0.00	\$0.00
26	J4858D-pcs	PCS 1G SFP LC SX 500M MMF XCVR PL CODE-35 PROMO NO DEAL REG	2880	\$20.00	\$57600.00
27	HK6R3E	5YR ARUBA FOUNDATION CARE NBD EXHE/R 8325-48 SWT SVC	60	\$2618.70	\$157122.00
28		**** SUPPORT			
29					
30					\$0.00
31		8-PORT			
32	J4858D-PCS	PCS 1G SFP LC SX 500M MMF XCVR PL CODE-35 PROMO NO DEAL REG	1600	\$20.00	\$32000.00
33	J9774A#ABA	2530-8G-POE+ SWITCH PL-35 PROMO PROMO NO DEAL REG	1600	\$153.00	\$244800.00
34	HQ0M1E-PCS	PCS 5Y 24X7 SW EDU/RARUBA 2530 8G SW SVC [FOR J9774A]	1600	\$40.00	\$64000.00
35					



PC Solutions & Integration, Inc

4937 SW 75 Ave, Miami, FL 33155
Ph:305-667-0633 Fax:305-667-0618

Customer

Clay County Schools

Sales Quote

Q65216

2/1/21

Sales Rep

DAVID

Quote Prepared For

Ship To

Line#	Part Number	Description	Qty	Unit Price	Extended Price
SubTotal		Tax	Ground Shipping		Total
\$4,115,194.00		\$0.00			\$4,115,194.00

Terms & Conditions

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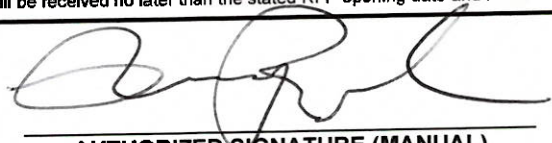

Required Documents



Submit RFP to
Clay County School District -
Information Technology
900 Walnut Street
Green Cove Springs, FL 32043

REQUEST FOR PROPOSAL

Acknowledgement Form

Page 1 of 13 Pages	RFP WILL BE OPENED AT: 2:00 P.M., February 10, 2021 and may not be withdrawn within 90 days after such date and time.		APPLICATION NO. 20-MI-89
POSTING TIME & DATE 4:00 P.M. January 7, 2021	SDCC REPRESENTATIVES Ethan Caren, Director of Information Technology and Services Scott Schultz, Procurement Coordinator	RFP TITLE 20-MI-89 2021 Switching	
VENDOR NAME PC Solutions & Integration, Inc.		"NO RFP" REASON FOR NOT SUBMITTING RFP To qualify as a respondent, bidder shall submit only this bidder acknowledgement form and it shall be received no later than the stated RFP opening date and hour.	
VENDOR MAILING ADDRESS 4937 SW 75th Avenue		 AUTHORIZED SIGNATURE (MANUAL)  Robert Boush AUTHORIZED SIGNATURE (TYPED or PRINTED) Account Manager TITLE	
CITY-STATE-ZIP Miami, FL 33155			
TELEPHONE NUMBER: () 305-667-0633			
FAX NUMBER: () 305-667-0618			
EMAIL ADDRESS: sales@pcsusa.net			
<p>I hereby certify that I am submitting the following information as my firm's (Bidder) RFP and am authorized by Vendor/Contractor/Bidder to do so. Bidder agrees to complete and unconditional acceptance of the contents of all pages in this Request For Proposal (RFP), and all appendices and the contents of any Addenda released hereto; Bidder agrees to be bound to any and all specifications, terms, conditions contained in RFP, and any released Addenda and understand that the following are requirements of RFP and failure to comply will result in disqualification of RFP submitted; Bidder certifies this offer is made without prior understanding, agreement, or connection with any corporation, firm, business entity or person submitting an offer for the same materials, supplies, equipment, or services(s), and is in all respects fair and without collusion or fraud. Bidder acknowledges that all information contained herein is part of the public record as defined by State of Florida Sunshine and Public Records Laws; all responses, data and information contained in this RFP are true and accurate.</p> <p>SEALED RFP: All RFP sheets, requested documents, and this acknowledgement form must be executed and submitted in a sealed envelope. (DO NOT INCLUDE MORE THAN ONE PROPOSAL PER ENVELOPE.) The face of the envelope shall contain, in addition to the above address, the RFP number, proposal deadline, SPIN number, and the company name. All RFPs are subject to the conditions specified herein. Those which do not comply with these conditions are subject to RFP being considered Non-Responsive.</p>			

SIGNATURE REQUIRED CHECKLIST:

Documents shall be submitted with RFP
☒ REQUEST FOR PROPOSAL ACKNOWLEDGEMENT FORM
☒ SPECIAL CONDITIONS
☒ APPENDIX A: PRICING TABLE
☒ CERTIFICATION REGARDING NON-DISCRIMINATING
☒ CERTIFICATION REGARDING LOBBYING
☒ BIDDER'S STATEMENT PRINCIPAL PLACE BUSINESS
☒ NON-COLLUSION AFFADAVIT

SUBMITTAL REQUIRED CHECKLIST:

Documents submitted with RFP.

ATTACHMENT 1
CERTIFICATION REGARDING NON-DISCRIMINATION

THE UNDERSIGNED ASSURES THAT IT SHALL COMPLY WITH:

- A. TITLE VI OF THE CIVIL RIGHTS ACT OF 1964, AS AMENDED, 42 U.S.C. 2000d ET SEQ., WHICH PROHIBITS DISCRIMINATION ON THE BASIS OF RACE, COLOR, OR NATIONAL ORIGIN.
- B. SECTION 504 OF THE REHABILITATION ACT OF 1973, AS AMENDED, 20 U.S.C. 794, WHICH PROHIBITS DISCRIMINATION ON THE BASIS OF HANDICAP.
- C. TITLE IV OF THE EDUCATION AMENDMENTS OF 1972, AS AMENDED, 20 U.S.C. 1681 ET SEQ., WHICH PROHIBITS DISCRIMINATION ON THE BASIS OF SEX.
- D. THE AGE DISCRIMINATION ACT OF 1975, AS AMENDED, 42 U.S.C. 6101 ET SEQ., WHICH PROHIBITS DISCRIMINATION ON THE BASIS OF AGE.
- E. SECTION 654 OF THE OMNIBUS BUDGET RECONCILIATION ACT OF 1981, AS AMENDED, 42 U.S.C. 9849, WHICH PROHIBITS DISCRIMINATION ON THE BASIS OF RACE, CREED, COLOR, NATIONAL ORIGIN, SEX, HANDICAP, POLITICAL AFFILIATION OR BELIEFS.
- F. THE AMERICANS WITH DISABILITIES ACT OF 1990, P.L. 101-336, WHICH PROHIBITS DISCRIMINATION ON THE BASIS OF DISABILITY AND REQUIRES REASONABLE ACCOMMODATION FOR PERSON WITH DISABILITIES.
- G. ALL REGULATIONS, GUIDELINES, AND STANDARDS AS ARE NOW OR MAY BE LAWFULLY ADOPTED UNDER THE ABOVE STATUTES.

THE CONTRACTOR AGREES THAT COMPLIANCE WITH THIS ASSURANCE CONSTITUTES A CONDITION OF RECEIVING PAYMENTS UNDER THIS CONTRACT/PURCHASE ORDER AND THAT IT IS BINDING UPON THE CONTRACTOR FOR THE PERIOD DURING WHICH SERVICES/PRODUCTS ARE PROVIDED.

CONTRACTOR NAME: PC Solutions & Integration, Inc.

AUTHORIZED CONTRACTOR REPRESENTATIVE SIGNATURE:

Robert Boush

(Printed Name)


(Signature)

Account Manager

(Title)

2/2/2021

(Date)

ATTACHMENT 2
CERTIFICATION REGARDING LOBBYING

CERTIFICATION FOR CONTRACTS, GRANTS, LOANS AND COOPERATIVE AGREEMENTS

THE UNDERSIGNED CERTIFIES, TO THE BEST OF HIS OR HER KNOWLEDGE AND BELIEF, THAT:

1. NO FEDERAL APPROPRIATED FUNDS HAVE BEEN PAID OR SHALL BE PAID BY OR ON BEHALF OF THE UNDERSIGNED, TO ANY PERSON FOR INFLUENCING OR ATTEMPTING TO INFLUENCE AN OFFICER OR EMPLOYEE OF ANY AGENCY, A MEMBER OF CONGRESS, AN OFFICER OR EMPLOYEE OF CONGRESS, OR AN EMPLOYEE OF A MEMBER OF CONGRESS IN CONNECTION WITH THE AWARDED OF ANY FEDERAL CONTRACT, THE MAKING OF ANY FEDERAL GRANT, THE MAKING OF ANY FEDERAL LOAN, THE ENTERING INTO OF ANY COOPERATIVE AGREEMENT, AND THE EXTENSION, CONTINUATION, RENEWAL, AMENDMENT, OR MODIFICATION OF ANY FEDERAL CONTRACT, GRANT, LOAN OR COOPERATIVE AGREEMENT.

2. IF ANY FUNDS OTHER THAN FEDERAL APPROPRIATED FUNDS HAVE BEEN PAID OR SHALL BE PAID TO ANY PERSON FOR INFLUENCING OR ATTEMPTING TO INFLUENCE AN OFFICER OR EMPLOYEE OF ANY AGENCY, A MEMBER OF CONGRESS, AN OFFICER OR EMPLOYEE OF CONGRESS, OR AN EMPLOYEE OF A MEMBER OF CONGRESS IN CONNECTION WITH THIS FEDERAL CONTRACT, GRANT, LOAN, OR COOPERATIVE AGREEMENT, THE UNDERSIGNED SHALL COMPLETE AND SUBMIT STANDARD FORM-LLL, "DISCLOSURE FORM TO REPORT LOBBYING," IN ACCORDANCE WITH ITS INSTRUCTIONS.

3. THE UNDERSIGNED SHALL REQUIRE THAT THE LANGUAGE OF THIS CERTIFICATION BE INCLUDED IN THE AWARD DOCUMENTS FOR ALL SUB-AWARDS AT ALL TIERS (INCLUDING SUBCONTRACTS, SUB-GRANTS AND CONTRACT UNDER GRANTS, LOANS, AND COOPERATIVE AGREEMENTS) AND THAT ALL SUB-RECIPIENTS SHALL CERTIFY AND DISCLOSE ACCORDINGLY.

THIS CERTIFICATION IS MATERIAL REPRESENTATION OF FACT UPON WHICH RELIANCE WAS PLACED WHEN THIS TRANSACTION WAS MADE OR ENTERED INTO. SUBMISSION OF THIS CERTIFICATION IS A PREREQUISITE FOR MAKING OR ENTERING INTO THIS TRANSACTION IMPOSED BY SECTION 1352, TITLE 31, and U. S. CODE. ANY PERSON WHO FAILS TO FILE THE REQUIRED CERTIFICATION SHALL BE SUBJECT TO CIVIL PENALTY OF NOT LESS THAN \$10,000 AND NOT MORE THAN \$100,000 FOR EACH SUCH FAILURE.



AUTHORIZED SIGNATURE OF CONTRACTOR

2/2/2021

DATE

ATTACHMENT 3
BIDDER'S STATEMENT OF PRINCIPAL PLACE OF BUSINESS

(To be completed by each Bidder)

Name of bidder: PC Solutions & Integration, Inc.Identify the state in which the bidder has their principal place of business: Florida

Identify the political subdivision (outside of Florida) in which bidder has its principal place of business:

N/A

OPINION OF OUT-OF-STATE BIDDER'S ATTORNEY ON BIDDING PREFERENCES

(To be completed by the Attorney for any Out-of-State Bidder)

NOTICE: Section 287.084.(2), Fla. Stat., provides that "A Contractor whose principal place of business is outside this state must accompany any written bid, proposal, or reply documents with a written opinion of any attorney at law licensed to practice law in that foreign state, as to the preferences, if any or non, granted by the law of the state [or political subdivision thereof] to its own business entities whose principal places of business are in that foreign state in the letting of any or all public contract." See also: Section 287.084(1), Fla. Stat.

LEGAL OPINION ABOUT STATE BIDDING PREFERENCES

(Please Select One)

_____ The bidder's principal place of business is in the State of _____ and it is my legal opinion that the laws of that state **do not grant a preference** in the letting of any or all public contracts to business entities whose principal places of business are in that state.

_____ The bidder's principal place of business is in the State of _____ and it is my legal opinion that the laws of that state **grant the following preference(s)** in the letting of any public contracts to business entities whose principal places of business are in that state. [Please describe applicable preference(s) and identify applicable state law(s)]

LEGAL OPINION ABOUT POLITICAL SUBDIVISION BIDDING PREFERENCES

(Please Select One)

_____ The bidder's principal place of business is in the political subdivision of _____ and it is my legal opinion that the laws of that political subdivision **do not grant a preference** in the letting of any or all public contracts to business entities whose principal places of business are in the political subdivision.

_____ The bidder's principal place of business is in the political subdivision of _____ and it is my legal opinion that the laws of that political subdivision **grant a preference** in the letting of any or all public contracts to business entities whose principal places of business are in the political subdivision. [Please describe applicable preference(s) and identify applicable authority granting the preference(s)]:

Signature of out-of-state bidder's attorney: _____

Printed name of out-of-state bidder's attorney: _____

Address of out-of-state bidder's attorney: _____

Telephone Number of out-of-state bidder's attorney: (____) _____ - _____

E-mail address of out-of-state bidder's attorney: _____

Attorney's states of bar admission: _____

ATTACHMENT 4
NON-COLLUSION AFFIDAVIT

State of FLORIDA)
County of CLAY)

My name is (INSERT NAME Robert Boush). I hereby attest that I am authorized to execute this affidavit on behalf of my firm, its owners, directors, and officers. I have personal knowledge of the price(s), guarantees and the total financial commitment represented in the firm's offer and/or contract.

(1) The firm's prices and amounts offered have been arrived at independently and without consultation, communication or agreement with any other contractor or respondent.

(2) Neither the final nor approximate prices or amounts offered have been disclosed to any other firm or person who is a respondent or potential respondent, nor were they disclosed prior to opening of offers.

(3) The offer from my firm is made in good faith and no attempt has been made to induce any firm or person to refrain from submitting an offer, or to submit an offer higher than our offer, or to submit any intentionally high or noncompetitive offer or other form of complementary offer.

(4) (INSERT NAME OF COMPANY PC Solutions & Integration, Inc.) its affiliates, subsidiaries, officers, directors, employees are not currently under investigation by any governmental agency and have not in the last three years been convicted or found liable for any act prohibited by State or Federal law in any jurisdiction, involving conspiracy or collusion with respect to bidding, proposing or offering on any public contract, except as follows:

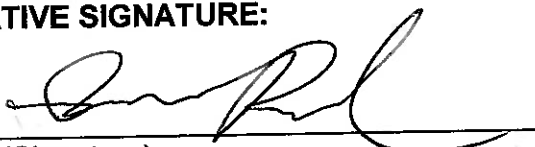
I attest that (INSERT NAME OF COMPANY PC Solutions & Integration, Inc.) understands and acknowledges that the above representations are material and important, and will be relied on by The School Board of Clay County, Florida, in awarding the contract for which this offer is submitted. I understand and my firm understands that any misstatement of material representations herein shall be treated as fraudulent or otherwise intentional concealment of the true facts relating to submission of offers for this contract.

CONTRACTOR NAME: PC Solutions & Integration, Inc.

AUTHORIZED CONTRACTOR REPRESENTATIVE SIGNATURE:

Robert Boush

(Printed Name)


(Signature)

Account Manager

(Title)

2/2/2021

(Date)



CLAY COUNTY DISTRICT SCHOOLS
INFORMATION TECHNOLOGY SERVICES DEPARTMENT
900 Walnut Street, Green Cove Springs, Florida 32043
Telephone 904-336-9600 erate@myoneclay.net

SUPERINTENDENT OF SCHOOLS
David S. Broskie

BOARD MEMBERS:
Janice Kerekes, District 1
Beth Clark, District 2
Tina Bullock, District 3
Mary Bolla, District 4
Ashley Gilhousen, District 5

ADDENDUM 1 POSTED AT 4:00 P.M., on JANUARY 14, 2021

ADDENDUM 1 FOR RFP #20-MI-89
2021 SWITCHING

NOTE: The Proposal Deadline has been extended by one (1) day, to February 11, 2021 by 2:00 P.M.

NOTE: VENDOR QUESTIONS AND DISTRICT RESPONSES are hereby incorporated into the RFP.

Question 1:

May a bidder provide more than 1 option in their response ?

Answer:

Yes.

Question 2:

The request in the RFP is for: "Up to a quantity of 450 1000Base-SX SFPs (for 62.5nm MultiMode Fiber Connections) coded for 48 Port Copper Option". Is this requirement written to ensure that these optics are coded to function in the proposed 48 Port Copper MultiRate Gigabit Ethernet switches when slotted in the SFP/SFP+/SFP28 socket?

Answer:

Yes.

Question 3:

Does Clay County require additional switching engineer support beyond the manufacturer hardware support ?

Answer:

Yes. Clay County may need engineering help (like through a Sales Engineer) to work through configuration/installation challenges.

Question 4:

Does Clay County require specific training of manufacturer product support beyond the documentation that is publicly available ?

(if so, as product training is ineligible for E-Rate funding. Manufacturer provided training could be provided as an additional cost, but would be outlined as an e-rate ineligible cost/offering)


Answer:

Yes, and if there are any costs associated with training, those should be outlined in the response and included in Appendix A_Pricing Table.

Except as noted above, all other Conditions and Specifications remain unchanged. Include, as part of your proposal package an executed copy of this Addendum.

Sign and return this ADDENDUM 1 with your proposal

VENDOR NAME: PC Solutions & Integration, Inc.
(Print)

SIGNATURE: 

NAME & TITLE: Robert Boush Account manager
(Print)

SHAPING EDUCATION THROUGH TECHNOLOGY

PCS has worked together with numerous private and public K-12 and Higher Education institutions with one clear goal in mind: To leverage the power of technology to create connected and collaborative environments for students, teachers, and staff. We want to bring the transformative power of technology to every classroom and offer the experience, expertise, and resources to help you design, implement, and maintain your IT investments.

EXPERIENCE

FLORIDA SCHOOL DISTRICTS

Bay County
Calhoun County
Gadsden County
Hardee County
Hendry County
Jackson County
Martin County
Okaloosa County
Palm Beach County
Santa Rosa County
Wakulla County
Walton County

GEORGIA SCHOOL DISTRICTS

Banks County
Bartow County
Beaufort County
Columbia County
Coweta County
Dade County
Dodge County
Jefferson City
Madison County
McDuffie County
Morgan County
Newton County

UNIVERSITIES & COLLEGES

Clayton State University
Florida Gulf Coast
Florida International University
Hillsborough Community College
Mercer University
Rollins College
St. Petersburg Community College
St. Thomas University
Tallahassee Community College
University of Central FL
University of Miami
University of West Georgia

WHAT OUR CUSTOMERS ARE SAYING

“ PCS has been the choice vendor on several projects with the Columbia County School District. Although new to Georgia, PCS has developed a strong following in other states due to a strong focus on the K-12 vertical. Our district has been pleasantly pleased with the level of customer support and care PCS has delivered to the Columbia County School District. In addition, to both presale and post-sale support, the level of technical engineering brought to the Columbia County School District has both saved the district money while improving the IT infrastructure for our students. ”

-James Van Meter

CTO, COLUMBIA COUNTY SCHOOLS

“ PCS has provided St. Petersburg College with excellent service and flexibility. They understand the education market and the challenges we face to continuously improve our technology infrastructure and services while living within our funding and procurement procedures. ”

-David Creamer

CTO & CISO, St. Petersburg College

LOCATIONS

PCS has strategic local offices throughout the SE United States.

- Miami, FL (Headquarters)
- Tampa, FL
- Tallahassee, FL
- Atlanta, GA
- Dallas, TX
- Nashville, TN



Education

We create technology solutions tailored to fit your environment and budget.

Students, teachers, and administrators are all having to navigate an increasingly connected world. This means more devices, connecting and communicating across networks, both on campus and off. You need tech advisors that understand how to ensure always-on communications in a cost-effective way, and how to navigate the E-Rate Program.



Multi-Vendor Approach



E-Rate Experts



IT Health Checks





CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YYYY)

02/02/2021

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. THIS CERTIFICATE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER, AND THE CERTIFICATE HOLDER.

IMPORTANT: If the certificate holder is an ADDITIONAL INSURED, the policy(ies) must have ADDITIONAL INSURED provisions or be endorsed. If SUBROGATION IS WAIVED, subject to the terms and conditions of the policy, certain policies may require an endorsement. A statement on this certificate does not confer rights to the certificate holder in lieu of such endorsement(s).

PRODUCER Wexler Insurance Agency, Inc. 1120 Ponce de Leon Blvd Coral Gables FL 33134		CONTACT NAME: Wexler Insurance PHONE (A/C, No, Ext): (305) 445-5050 FAX (A/C, No): (305) 448-8189 E-MAIL ADDRESS:	
		INSURER(S) AFFORDING COVERAGE	
		INSURER A: Mount Vernon Fire Ins Co	
		INSURER B: Progressive Express Insurance Company	
		INSURER C:	
		INSURER D:	
		INSURER E:	
		INSURER F:	

COVERAGES **CERTIFICATE NUMBER:** CL212220147 **REVISION NUMBER:**

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

INSR LTR	TYPE OF INSURANCE	ADDL INSD	SUBR WVD	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS
A	<input checked="" type="checkbox"/> COMMERCIAL GENERAL LIABILITY <input type="checkbox"/> CLAIMS-MADE <input checked="" type="checkbox"/> OCCUR <input checked="" type="checkbox"/> Broad Form GEN'L AGGREGATE LIMIT APPLIES PER: <input type="checkbox"/> POLICY <input type="checkbox"/> PRO-JECT <input type="checkbox"/> LOC OTHER:			DPS4000841B	11/17/2020	11/17/2021	EACH OCCURRENCE \$ 1000000 DAMAGE TO RENTED PREMISES (Ea occurrence) \$ 300000 MED EXP (Any one person) \$ 10000 PERSONAL & ADV INJURY \$ 1000000 GENERAL AGGREGATE \$ 2000000 PRODUCTS - COMP/OP AGG \$ INCLUDED Technology PRO LIA \$ 1000000
B	AUTOMOBILE LIABILITY <input checked="" type="checkbox"/> ANY AUTO OWNED AUTOS ONLY <input checked="" type="checkbox"/> SCHEDULED AUTOS HIRED AUTOS ONLY <input checked="" type="checkbox"/> NON-OWNED AUTOS ONLY			0312596-4	05/23/2020	05/23/2021	COMBINED SINGLE LIMIT (Ea accident) \$ 1000000 BODILY INJURY (Per person) \$ BODILY INJURY (Per accident) \$ PROPERTY DAMAGE (Per accident) \$ \$
A	<input type="checkbox"/> UMBRELLA LIAB <input checked="" type="checkbox"/> OCCUR <input checked="" type="checkbox"/> EXCESS LIAB <input type="checkbox"/> CLAIMS-MADE DED RETENTION \$			DPS5000462B	11/17/2020	11/17/2021	EACH OCCURRENCE \$ 2000000 AGGREGATE \$ 2000000 \$
	WORKERS COMPENSATION AND EMPLOYERS' LIABILITY ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? (Mandatory in NH) If yes, describe under DESCRIPTION OF OPERATIONS below	Y/N	N/A				PER STATUTE OTH-ER E.L. EACH ACCIDENT \$ E.L. DISEASE - EA EMPLOYEE \$ E.L. DISEASE - POLICY LIMIT \$
A	Professional Liability			DPS4000834B	11/18/2020	11/18/2021	1000000

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (ACORD 101, Additional Remarks Schedule, may be attached if more space is required)

Certificate Holder is Additional Insured

CERTIFICATE HOLDER

CANCELLATION

Clay County School District
Information Technology
900 Walnut Street
Green Cove Springs

FL 32043

SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS.

AUTHORIZED REPRESENTATIVE

M. J. Wada

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CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YYYY)

10/21/20

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. THIS CERTIFICATE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER, AND THE CERTIFICATE HOLDER.

IMPORTANT: If the certificate holder is an ADDITIONAL INSURED, the policy(ies) must have ADDITIONAL INSURED provisions or be endorsed. If SUBROGATION IS WAIVED, subject to the terms and conditions of the policy, certain policies may require an endorsement. A statement on this certificate does not confer rights to the certificate holder in lieu of such endorsement(s).

PRODUCER

Aon Risk Services, Inc of Florida
1001 Brickell Bay Drive, Suite #1100
Miami, FL 33131-4937

CONTACT

NAME: Aon Risk Services, Inc of Florida

PHONE
(A/C, No, Ext): 800-743-8130FAX
(A/C, No): 800-522-7514EMAIL
ADDRESS: ADP.COI.Center@Aon.com**INSURER(S) AFFORDING COVERAGE****NAIC #**

INSURER A : New Hampshire Ins Co

23841

INSURED

ADP TotalSource CO XXI, Inc.
10200 Sunset Drive
Miami, FL 33173
ALTERNATE EMPLOYER
PC Solutions & Integration Inc
4937 SW 75th Ave
Miami, FL 33155

INSURER B :

INSURER C :

INSURER D :

INSURER E :

INSURER F :

COVERAGES

CERTIFICATE NUMBER: 3160638

REVISION NUMBER:

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS. **LIMITS SHOWN ARE AS REQUESTED.**

INSR LTR	TYPE OF INSURANCE	ADDL INSR	SUBR WVD	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS
	COMMERCIAL GENERAL LIABILITY						
	<input type="checkbox"/> CLAIMS-MADE <input type="checkbox"/> OCCUR						EACH OCCURRENCE \$
							DAMAGE TO RENTED PREMISES (Ea occurrence) \$
							MED EXP (Any one person) \$
							PERSONAL & ADV INJURY \$
	GEN'L AGGREGATE LIMIT APPLIES PER:						GENERAL AGGREGATE \$
	<input type="checkbox"/> POLICY <input type="checkbox"/> PROJECT <input type="checkbox"/> LOC						PRODUCTS - COMP/OP AGG \$
	<input type="checkbox"/> OTHER						\$
	AUTOMOBILE LIABILITY						COMBINED SINGLE LIMIT (Ea accident) \$
	<input type="checkbox"/> ANY AUTO OWNED AUTOS ONLY <input type="checkbox"/> SCHEDULED AUTOS						BODILY INJURY (Per person) \$
	<input type="checkbox"/> HIRED AUTOS ONLY <input type="checkbox"/> NON-OWNED AUTOS ONLY						BODILY INJURY (Per accident) \$
							PROPERTY DAMAGE (Per accident) \$
							\$
	UMBRELLA LIAB <input type="checkbox"/> OCCUR						EACH OCCURRENCE \$
	EXCESS LIAB <input type="checkbox"/> CLAIMS-MADE						AGGREGATE \$
	DEC <input type="checkbox"/> RETENTION \$						
A	WORKERS COMPENSATION AND EMPLOYERS' LIABILITY Y / N <input type="checkbox"/> N / A			WC 027115061 GA	07/01/20	07/01/21	<input checked="" type="checkbox"/> PER STATUTE <input type="checkbox"/> OTH-ER
	ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? (Mandatory in NH)						E.L. EACH ACCIDENT \$ 2,000,000
	If yes, describe under DESCRIPTION OF OPERATIONS below						E.L. DISEASE - EA EMPLOYEE \$ 2,000,000
							E.L. DISEASE - POLICY LIMIT \$ 2,000,000

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (ACORD 101, Additional Remarks Schedule, may be attached if more space is required)

All worksite employees working for PC SOLUTIONS & INTEGRATION INC, paid under ADP TOTALSOURCE, INC.'s payroll, are covered under the above stated policy. PC SOLUTIONS & INTEGRATION INC is an alternate employer under this policy.

CERTIFICATE HOLDER**CANCELLATION**

	SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS.
	AUTHORIZED REPRESENTATIVE <i>Aon Risk Services, Inc of Florida</i>

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Local Business Tax Receipt

Miami-Dade County, State of Florida

-THIS IS NOT A BILL - DO NOT PAY

3929735

BUSINESS NAME/LOCATION

P C SOLUTIONS & INTEGRATION INC
4937 SW 75TH AVE
MIAMI FL 33155

RECEIPT NO.

RENEWAL
4102844

EXPIRES

SEPTEMBER 30, 2020

Must be displayed at place of business
Pursuant to County Code
Chapter 8A - Art. 9 & 10

OWNER

P C SOLUTIONS & INTEGRATION INC

SEC. TYPE OF BUSINESS

220 TANGIBLE PERSONAL PROP. DLR

**PAYMENT RECEIVED
BY TAX COLLECTOR**

\$75.00 07/11/2019

Employee(s) 4

CHECK21-19-053370

This Local Business Tax Receipt only confirms payment of the Local Business Tax. The Receipt is not a license, permit, or a certification of the holder's qualifications, to do business. Holder must comply with any governmental or nongovernmental regulatory laws and requirements which apply to the business.

The RECEIPT NO. above must be displayed on all commercial vehicles - Miami-Dade Code Sec 8a-276.

For more information, visit www.miamidade.gov/taxcollector

LBT

State of Florida

Minority Business Certification

pc solutions & integration, inc.

Is certified under the provisions of
287 and 295.187, Florida Statutes, for a period from:

08/13/2019 to 08/13/2021



Jonathan R. Satter, Secretary
Florida Department of Management Services



Office of Supplier Diversity
4050 Esplanade Way, Suite 380
Tallahassee, FL 32399
850-487-0915
www.dms.myflorida.com/osd



Company ID Number: 447712

To be accepted as a participant in E-Verify, you should only sign the Employer's Section of the signature page. If you have any questions, contact E-Verify at 888-464-4218.

Employer PC Solutions & Integration, Inc.

Francisco Rodriguez

Name (Please Type or Print)

Title

Electronically Signed

09/13/2011

Signature

Date

Department of Homeland Security – Verification Division

USCIS Verification Division

Name (Please Type or Print)

Title

Electronically Signed

09/13/2011

Signature

Date

Information Required for the E-Verify Program

Information relating to your Company:

Company Name:	PC Solutions & Integration, Inc.
Company Facility Address:	4937 SW 75 Avenue
	Miami, FL 33155
Company Alternate Address:	
County or Parish:	MIAMI-DADE
Employer Identification Number:	650798706

Company ID Number: 447712

North American Industry Classification Systems Code:	541
Administrator:	
Number of Employees:	10 to 19
Number of Sites Verified for:	1

Are you verifying for more than 1 site? If yes, please provide the number of sites verified for in each State:

- FLORIDA 1 site(s)

Information relating to the Program Administrator(s) for your Company on policy questions or operational problems:

Name:	Francisco D Rodriguez	Fax Number:	(305) 667 - 0618
Telephone Number:	(305) 667 - 0633		
E-mail Address:	frank@pcsolutions.us		



Red Light Display System

[FCC](#) | [Fees](#) | Red Light Display System

Logged in as: PC Solutions & Integration (FRN: 0021346762) [[Log Out](#)]

[Print](#) | [Help](#)

1/16/2014 3:01 PM

Current Status of FRN 0021346762

STATUS: **Green**

You have no delinquent bills which would restrict you from doing business with the FCC.

The Red Light Display System checks all FRNs associated with the same Taxpayer Identification Number (TIN). A green light means that there are no outstanding delinquent non-tax debts owed to the Commission by any FRN associated with the requestor's TIN. The Red Light Display System was last updated on 01/16/2014 at 6:38 AM; it is updated once each business day at about 7 a.m., ET.



Red Light Display System (RLDS)



Red Light Display System

[FCC](#) | [Fees](#) | Red Light Display System

< [FCC Site Map](#)

Logged in as FRN: PC Solutions & Integration (0021346762) [[Log Out](#)]

[Back](#) | [Print](#) | [Help](#)

10/30/2017 10:20 AM

Current Status of FRN 0021346762

STATUS: Green

You have no delinquent bills which would restrict you from doing business with the FCC.

The Red Light Display System checks all FRNs associated with the same Taxpayer Identification Number (TIN). A green light means that there are no outstanding delinquent non-tax debts owed to the Commission by any FRN associated with the requestor's TIN. The Red Light Display System was last updated on 10/30/2017 at 6:36 AM; it is updated once each business day at about 7 a.m., ET.

Customer Service

[Red Light Help](#)

[FCC Debt Collection](#)

[FCC Fees](#)

[Web Policies](#) / [Privacy Policy](#)

Red Light Display System Help Line: (877) 480-3201, option 4, 4; TTY (202) 414-1255 (Mon.-Fri. 8 a.m.-6:00 p.m. ET)

Red Light Display System has a dedicated staff of customer service representatives standing by to answer your questions or concerns. You can email us at arinquiries@fcc.gov or fax us at (202) 418-7869.



SIMPLIFY WITH TECHNOLOGY



**A LEADING IT
SOLUTIONS PROVIDER**

www.pcsusa.net

SIMPLIFY WITH TECHNOLOGY

OUR VISION & MISSION

Our commitment is to be an expert advisor of hybrid IT solutions that give every customer, staff member, and audience a better experience. By providing scalable IT infrastructure, companies benefit from highly efficient and profitable IT investments that drive a measurable competitive advantage.

A LITTLE ABOUT US



Founded 22 years ago, PC Solutions & Integration (PCS) is the South Eastern United States premier integrator of IT services.

When you work with PCS, you are working with a full-service provider. We are focused on supporting our clients throughout the project lifecycle, from consultation and design to implementation, optimization, and ongoing management. Our comprehensive portfolio provides one of the broadest and deepest solution offerings in the industry and is backed by a nationwide team of highly trained and certified technicians.

PC Solutions & Integration (PCS) is a leading IT services provider of collaboration and technology solutions for large and medium enterprises. We have spent decades building upon our technology offerings which span the core technology markets-collaboration, enterprise networking, data center, cloud, and security. We deliver these offerings across several delivery models including on premise, private, hybrid, and public clouds regardless of clients existing infrastructure.

OUR PROFILE

PCS offers innovative Premise and Cloud based best-of-breed products for Cyber Security, Desktop Computing, Networking, Data Center, Storage, Voice and Video.

WHAT WE DO

- ✓ **IT Health Checks**
Gain peace of mind knowing your system are performing optimally
- ✓ **Proactive Maintenance**
We discover and then eradicate problems before they create downtime
- ✓ **Enterprise Design & Scoping**
From consultation, to design, to implementation, to ongoing support, we're with you at every step.

OUR SERVICES

Over the years, we have developed a proven track record of successes in Cyber Security, Storage, Voice Communications, Data Networks, Video, Wi-Fi, and UC Applications.



WIRELESS NETWORK INFRASTRUCTURE

PCS provides network auditing, design optimization, and maintenance to predict and respond to your growing network needs.



CYBER SECURITY

The threat landscape is complex, but your security doesn't have to be. PCS can help you protect your networks, implement industry standards, follow best practices, and reduce attack surfaces.



WIRED NETWORK INFRASTRUCTURE

Wired infrastructure is a crucial part of most organizations and has only grown in complexity. To manage that complexity, you need a team with a diverse skill set and a vendor-neutral approach.



DATA CENTER/VIRTUALIZATION

The volume of data your business must manage has exploded. You need infrastructure that can capture, store, and archive massive amounts of data, while still keeping it readily accessible.



PRO SERVICES

IT should support your core business, not overtake it. Do you need to offload mundane service tasks? Do you need full support and strategic planning for the entire IT function? No matter where you fall on that spectrum, PCS can help.



UNIFIED COMMUNICATION

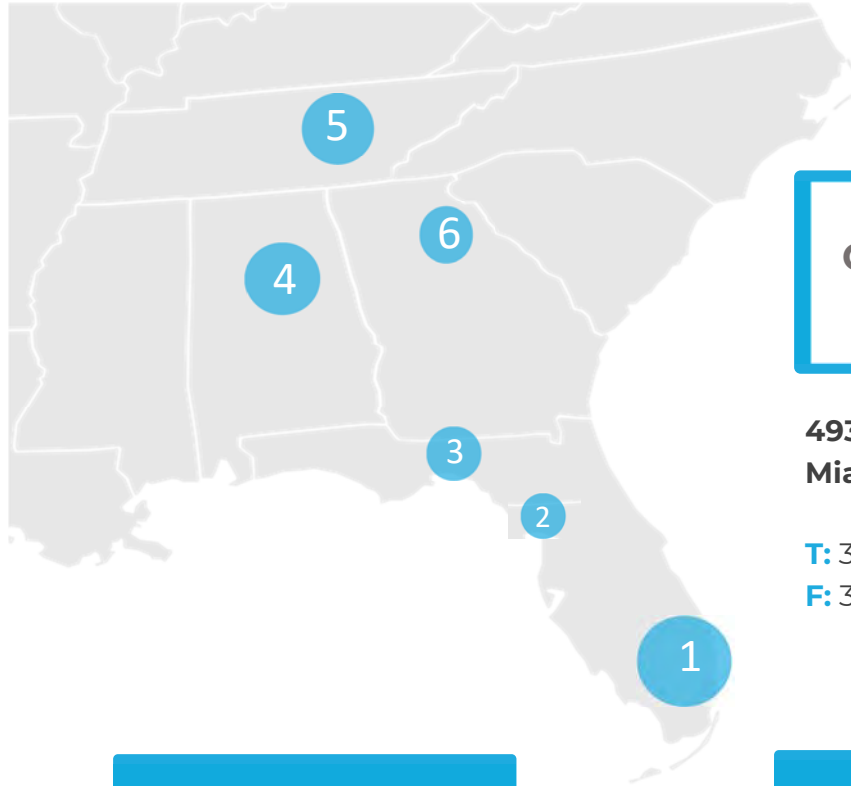
Unifying all of your businesses communication tools amplifies their power to transform your business through greater efficiency, better customer service, and stronger connections.

TECHNOLOGY PARTNERS

We are firm believers that when it comes to technology one size or partner does not fit all. That is why we work with more than 200 of the world's leading best of breed hardware, software, and application development companies so that we can bring you the right solution for your unique situation.



OUR MARKET



CORPORATE HQ

MIAMI | FLORIDA

**4937 SW 75 Avenue
Miami, FL 33155**

T: 305.667.0633

F: 305.667.0618

TAMPA, FLORIDA

**4907 North Florida Avenue
Tampa, FL 33603**

T: 813.703.8258

TALLAHASSEE, FLORIDA

**113 South Monroe Street
Tallahassee, FL 32301**

T: 850.270.6930

BIRMINGHAM, ALABAMA

**One Perimeter Park South,
STE 100N
Birmingham, AL 35243**

T: 205.449.1168

NASHVILLE, TENNESSEE

**3200 West End Avenue
Suite 500
PMB 5312
Nashville, TN 37203**

T: 615.866.0954

ATLANTA, GEORGIA

**1201 Peachtree Street 400
Colony Square, STE 200
Atlanta, GA 30361**

T: 470.440.9265

LET'S CONNECT



HQ: 4937 SW 75 Avenue
Miami, FL 33155



1.800.391.0054



sales@pcsusa.net

WWW.PCSUSA.NET

Spec Sheets

DATA SHEET

ARUBA CX 8325 SWITCH SERIES

High Performance Enterprise Campus and Data Center Switch

PRODUCT OVERVIEW

The Aruba CX 8325 Switch Series offers a flexible and innovative approach to addressing the application, security, and scalability demands of the mobile, cloud and IoT era. These switches serve the needs of the next generation core and aggregation layer, as well as emerging data center requirements at the Top of Rack (ToR) and End of Row (EoR). They provide over 6.4Tbps of capacity, with line-rate Gigabit Ethernet interfaces including 1Gbps, 10Gbps, 25Gbps, 40Gbps, and 100Gbps.

The 8325 series includes industry-leading line rate ports 1/10/25GbE (SFP/SFP+/SFP28) and 40/100GbE (QSFP+/QSFP28) with connectivity in a compact 1U form factor. These switches offer a fantastic investment for customers wanting to migrate from older 1GbE/10GbE to faster 25GbE, or 10GbE/40GbE to 100GbE ports.

PRODUCT DIFFERENTIATORS

AOS-CX - a modern software system

The Aruba CX 8325 Switch Series is based on AOS-CX, a modern, database-driven operating system that automates and simplifies many critical and complex network tasks. A built-in time series database enables customers and developers to utilize software scripts for historical troubleshooting, as well as analysis of past trends. This helps predict and avoid future problems due to scale, security, and performance bottlenecks.

Our AOS-CX software also includes Aruba Network Analytics Engine (NAE) and support for Aruba NetEdit. Because AOS-CX is built on a modular Linux architecture with a stateful database, our operating system provides the following unique capabilities:

- Easy access to all network state information allows unique visibility and analytics
- REST APIs and Python scripting for fine-grained programmability of network tasks
- A micro-services architecture that enables full integration with other workflow systems and services
- Continual state synchronization that provides superior fault tolerance and high availability



KEY FEATURES

- High performance 6.4Tbps with 2,000 Mpps
- High availability with industry-leading VSX redundancy, and redundant power supplies and fans
- Designed for core/aggregation in the campus or Top of Rack or End of Row in the data center
- AOS-CX automation and programmability using built-in REST APIs and Python scripts
- Advanced Layer 2/3 feature set includes BGP, OSPF, VRF-Lite, and IPv6
- Dynamic VXLAN with BGP-EVPN for deep segmentation in data center and campus networks
- Intelligent monitoring, visibility, and remediation with Aruba Network Analytics Engine
- One touch deployment with the Aruba CX Mobile App
- Aruba NetEdit support for automated configuration and verification
- Compact 1U switch with 1/10/25GbE and 40/100GbE connectivity

- All software processes communicate with the database rather than each other, ensuring near real-time state and resiliency and allowing individual software modules to be independently upgraded for higher availability

Aruba Central - unified single pane of glass management

Flexible cloud-based or on-premises management for unified network operations of wired, WLAN, SD-WAN, and public cloud infrastructure. Designed to simplify day zero through day two operations with streamlined workflows. Switch management capabilities include configuration, onboarding, monitoring, troubleshooting, and reporting.



Aruba Network Analytics Engine

For enhanced visibility and troubleshooting, Aruba's Network Analytics Engine (NAE) automatically interrogates and analyzes events that can impact a network's health. Advanced telemetry and automation provide the ability to easily identify and troubleshoot network, system, application and security related issues easily, through the use of python agents and REST APIs.

The Time Series Database (TSDB) stores configuration and operational state data, making it available to quickly resolve network issues. The data may also be used to analyze trends, identify anomalies and predict future capacity requirements.

Aruba NetEdit – automated switch configuration and management

The entire Aruba CX portfolio empowers IT teams to orchestrate multiple switch configuration changes for smooth end-to-end service rollouts. Aruba NetEdit introduces automation that allows for rapid network-wide changes, and ensures policy conformance post network updates. Intelligent capabilities include search, edit, validation (including conformance checking), deployment and audit features. Capabilities include:

- Centralized configuration with validation for consistency and compliance
- Time savings via simultaneous viewing and editing of multiple configurations
- Customized validation tests for corporate compliance and network design
- Automated large-scale configuration deployment without programming Network health and topology visibility via Aruba NAE integration

Note: A separate software license is required to use Aruba NetEdit.

Aruba CX Mobile App – unparalleled deployment convenience

An easy to use mobile app simplifies connecting and managing Aruba CX switches for any size project. Switch information can also be imported into Aruba NetEdit for simplified configuration management and to continuously validate the conformance of configurations anywhere in the network. The Aruba CX Mobile App is available for download.

Aruba Virtual Switching Extension

The ability of AOS-CX to maintain synchronous state across dual control planes allows a unique high availability solution called Aruba Virtual Switching Extension (VSX).

VSX is delivered through redundancy gained by deploying two chassis with an inter-switch link, with each chassis maintaining its independent control.

Designed using the best features of existing HA technologies such as Multi-chassis Link Aggregation (MC-LAG) and Virtual Switching Framework (VSF), Aruba VSX enables a distributed architecture that is highly available during upgrades or control plane events. Features include:

- Continuous configuration synchronization via AOS-CX
- Flexible active-active network designs at Layers 2 and 3
- Operational simplicity and usability for easy configuration
- High availability by design during upgrades including support for VSX Live Upgrade with LACP traffic draining.

PRODUCT CAPABILITIES

Performance

High-speed fully distributed architecture

- Provides 6.4Tbps for bidirectional switching and 2,000 Mpps for forwarding. All switching and routing are wire-speed to meet the demands of bandwidth-intensive applications today and in the future

Scalable system design

- Provides investment protection to support future technologies and higher-speed connectivity

Connectivity

High density port options

Choice of compact high density port 1U switches with airflow direction flexibility include model with:

- 32 ports of 40GbE/100GbE (QSFP+/QSFP28) [optional 4x10 and 4x25 breakout]
- 48 ports of 1GbE/10GbE/25GbE (SFP/SFP+/SFP28) [1GBASE-T and 10GBASE-T transceiver support] + 8 ports of 40GbE/100GbE (QSFP+/QSFP28) [optional 4x10 and 4x25 breakout]

Jumbo frames

- Allows high-performance backups and disaster-recovery systems; provides a maximum frame size of 9K bytes

Unsupported Transceiver Mode (UTM)

- Allows to insert and enable all unsupported 1G and 10G transceiver and cable
- No warranty nor support for the transceiver/cable when used

Loopback

- Supports internal loopback testing for maintenance purposes and increased availability; loopback



detection protects against incorrect cabling or network configurations and can be enabled on a per-port or per-VLAN basis for added flexibility

Packet storm protection

- Protects against unknown broadcast, multicast, or unicast storms with user-defined thresholds

Quality of Service (QoS)

Strict priority (SP) queuing and Deficit Weighted Round Robin (DWRR)

- Enable congestion avoidance

Data Center Bridging (DCB)

- Supports lossless Ethernet networking standard Priority Flow Control (PFC), Enhanced Transmission Service (ETS) and DCB Exchange Protocol (DCBX) to eliminate packet loss due to queue overflow

Resiliency and high availability

Redundant and load-sharing fans and power supplies

- Increases total performance and power availability while providing hitless, stateful failover

Hot swappable power supply and fan modules

- Allows replacement of accessories modules without any operational impact on other modules nor the switch operations

Separate data and control paths

- Separates control from services and keeps service processing isolated; increases security and performance

Aruba Virtual Switching Extension (VSX)

- VSX enables a distributed and redundant architecture by deploying two switches with each switch maintaining independent control yet staying synchronized during upgrades or failover. Also supports upgrades during live operation

Virtual Router Redundancy Protocol (VRRP)

- VRRP allows a group of switches to dynamically back each other up to create highly available routed environments

Bidirectional Forward Detection (BFD)

- Enable sub-second failure detection for rapid routing protocol re-balancing

Ethernet Ring Protection Switching (ERPS)

- Supports rapid protection and recovery in a ring topology.

Unidirectional Link Detection (UDLD)

- Monitors link connectivity and shuts down ports at both ends if unidirectional traffic is detected, preventing loops in STP-based networks

IEEE 802.3ad LACP

- Supports up to 54 LAGs, with up to 16 members per LAG (32 for a VSX pair), with a user-selectable L1-4 hashing algorithm

Management

In addition to the Aruba CX Mobile App, Aruba NetEdit and Aruba Network Analytics Engine, the 8325 series offers the following:

Built-in programmable and easy to use **REST API interface**

Management interface control

- Enables or disables each of the following interfaces depending on security preferences: console port, or reset button

Industry-standard CLI with a hierarchical structure

- Reduces training time and expenses, and increases productivity in multivendor installations

Management security

- Restricts access to critical configuration commands; offers multiple privilege levels with password protection; ACLs provide SNMP access; local and remote Syslog capabilities allow logging of all access

IPSLA

- Monitors the network for degradation of various services, including voice.
- Monitoring is enabled via the NAE for history and for immediate automated gathering of additional information when anomalies are detected

SNMP v2c/v3

- Provides SNMP read and trap support of industry standard Management Information Base (MIB), and private extensions

sFlow® (RFC 3176)

- Provides scalable ASIC-based wire speed network monitoring and accounting with no impact on network performance; this allows network operators to gather a variety of sophisticated network statistics and information for capacity planning and real-time network monitoring purposes

Remote monitoring (RMON)

- Uses standard SNMP to monitor essential network functions and supports events, alarms, history, and statistics groups as well as a private alarm extension group



TFTP and SFTP support

- Offers different mechanisms for configuration updates; trivial FTP (TFTP) allows bidirectional transfers over a TCP/IP network
- Secure File Transfer Protocol (SFTP) runs over an SSH tunnel to provide additional security

Debug and sampler utility

- Supports ping and traceroute for IPv4 and IPv6

Network Time Protocol (NTP)

- Synchronizes timekeeping among distributed time servers and clients; keeps timekeeping consistent among all clock-dependent devices within the network
- Can serve as the NTP server in a customer network

IEEE 802.1AB Link Layer Discovery Protocol (LLDP)

- Advertises and receives management information from adjacent devices on a network, facilitating easy mapping by network management applications

Dual flash images

- Provides independent primary and secondary operating system files for backup while upgrading

Multiple configuration files

- Stores files easily to the flash image

Layer 2 Switching

VLAN

- Supports up to 4,040 port-based or IEEE 802.1Q-based VLANs

VLAN Translation

- Remaps VLANs during transit across a core network

Bridge Protocol Data Unit (BPDU) tunneling

- Transmits STP BPDUs transparently, allowing correct tree calculations across service providers, WANs, or MANs

Port mirroring

- Duplicates port traffic (ingress and egress) to a local or remote monitoring port; supports 4 mirroring groups, with an unlimited number of ports per group

STP

- Supports standard IEEE 802.1D STP, IEEE 802.1w Rapid Spanning Tree Protocol (RSTP) for faster convergence, and IEEE 802.1s Multiple Spanning Tree Protocol (MSTP)

Rapid Per-VLAN spanning tree plus (RPVST+)

- Allows each VLAN to build a separate spanning tree to improve link bandwidth usage in network environments with multiple VLANs

Internet Group Management Protocol (IGMP)

- Controls and manages the flooding of multicast packets in a Layer 2 network

Static VXLAN

- Allows operators to manually connect two or more VXLAN tunnel endpoints (VTEP)

Dynamic VXLAN with BGP-EVPN

- Deep segmentation for Spine/Leaf data center networks or Layer 3 campus designs with centralized gateway and symmetric Integrated Routing and Bridging (IRB) based distributed gateways VXLAN tunnels

IPv4 Multicast in VXLAN/EVPN Overlay

- Enable PIM-SM/IGMP snooping in the VXLAN Overlay

IPv6 VXLAN/EVPN Overlay Support

- Enables IPv6 traffic over the VXLAN overlay

VXLAN distributed anycast gateway

- Addressing mechanism that enables the use of the same gateway IP addresses across all the leaf switches part of a VXLAN network

VXLAN ARP/ND suppression

- Allows minimization of ARP and ND traffic flooding within individual VXLAN segments, thus optimizing the VXLAN network

Layer 3 Services

Address Resolution Protocol (ARP)

- Determines the MAC address of another IP host in the same subnet; supports static ARPs
- Gratuitous ARP allows detection of duplicate IP addresses
- Proxy ARP allows normal ARP operation between subnets or when subnets are separated by a Layer 2 network

IP Directed Broadcast

- Supports directed broadcast on configured network subnets

Dynamic Host Configuration Protocol (DHCP)

- DHCP services are offered within a client network to simplify network management
- DHCP Relay enables DHCP operation across subnets

DHCP Server

- Supports DHCP services (for IPv4 and IPv6) in customer networks

Domain Name System (DNS)

- Provides a distributed database that translates domain names and IP addresses, which simplifies network design; supports client and server

Generic Routing Encapsulation (GRE)

- Enables tunneling traffic from site to site over a Layer 3 path



Layer 3 Routing

Static IPv4 routing

- Provides simple manually configured IPv4 routing

Open shortest path first (OSPF)

- Delivers faster convergence; uses link-state routing Interior Gateway Protocol (IGP), which supports ECMP, NSSA, and MD5 authentication for increased security and graceful restart for faster failure recovery

Border Gateway Protocol 4 (BGP-4)

- Delivers an implementation of the Exterior Gateway Protocol (EGP) utilizing path vectors; uses TCP for enhanced reliability for the route discovery process; reduces bandwidth consumption by advertising only incremental updates; supports extensive policies for increased flexibility; scales to very large networks

Routing Information Protocol version 2 (RIPv2)

- Easy to configure routing protocol for small networks relying on User Datagram Protocol (UDP)

Routing Information Protocol Next Generation (RIPng)

- Extension of RIPv2 for support of IPv6 networking

Multiprotocol BGP (MP-BGP) with IPv6 Address Family

- Enables sharing of IPv6 routes using BGP and connections to BGP peers using IPv6

Policy Based Routing (PBR)

- Enables using a classifier to select traffic that can be forwarded based on policy set by the network administrator

6in4 tunnels

- Supports the tunneling of IPv6 traffic in an IPv4 network

IP performance optimization

- Provides a set of tools to improve the performance of IPv4 networks; includes directed broadcasts, customization of TCP parameters, support of ICMP error packets, and extensive display capabilities

Static IPv6 routing

- Provides simple manually configured IPv6 routing

Dual IP stack

- Maintains separate stacks for IPv4 and IPv6 to ease the transition from an IPv4-only network to an IPv6-only network design

OSPFv3

- Provides OSPF support for IPv6

Equal-Cost Multipath (ECMP)

- Enables multiple equal-cost links in a routing environment to increase link redundancy and scale bandwidth

Generic Routing Encapsulation (GRE)

- Enables tunneling traffic from site to site over a Layer 3 path

Security

TAA Compliance

- The Aruba CX 8325 with AOS-CX, a TAA compliant product, uses FIPS 140-2 validated cryptography for protection of sensitive information

Access control list (ACL) Features

- Supports powerful ACLs for both IPv4 and IPv6. Supports creation of object groups representing sets of devices like IP addresses. For instance, IT management devices could be grouped in this way
- ACLs can also protect control plane services such as SSH, SNMP, NTP or web servers

Enrollment over Secure Transport (EST)

- Enables secure certificate enrollment, allowing for easier enterprise management of PKI.

Remote Authentication Dial-In User Service (RADIUS)

- Eases security access administration by using a password authentication server

Terminal Access Controller Access-Control System (TACACS+)

- Delivers an authentication tool using TCP with encryption of the full authentication request, providing additional security

RadSec

- Enable RADIUS authentication and accounting data to be passed safely and reliably across insecure networks such as the internet

Management access security

- AOS-CX provides for both on-box as well as off-box authentication for administrative access. RADIUS or TACACS+ can be used to provide encrypted user authentication
- Additionally, TACACS+ can also provide user authorization services

Secure shell (SSHv2)

- Uses external servers to securely log in to a remote device; with authentication and encryption, it protects against IP spoofing and plain-text password interception; increases the security of Secure FTP (SFTP) transfers



Multicast

Internet Group Management Protocol (IGMP)

- Enables establishing multicast group memberships in IPv4 networks; supports IGMPv1, v2, and v3

Multicast Listener Discovery (MLD)

- Enable discovery of IPv6 multicast listeners; supports MLDv1 and v2

Multicast Service Delivery Protocol (MSDP) for

Anycast RP

- MSDP used for Anycast RP is an intradomain feature that provides redundancy and load-sharing capabilities.

MSDP Mesh Groups

- Allows to avoid SA messages flood to other mesh group peers.

PIM-Dense Mode

- Floods multicast traffic to every corner of the network (push-model). Method is for delivering data to receivers without receivers requesting the data. Can be efficient in certain deployments in which there are active receivers on every subnet in the network. Branches without downstream receivers are pruned from the forwarding trees.

FastLeave (FL) and Forced-FastLeave (FFL)

- FL and FFL for IGMP/MLD speed up the process of blocking unnecessary Multicast traffic to a switch port that is connected to end nodes for IGMP. They help to eliminate the CPU overhead of having to generate an IGMP/MLD Group-Specific Query message.

Support for Microsoft **Network Load Balancer** (NLB) for server applications

Microsoft Network Load Balancer (NLB)

- Support for server applications

Protocol Independent Multicast (PIM)

- Protocol Independent Multicast for IPv4 and IPv6 supports one-to-many and many-to-many media casting use cases such as IPTV over IPv4 and IPv6 networks. Support for PIM Sparse Mode (PIM-SM, IPv4 and IPv6)

Additional information

- Green Initiative support
- Provides support for RoHS (EN 50581:2012) regulations

Warranty, services and support

Limited Lifetime Warranty

- See <https://www.arubanetworks.com/support-services/product-warranties/> for warranty and support information included with your product purchase.

For **Software Releases** and Documentation, refer to <https://asp.arubanetworks.com/downloads>

For **support and services** information, visit <https://www.arubanetworks.com/support-services/arubacare/>



SPECIFICATIONS				
	JL624A 8325-48Y8C Front-to-Back switch bundle	JL625A 8325-48Y8C Back-to-Front switch bundle	JL626A 8325-32C Front-to-Back switch bundle	JL627A 8325-32C Back-to-Front switch bundle
Description	1 x JL635A base 8325-48Y8C switch <ul style="list-style-type: none">• 6 x JL628A Front-to-Back Fan• 2 x JL632A Front-to-Back 650W 100-240VAC Power Supply	1 x JL635A base 8325-48Y8C switch <ul style="list-style-type: none">• 6 x JL629A Back-to-Front Fan• 2 x JL633A Back-to-Front 650W 100-240VAC Power Supply	1 x JL636A base 8325-32C switch <ul style="list-style-type: none">• 6 x JL630A Front-to-Back Fan• 2 x JL632A Front-to-Back 650W 100-240VAC Power Supply	1 x JL636A base 8325-32C switch <ul style="list-style-type: none">• 6 x JL631A Back-to-Front Fan• 2 x JL633A Back-to-Front 650W 100-240VAC Power Supply
	Supports 48 ports of 1G/10G/25GbE (SFP/SFP+/SFP28) and 8 ports of 40G/100GbE (QSFP+/QSFP28) [optional 1GBASE-T and 10GBASE-T transceivers, 4x10G and 4x25G breakout cables]	Supports 48 ports of 1G/10G/25GbE (SFP/SFP+/SFP28) and 8 ports of 40G/100GbE (QSFP+/QSFP28) [optional 1GBASE-T and 10GBASE-T transceivers, 4x10G and 4x25G breakout cables]	Supports 32 ports of 40G/100GbE (QSFP+/QSFP28) [optional 4x10G and 4x25G breakout cables]	Supports 32 ports of 40G/100GbE (QSFP+/QSFP28) [optional 4x10G and 4x25G breakout cables]
Power supplies	Field-replaceable, hot-swappable, and up to 2 power supplies.			
Fans	Field-replaceable, hot-swappable, and up to 6 fans.			
Physical characteristics				
Dimensions	(H) 4.35 cm x (W) 43.84 cm x (D) 53.6 cm (1.71" x 17.26" x 21.1")	(H) 4.35 cm x (W) 43.84 cm x (D) 53.6 cm (1.71" x 17.26" x 21.1")	(H) 4.395 cm x (W) 44.25 cm x (D) 47.3 cm (1.73" x 17.42" x 18.62")	(H) 4.395 cm x (W) 44.25 cm x (D) 47.3 cm (1.73" x 17.42" x 18.62")
Full configuration weight	10 kg (22.05 lb)	10 kg (22.05 lb)	10.87 kg (23.96 lb)	10.87 kg (23.96 lb)
Additional specifications				
CPU	2.2GHz			
Memory, Drive and Flash	16GB RAM, 64GB SSD, 8GB Flash			
Packet Buffer	32MB			
Performance*				
Switching Capacity	6.4Tbps			
IPv4 Host Table	120,000			
IPv6 Host Table	52,000			
IPv4 Unicast Routes	131,072			
IPv6 Unicast Routes	32,732			
MAC Table Size	98,304			
IGMP Groups	4,094			
MLD Groups	4,094			
IPv4 Multicast Routes	4,094			
IPv6 Multicast Routes	4,094			

* Some of these scaling numbers assume shared tables.



SPECIFICATIONS

	JL624A 8325-48Y8C Front-to-Back switch bundle	JL625A 8325-48Y8C Back-to-Front switch bundle	JL626A 8325-32C Front-to-Back switch bundle	JL627A 8325-32C Back-to-Front switch bundle
Environment				
Operating temperature	0°C to 40°C (32°F to 104°F) up to 3.0 km (10,000 ft.)			
Operating relative humidity	5% to 95% at 40°C (104°F) non-condensing			
Non-Operating	-40°C to 70°C (-40°F to 158°F) up to 4.6 km (15,000 ft.)			
Non-Operating/Storage relative humidity	5% to 95% @ 65°C (149°F)			
Max operating altitude	Up to 10,000ft (3.048 km)			
Max non-operating	Up to 15,000ft (4.6km)			
Primary airflow	Front-to-Back or Back-to-Front			
Electrical characteristics				
Frequency	50-60Hz			
AC Voltage	100-240 volts			
Current	6A (low voltage) – 3A (high voltage)			
Power consumption	Max: 550W	Max: 550W	Max: 550W	Max: 550W
Safety				
	EN 60950-1:2006+A11:2009+A1:2010+A12:2011+A2:2013 IEC 60950-1:2005 Ed.2; Am 1:2009+A2:2013 UL 60950-1, CSA 22.2 No 60950-1 EN 60825-1:2007/IEC 60825-1:2007 Class 1			
EMC				
	EN 55032:2012, Class A EN 55024:2010 EN 61000-3-2:2014, Class A EN 61000-3-3:2013 FCC CFR 47 Part 15:2010, Class A VCCI Class A CNS 13438			
Lasers				
	EN60825-1:2014/IEC 60825-1: 2014 Class 1 Class 1 Laser Products/Laser Klasse 1			
Management				
	SNMP RJ-45 serial USB micro USB console RJ-45 Ethernet port			
Mounting and enclosure				
	Mounts in an EIA standard 19-inch rack or other equipment cabinet; horizontal surface mounting only; order 2-post or 4-post mounting kit separately			



STANDARDS AND PROTOCOLS

The following standards and protocols are supported.

- IEEE 802.1AB-2009
- IEEE 802.1ak-2007
- IEEE 802.1t-2001
- IEEE 802.1AX-2008 Link Aggregation
- IEEE 802.1p Traffic Class Expediting and Dynamic Multicast Filtering
- IEEE 802.1Q VLANs
- IEEE 802.1s Multiple Spanning Trees
- IEEE 802.1w Rapid Reconfiguration of Spanning Tree
- IEEE 802.3ad Link Aggregation Control Protocol (LACP)
- IEEE 802.3x Flow Control
- IEEE 802.3z Gigabit Ethernet
- IEEE 802.3ae 10 Gigabit Ethernet
- IEEE 802.3by 25 Gigabit Ethernet
- IEEE 802.3ba 40 and 100 Gigabit Ethernet Architecture
- RFC 768 UDP
- RFC 791 IP
- RFC 792 ICMP
- RFC 793 TCP
- RFC 826 ARP
- RFC 768 User Datagram Protocol
- RFC 813 Window and Acknowledgement Strategy in TCP
- RFC 815 IP datagram reassembly algorithms
- RFC 879 TCP maximum segment size and related topics
- RFC 896 Congestion control in IP/TCP internetworks
- RFC 917 Internet subnets
- RFC 919 Broadcasting Internet Datagrams
- RFC 922 Broadcasting Internet Datagrams in the Presence of Subnets (IP_BROAD)
- RFC 925 Multi-LAN address resolution
- RFC 1215 Convention for defining traps for use with the SNMP
- RFC 1256 ICMP Router Discovery Messages
- RFC 1393 Traceroute Using an IP Option
- RFC 1591 Domain Name System Structure and Delegation
- RFC 1657 Definitions of Managed Objects for BGP-4 using SMIv2
- RFC 1772 Application of the Border Gateway Protocol in the Internet
- RFC 1981 Path MTU Discovery for IP version 6
- RFC 1997 BGP Communities Attribute
- RFC 1998 An Application of the BGP Community Attribute in Multi-home Routing
- RFC 2385 Protection of BGP Sessions via the TCP MD5 Signature Option
- RFC 2401 Security Architecture for the Internet Protocol
- RFC 2402 IP Authentication Header
- RFC 2406 IP Encapsulating Security Payload (ESP)
- RFC 2460 Internet Protocol, Version 6 (IPv6) Specification
- RFC 2545 Use of BGP-4 Multiprotocol Extensions for IPv6 Inter-Domain Routing
- RFC 2710 Multicast Listener Discovery (MLD) for IPv6
- RFC 2787 Definitions of Managed Objects for the Virtual Router Redundancy Protocol
- RFC 2918 Route Refresh Capability for BGP-4
- RFC 2934 Protocol Independent Multicast MIB for IPv4
- RFC 3137 OSPF Stub Router Advertisement
- RFC 3176 InMon Corporation's sFlow: A Method for Monitoring Traffic in Switched and Routed Networks
- RFC 3484: Default Address Selection for Internet Protocol version 6 (IPv6)
- RFC 3509 Alternative Implementations of OSPF Area Border Routers
- RFC 3623 Graceful OSPF Restart
- RFC 3810 Multicast Listener Discovery Version 2 (MLDv2) for IPv6
- RFC 4213 Basic Transition Mechanisms for IPv6 Hosts and Routers
- RFC 4251 The Secure Shell (SSH) Protocol
- RFC 4271 A Border Gateway Protocol 4 (BGP-4)
- RFC 4273 Definitions of Managed Objects for BGP-4
- RFC 4291 IP Version 6 Addressing Architecture
- RFC 4292 IP Forwarding Table MIB
- RFC 4293 Management Information Base for the Internet Protocol (IP)
- RFC 4360 BGP Extended Communities Attribute
- RFC 4486 Subcodes for BGP Cease Notification Message
- RFC 4552 Authentication/Confidentiality for OSPFv3
- RFC 4724 Graceful Restart Mechanism for BGP
- RFC 4760 Multiprotocol Extensions for BGP-4
- RFC 4940 IANA Considerations for OSPF
- RFC 5095: Deprecation of Type 0 Routing Headers in IPv6
- RFC 5187 OSPFv3 Graceful Restart
- RFC 5701 IPv6 Address Specific BGP Extended Community Attribute
- RFC 6987 OSPF Stub Router Advertisement
- RFC 7047 The Open vSwitch Database Management Protocol
- RFC 7059 A Comparison of IPv6-over-IPv4 Tunnel Mechanisms



- RFC 7313 Enhanced Route Refresh Capability for BGP-4
- RFC 8201 Path MTU Discovery for IP version 6

BUNDLES AND ACCESSORIES

Aruba CX 8325 Bundles

Note: Mounting kit and console cable are not included in bundles. Order separately. Mounting kit is required.

- JL624A Aruba 8325-48Y8C Bundle includes: 48 x 25Gb ports (SFP+/28), 8 x 100Gb ports (QSFP+/28), 6 Front-to-Back Fans and 2 PSU's
- JL625A Aruba 8325-48Y8C Bundle includes: 48 x 25Gb ports (SFP+/28), 8 x 100Gb ports (QSFP+/28), 6 Back-to-Front Fans and 2 PSU's
- JL626A Aruba 8325-32C Bundle includes: 32 x 100Gb ports (QSFP+/QSFP28), 6 Front-to-Back Fans and 2 PSU's
- JL627A Aruba 8325-32C Bundle includes: 32 x 100Gb ports (QSFP+/QSFP28), 6 Back-to-Front Fans, and 2 PSU's

Mounting kit (required when ordering a bundle)

- JL482B 2-post Rack Kit
- JL483B 4-post Rack Kit

Console Cable

- Aruba X2C2 RJ45 to DB9 Console Cable (JL448A)

Accessories

- JL628A Aruba 8325-48Y8C Front-to-Back Fan
- JL629A Aruba 8325-48Y8C Back-to-Front Fan
- JL630A Aruba 8325-32C Front-to-Back Fan
- JL631A Aruba 8325-32C Back-to-Front Fan

Power supply

- JL632A Aruba 8325 650W 100-240VAC Front-to-Back Power Supply
- JL633A Aruba 8325 650W 100-240VAC Back-to-Front Power Supply

1G Transceivers¹

- Aruba 1G SFP LC SX 500m MMF Transceiver (JL4858D)
- Aruba 1G SFP LC LX 10km SMF Transceiver (JL4859D)
- Aruba 1G SFP LC LH 70km SMF Transceiver (JL4860D)
- Aruba 1G SFP RJ45 T 100m Cat5e Transceiver (JL177D)⁴

10G Transceivers¹ and Cables

- Aruba 10G SFP+ LC SR 300m MMF Transceiver (JL9150D)
- Aruba 10G SFP+ LC LR 10km SMF Transceiver (JL9151E)²
- Aruba 10G SFP+ LC ER 40km SMF Transceiver (JL9153D)

- Aruba 10GBASE-T SFP+ RJ-45 30m Cat6A Transceiver (JL563A)³
- Aruba 10G SFP+ to SFP+ 1m Direct Attach Copper Cable (JL9281D)
- Aruba 10G SFP+ to SFP+ 3m Direct Attach Copper Cable (JL9283D)

25G Transceivers¹ and Cables

- Aruba 25G SFP28 LC SR 100m MMF Transceiver (JL484A)
- Aruba 25G SFP28 LC eSR 400m MMF Transceiver (JL485A)
- Aruba 25G SFP28 LC LR 10km SMF Transceiver (JL486A)
- Aruba 25G SFP28 to SFP28 0.65m Direct Attach Copper Cable (JL487A)
- Aruba 25G SFP28 to SFP28 3m Direct Attach Copper Cable (JL488A)
- Aruba 25G SFP28 to SFP28 5m Direct Attach Copper Cable (JL489A)
- Aruba 25G SFP28 to SFP28 3m Active Optical Cable (R0M44A)
- Aruba 25G SFP28 to SFP28 7m Active Optical Cable (R0M45A)
- Aruba 25G SFP28 to SFP28 15m Active Optical Cable (R0Z21A)

40G Transceivers¹ and Cables

- Aruba 40G QSFP+ LC BIDI 150m MMF Transceiver (JL308A)
- HPE X142 40G QSFP+ MPO SR4 Transceiver (JH231A)
- HPE X142 40G QSFP+ MPO eSR4 300M Transceiver (JH233A)
- HPE X142 40G QSFP+ LC LR4 SM Transceiver (JH232A)
- Aruba 40G QSFP+ LC ER4 40km SMF Transceiver (Q9G82A)
- HPE X242 40G QSFP+ to QSFP+ 1m Direct Attach Copper Cable (JH234A)
- HPE X242 40G QSFP+ to QSFP+ 3m Direct Attach Copper Cable (JH235A)
- HPE X242 40G QSFP+ to QSFP+ 5m Direct Attach Copper Cable (JH236A)
- Aruba 40G QSFP+ to QSFP+ 7m Active Optical Cable (R0Z22A)
- Aruba 40G QSFP+ to QSFP+ 15m Active Optical Cable (R0Z23A)
- Aruba 40G QSFP+ to QSFP+ 30m Active Optical Cable (R0Z24A)
- HPE QSFP+ to 4xSFP+ 3m Breakout Direct Attach Cable (721064-B21)

See next page for 100G transceivers and cables



100G Transceivers¹ and Cables

- Aruba 100G QSFP28 MPO SR4 MMF Transceiver (JL309A)
- Aruba 100G QSFP28 LC LR4 SMF Transceiver (JL310A)
- Aruba 100G QSFP28 LC CWDM4 2km SMF Transceiver (R0Z30A)
- Aruba 100G QSFP28 LC ER4L 40km SMF Transceiver (JL743A)
- Aruba 100G QSFP28 to QSFP28 1m Direct Attach Copper Cable (R0Z25A)
- Aruba 100G QSFP28 to QSFP28 3m Direct Attach Copper Cable (JL307A)
- Aruba 100G QSFP28 to QSFP28 5m Direct Attach Copper Cable (R0Z26A)
- HPE (HIT) QSFP28 to 4xSFP28 3m Breakout Direct Attach Cable (845416-B21)

Note: 8325 Series Switches do not support the use of 10G LRM transceivers (J9152D), nor 10G 7-meter Direct Attach Copper Cables (J9285D).

¹ Consult the ArubaOS-Switch and AOS-CX Transceiver Guide in the Aruba Support Portal for the minimum required software releases to support these transceivers.

² 10G LR support only for Revision E part, J9151E (Note: Do not use J9151D)

³ Maximum of twelve (12) 10GBASE-T (JL563A) in 8325-48Y8C models only allowed in ports 1-2, 4-5, 7-8, 10-11, 13-14, 16-17 (Not applicable to 8325-32C models)

⁴ Maximum of thirty-two (32) 1G RJ45 (J8177D) in 8325-48Y8C models only allowed in top two rows, not the third row (Not applicable to 8325-32C models)

DATA SHEET

ARUBA CX 6300 SWITCH SERIES

PRODUCT OVERVIEW

The Aruba CX 6300 Switch Series is a modern, flexible and intelligent family of stackable switches ideal for enterprise network access, aggregation, core and data center top of rack (ToR) deployments. Created for game-changing operational efficiency with built-in security and resiliency, the 6300 switches provide the foundation for high-performance networks supporting IoT, mobile and cloud applications.

Built from the ground up with a combination of cutting-edge hardware, software and analytics and automation tools, the stackable 6300 switches are part of the Aruba CX switching portfolio, designed for today's enterprise campus, branch and data center networks. By combining a modern, fully programmable OS with the Aruba Network Analytics Engine, the 6300 switches provide industry leading monitoring and troubleshooting capabilities for the access layer.

A powerful Aruba Gen7 ASIC architecture delivers performance and robust feature support with flexible programmability for tomorrow's applications. The Aruba Virtual Stacking Framework (VSF) allows for stacking of up to 10 switches, providing scale and simplified management. This flexible series has built-in wirespeed 1/10/25/50GbE uplinks and supports high density IEEE 802.3bt high power PoE. HPE Smart Rate multi-gigabit Ethernet paves the way for high speed access points and IoT devices by delivering fast connectivity and high power PoE using existing cabling. Modular models offer redundancy and PoE customization with hot-swappable power supplies and fans. Back-to-front airflow available in switch bundle for hot-cold aisle top-of-rack (TOR) and out-of-band-management (OOBM) data center deployments.

Aruba Dynamic Segmentation extends Aruba's foundational wireless role-based policy capability to Aruba wired switches. What this means is that the same security, user experience and simplified IT management can be enjoyed throughout the network. Regardless of how users and IoT devices connect, consistent policies are enforced across wired and wireless networks, keeping traffic secure and separate.



KEY BENEFITS

- Stackable Layer 3 switches with BGP, EVPN, VXLAN, VRF, and OSPF with robust security and QoS
- High performance 880 Gbps system switching capacity, 660 MPPS of system throughput and up to 200 Gbps stacking bandwidth
- Compact 1U switches with full density HPE Smart Rate (1/2.5/5GbE) multi-gigabit, 60W PoE and SFP+ models
- Power-to-port switch bundle with back-to-front airflow ideal for data center 1GbE ToR and OOBM deployments
- Built-in high speed 10GbE/25GbE/50GbE uplinks
- Intelligent monitoring, visibility, and remediation with Aruba Network Analytics Engine
- One touch deployment with the Aruba CX Mobile App
- Aruba NetEdit support for automated configuration and verification
- Aruba Dynamic Segmentation enables secure and simple access for users and IoT

PRODUCT DIFFERENTIATORS

AOS-CX - a modern operating system

The Aruba CX 6300 Switch Series is based on AOS-CX, a modern, database-driven operating system that automates and simplifies many critical and complex network tasks. A built-in time series database enables customers and developers to utilize software scripts for historical troubleshooting, as well as analysis of past trends. This helps predict and avoid future problems due to scale, security, and performance bottlenecks.



Our AOS-CX software also includes Aruba Network Analytics Engine (NAE) and support for Aruba NetEdit. Because AOS-CX is built on a modular Linux architecture with a stateful database, our operating system provides the following unique capabilities:

- Easy access to all network state information allows unique visibility and analytics
- REST APIs and Python scripting for fine-grained programmability of network tasks
- A micro-services architecture that enables full integration with other workflow systems and services
- Continuous telemetry data with WebSocket subscriptions for event driven automation
- Continual state synchronization that provides superior fault tolerance and high availability
- All software processes communicate with the database rather than each other, ensuring near real-time state and resiliency and allowing individual software modules to be independently upgraded for higher availability

Aruba Central - unified single pane of glass management

Flexible cloud-based or on-premises management for unified network operations of wired, WLAN, SD-WAN, and public cloud infrastructure. Designed to simplify day zero through day two operations with streamlined workflows. Switch management capabilities include configuration, onboarding, monitoring, troubleshooting, and reporting.

Aruba Network Analytics Engine - advanced monitoring and diagnostics

For enhanced visibility and troubleshooting, Aruba's Network Analytics Engine (NAE) automatically monitors and analyzes events that can impact network health. Advanced telemetry and automation provide the ability to easily identify and troubleshoot network, system, application and security related issues easily, through the use of python agents and REST APIs.

The Time Series Database (TSDB) stores configuration and operational state data, making it available to quickly resolve network issues. The data may also be used to analyze trends, identify anomalies and predict future capacity requirements.

Aruba NetEdit - automated switch configuration and management

The entire Aruba CX portfolio empowers IT teams to orchestrate multiple switch configuration changes for smooth end-to-end service rollouts. Aruba NetEdit introduces automation that allows for rapid network-wide changes,

and ensures policy conformance post network updates. Intelligent capabilities include search, edit, validation (including conformance checking), deployment and audit features. Capabilities include:

- Centralized configuration with validation for consistency and compliance
- Time savings via simultaneous viewing and editing of multiple configurations
- Customized validation tests for corporate compliance and network change analysis
- Automated large-scale configuration deployment without programming
- Network health and topology visibility via Aruba NAE integration

Note: A separate software license is required to use Aruba NetEdit.

Aruba CX Mobile App - true deployment convenience

An easy to use mobile app simplifies connecting and managing Aruba CX 6300 switches for any size project. Switch information can also be imported into Aruba NetEdit for simplified configuration management and to continuously validate the conformance of configurations anywhere in the network. The Aruba CX Mobile App is available for download.

Aruba ASICs - programmable innovation

Based on over 30 years of continuous investment, Aruba's ASICs create the basis for innovative and agile software feature advancements, unparalleled performance and deep visibility. These programmable ASICs are purpose-built to allow for a tighter integration of switch hardware and software within campus and data center architectures to optimize performance and capacity. Virtual Output Queuing (VOQ) isolates congestion, prevents Head of Line Blocking (HOLB) and allows full line rate on outgoing (egress) ports. Flexible ASIC resources enable Aruba's NAE solution to inspect all data, which allows for industry-leading analytics capabilities. The Aruba CX 6300 is based on the Aruba Gen7 ASIC architecture.

Aruba Dynamic Segmentation - improved segmentation and simplicity

For enhanced security, Aruba Dynamic Segmentation automatically applies and enforces user, device and application-aware policies on Aruba wired and wireless infrastructure. Automated device profiling, role-based access control, and Layer 7 firewall features deliver enhanced visibility and performance for a better overall experience for



both IT and end-users alike.

The Aruba CX 6300 introduces a policy-driven standards-based segmented network solution with higher performance and scale with switch-to-switch tunnels using VXLAN and BGP EVPN. This offers the choice of tunnelling to the controller to use L4-L7 services or tunnelling to another Aruba switch for low-latency and high performance use cases. Simplified IT controls include:

- A secure tunnel from Aruba switches or access points transports user traffic to an Aruba Controller or Gateway. Policies can be written on the Controller or Gateway – or the Aruba ClearPass Policy Manager can be used to centrally configure policies to further simplify micro-segmentation of networks.
- The utilization of user roles will include a set of switch-based rules to define authentication, authorization and QoS values for each connecting device. A user role can be assigned to a group of users or devices, regardless of using local user roles written on the switch or downloaded from ClearPass.
- Switch-to-switch tunnels enables scalable multi-tenancy support with VXLAN to VRF mapping while allowing policy application via User Roles.

Mobility and IoT performance

The Aruba CX 6300 Switch Series uses a fully distributed architecture that utilizes the Aruba Gen7 ASICs. This ensures that our switches offer very low latency, increased packet buffering, and adaptive power consumption. All switching and routing are wire-speed to meet the demands of bandwidth-intensive applications today and in the future. Each switch includes the following:

- Up to 880 Gbps in non-blocking bandwidth and up to 660 Mpps for forwarding
- 50GbE uplinks and large TCAM sizes ideal for mobility and IoT deployments in large campuses with several thousand clients
- Selectable queue configurations that allow for increased performance by defining a number of queues and associated memory buffering to best meet the requirements of network applications

VSF Stacking - scale and simplicity

The Aruba Virtual Switching Framework (VSF) allows you to quickly grow your network using high performance front plane stacking. Four built-in 50G SFP ports support speeds of 1GbE, 10GbE, 25GbE and 50GbE for a total of up to 200 Gbps

of stacking throughput per switch. Additional features include:

- Support for up to 10 switches (or members) in a stack via chain or ring topology
- Flexibility to create stacks that span longer distances such as hundreds of meters across campuses to kilometres between sites using long-range 10/25/50GbE transceivers
- Flexibility to mix both modular and fixed Aruba 6300 models within a single stack to meet your deployment requirements
- Simplified configuration and management as the switches act as a single chassis when stacked
- The Aruba CX Mobile app provides support for a validated stack deployment that ensure that all stack links and uplinks are connected properly

An Aruba CX 6300 switch for any enterprise environment

Whether in the branch office or a small to large enterprise environment, you can choose from 24 and 48 port 1U models. Each switch includes four high-speed built-in uplinks that auto-negotiate from 1GbE, 10GbE to 25GbE to 50GbE to deliver non-blocking performance. Fixed format (F) models include built-in power supplies. The modular (M) models have rear slots for hot swappable power supplies that allow you to customize your PoE requirements, and its fans are field replaceable. Additional highlights:

- Compact 1U models support:
 - 24 and 48 ports of HPE Smart Rate Multi-gigabit Ethernet IEEE 802.3bz (100M/1GbE/2.5GbE/5GbE) supporting high power IEEE 802.3bt Class 6 (60W)
 - High density 24 port SFP+ model which is ideal for aggregation
 - 10GbE/25GbE/50GbE uplink port connectivity
- HPE Smart Rate multi-gigabit (IEEE 802.3bz) Ethernet supports high speed wireless access points
- For deployments that need higher port and PoE density, the 6300 supports 60W of PoE in every port of a 48-port switch for a total of 2880W of PoE
- Industry standard IEEE 802.3bt High Power PoE support (class 6) provides up to 60W per port for support of the latest IoT devices and APs. PoE support for IEEE 802.3at Power over Ethernet (PoE+) provides up to 30W per port as well as any IEEE 802.3af-compliant end device
- Support for pre-standard PoE detection provides power to legacy PoE devices
- High availability with always-on PoE that supplies PoE power even during scheduled reboots and firmware upgrades



- Quick PoE supplies PoE power to powered devices as soon as the switch is plugged into AC power so device can initialize at same time as switch OS boots up.
- Support for Energy Efficient Ethernet IEEE 802.3az reduces power consumption during periods of low network traffic.
- Support for top-of-rack (ToR) and out-of-band management (OOBM) data center deployments with CX 6300M Power-to-port bundle that delivers required power-to-port (back to front) airflow.
- Auto-MDIX provides automatic adjustments for straight-through or crossover cables on all 10/100/1000, Smart Rate and 10GBASE-T ports
- Unsupported Transceiver Mode (UTM) allows to insert and enable all unsupported 1G and 10G transceivers and cables. Note that there is no warranty nor support for the transceiver/cable when this feature is used
- IPv6 capabilities include:
 - IPv6 host enables switches to be managed in an IPv6 network
 - Dual stack (IPv4 and IPv6) transitions from IPv4 to IPv6, supporting connectivity for both protocols
 - MLD snooping forwards IPv6 multicast traffic to the appropriate interface
 - IPv6 ACL/QoS supports ACL and QoS for IPv6 network traffic
 - IPv6 routing supports Static and OSPFv3 protocols
 - Security provides RA guard, DHCPv6 protection, dynamic IPv6 lockdown, and ND snooping
- Jumbo frames allow for high-performance backups and disaster-recovery systems; provides a maximum frame size of 9198 bytes
- Packet storm protection against broadcast and multicast storms with user-defined thresholds

CX 6300M bundle for data centers

The CX 6300M 48 port power-to-port switch bundle serves as a top of rack (ToR) switch for 1GbE servers and also as a 1GbE out-of-band management (OOBM) switch for data centers server racks. Features include:

- Power-to-port bundle (JL762A) includes 48 port 1GbE switch with 2 x Fan Trays (JL761A) and 1 x power supply (JL760A)
- Back (power-side) to front (1GbE port side) airflow

- 1GbE/10GbE/25GbE/50GbE SFP uplinks

High availability and resiliency

To ensure a high degree of up-time we offer high availability and multicast features needed for a full Layer 3 deployment at access and aggregation such as PBR, BFD, MSDP, BSR, and IP SLA without the need for software licenses. This includes:

- Hot Swappable Power Supplies available in the 6300 "M" models
 - Provides N+1 and N+N redundancy for high reliability in the event of power line or supply failures
 - Optional secondary power supplies to increase the total available PoE power
 - Fixed power supplies in 6300 "F" models
- Bidirectional Forward Detection (BFD) enables sub-second failure detection for rapid routing protocol re-balancing, supporting both IPV4 and IPV6 networks
- Virtual Router Redundancy Protocol (VRRP) allows groups of two routers to dynamically create highly available routed environments in IPV4 and IPV6 networks
- Uni-directional Link Detection (UDLD) to monitor link connectivity and shut down ports at both ends if uni-directional traffic is detected, preventing loops in STP-based networks
- IEEE 802.3ad LACP supports up to 256 LAGs, each with up to 8 links per LAG; and provides support for static or dynamic groups and a user-selectable hashing algorithm
- IEEE 802.1s Multiple Spanning Tree provides high link availability in VLAN environments where multiple spanning trees are required; and legacy support for IEEE 802.1d and IEEE 802.1w
- IEEE 802.3ad Link-aggregation-control protocol (LACP) and port trunking support static and dynamic trunks where each trunk supports up to eight links (ports) per static trunk
- Support for Microsoft Network Load Balancer (NLB) for server applications
- Ethernet Ring Protection Switching (ERPS) supports rapid protection and recovery in a ring topology

Quality of Service (QoS) features

To support congestion actions and traffic prioritization, the Aruba CX 6300 Series includes the following:

- Strict priority (SP) queuing and Deficit Weighted Round Robin (DWRR)



- Traffic prioritization (IEEE 802.1p) for real-time classification into 8 priority levels that are mapped to 8 queues
- Layer 4 prioritization based on TCP/UDP port numbers
- Class of Service (CoS) sets the IEEE 802.1p priority tag based on IP address, IP Type of Service (ToS), Layer 3 protocol, TCP/UDP port number, source port, and DiffServ
- Rate limiting sets per-port ingress enforced maximums and per-port, per-queue minimums
- Transmission rates of egressing frames can be limited on a per-queue basis using Egress Queue Shaping (EQS)
- Large buffers for graceful congestion management

Simplified configuration and management

In addition to the Aruba CX Mobile App, Aruba NetEdit and Aruba Network Analytics Engine, the 6300 series offers the following:

- Built-in programmable and easy to use REST API interface
- Simple day zero provisioning
- Scalable ASIC-based wire speed network monitoring and accounting with no impact on network performance; network operators can gather a variety of network statistics and information for capacity planning and real-time network monitoring purposes
- Management interface control enables or disables each of the following depending on security preferences, console port, or reset button
- Industry-standard CLI with a hierarchical structure for reduced training time and expense. Delivers increased productivity in multivendor environments
- Management security restricts access to critical configuration commands, provides multiple privilege levels with password protection and local and remote syslog capabilities allow logging of all access
- SNMP v2c/v3 provides SNMP read and trap support of industry standard Management Information Base (MIB), and private extensions
- Remote monitoring (RMON) with standard SNMP to monitor essential network functions. Supports events, alarms, history, and statistics groups as well as a private alarm extension group; RMON, and sFlow provide advanced monitoring and reporting capabilities for statistics, history, alarms and events
- TFTP and SFTP support offers different mechanisms for configuration updates; trivial FTP (TFTP) allows bidirectional transfers over a TCP/IP network; Secure File Transfer Protocol (SFTP) runs over an SSH tunnel to

provide additional security

- Debug and sampler utility supports ping and traceroute for IPv4 and IPv6
- Network Time Protocol (NTP) synchronizes timekeeping among distributed time servers and clients; keeps timekeeping consistent among all clock-dependent devices within the network so the devices can provide diverse applications based on the consistent time
- IEEE 802.1AB Link Layer Discovery Protocol (LLDP) advertises and receives management information from adjacent devices on a network, facilitating easy mapping by network management applications
- Dual flash images provides independent primary and secondary operating system files for backup while upgrading
- Assignment of descriptive names to ports for easy identification
- Multiple configuration files can be stored to a flash image
- Ingress and egress port monitoring enable more efficient network problem solving
- Unidirectional link detection (UDLD) monitors the link between two switches and blocks the ports on both ends of the link if the link goes down at any point between the two devices
- IP SLA for Voice monitors quality of voice traffic using the UDP Jitter and UDP Jitter for VoIP tests

Layer 2 Switching

The following layer 2 services are supported:

- VLAN support and tagging for IEEE 802.1Q (4094 VLAN IDs)
- Jumbo packet support improves the performance of large data transfers; supports frame size of up to 9198 bytes
- IEEE 802.1v protocol VLANs isolate select non-IPv4 protocols automatically into their own VLANs
- Rapid Per-VLAN Spanning Tree (RPVST+) allows each VLAN to build a separate spanning tree to improve link bandwidth usage; is compatible with PVST+
- MVRP allows automatic learning and dynamic assignment of VLANs
- VXLAN encapsulation (tunnelling) protocol for overlay network that enables a more scalable virtual network deployment
- Bridge Protocol Data Unit (BPDU) tunnelling Transmits STP BPDUs transparently, allowing correct tree calculations across service providers, WANs, or MANs
- Port mirroring duplicates port traffic (ingress and egress)



- to a monitoring port; supports 4 mirroring groups
- STP supports standard IEEE 802.1D STP, IEEE 802.1w Rapid Spanning Tree Protocol (RSTP) for faster convergence, and IEEE 802.1s Multiple Spanning Tree Protocol (MSTP)
- Internet Group Management Protocol (IGMP) Controls and manages the flooding of multicast packets in a Layer 2 network
- IPv4 Multicast in VXLAN/EVPN Overlay support allows PIM-SM/IGMP snooping in the VXLAN Overlay
- IPv6 VXLAN/EVPN Overlay support, allows IPv6 traffic over the VXLAN overlay
- VXLAN ARP/ND suppression allows minimization of ARP and ND traffic flooding within individual VXLAN segments, thus optimizing the VXLAN network

Layer 3 Services

The following layer 3 services are supported:

- Bidirectional Forwarding Detection (BFD) enables link connectivity monitoring and reduces network convergence time for static route, OSPFv2 and VRRP
- User Datagram Protocol (UDP) helper function allows UDP broadcasts to be directed across router interfaces to specific IP unicast or subnet broadcast addresses and prevents server spoofing for UDP services such as DHCP
- Loopback interface address defines an address in Open Shortest Path First (OSPF), improving diagnostic capability
- Route maps provide more control during route redistribution; allow filtering and altering of route metrics
- Address Resolution Protocol (ARP) determines the MAC address of another IP host in the same subnet; supports static ARPs; gratuitous ARP allows detection of duplicate IP addresses; proxy ARP allows normal ARP operation between subnets or when subnets are separated by a Layer 2 network
- Dynamic Host Configuration Protocol (DHCP) simplifies the management of large IP networks and supports client; DHCP Relay enables DHCP operation across subnets
- DHCP server centralizes and reduces the cost of IPv4 address management
- Domain Name System (DNS) provides a distributed database that translates domain names and IP addresses, which simplifies network design; supports client and server
- mDNS (Multicast Domain Name System) Gateway enables discovery of mDNS groups across L3 boundaries
- Generic Routing Encapsulation (GRE) enables tunneling traffic from site to site over a Layer 3 path

- Supports internal loopback testing for maintenance purposes and increased availability; loopback detection protects against incorrect cabling or network configurations and can be enabled on a per-port or per-VLAN basis for added flexibility

Layer 3 Routing

The following layer 3 routing services are supported:

- Border Gateway Protocol (BGP) provides IPv4 and IPv6 routing, which is scalable, robust, and flexible
- Border Gateway Protocol 4 (BGP-4) delivers an implementation of the Exterior Gateway Protocol (EGP) utilizing path vectors; uses TCP for enhanced reliability for the route discovery process; reduces bandwidth consumption by advertising only incremental updates; supports extensive policies for increased flexibility; scales to very large networks with graceful restart capability
- Equal-Cost Multipath (ECMP) enables multiple equal-cost links in a routing environment to increase link redundancy and scale bandwidth
- Multi-protocol BGP (MP-BGP) enables sharing of IPv6 routes using BGP and connections to BGP peers using IPv6
- Routing Information Protocol version 2 (RIPv2) provides an easy to configure routing protocol for small networks as while RIPv2 provides support for small IPv6 networks
- Open shortest path first (OSPF) delivers faster convergence; uses link-state routing Interior Gateway Protocol (IGP), which supports ECMP, NSSA, and MD5 authentication for increased security and graceful restart for faster failure recovery
- OSPF provides OSPFv2 for IPv4 routing and OSPFv3 for IPv6 routing
- Static IP routing provides manually configured routing; includes ECMP capability
- Policy-based routing uses a classifier to select traffic that can be forwarded based on policy set by the network administrator
- Static IPv4 and IPv6 routing provides simple manually configured IPv4 and IPv6 routes
- IP performance optimization provides a set of tools to improve the performance of IPv4 networks; includes directed broadcasts, customization of TCP parameters, support of ICMP error packets, and extensive display capabilities



- Dual IP stack maintains separate stacks for IPv4 and IPv6 to ease the transition from an IPv4-only network to an IPv6-only network design

Security

The Aruba CX 6300 Switch Series come with an integrated trusted platform module (TPM) for platform integrity. This ensures the boot process started from a trusted combination of Aruba AOS-CX switches. Other security features include:

- TAA Compliance uses FIPS 140-2 validated cryptography for protection of sensitive information
- Access control list (ACL) support for both IPv4 and IPv6; allows for filtering traffic to prevent unauthorized users from accessing the network, or for controlling network traffic to save resources; rules can either deny or permit traffic to be forwarded; rules can be based on a Layer 2 header or a Layer 3 protocol header
- ACLs also provide filtering based on the IP field, source/destination IP address/subnet, and source/destination TCP/UDP port number on a per-VLAN or per-port basis
- Enrollment over Secure Transport (EST) enables secure certificate enrollment, allowing for easier enterprise management of PKI
- Remote Authentication Dial-In User Service (RADIUS)
- Terminal Access Controller Access-Control System (TACACS+) delivers an authentication tool using TCP with encryption of the full authentication request, providing additional security
- Management access security for both on- and off-box authentication for administrative access. RADIUS or TACACS+ can be used to provide encrypted user authentication. Additionally, TACACS+ can also provide admin authorization services
- Control Plane Policing sets rate limit on control protocols to protect CPU overload from DOS attacks
- Supports multiple user authentication methods. Uses an IEEE 802.1X supplicant on the client in conjunction with a RADIUS server to authenticate in accordance with industry standards
- Web based authentication using Captive Portal on ClearPass is supported for use cases such as Guest Access and for devices that don't support 802.1x or MAC Auth.
- Supports MAC-based client authentication
- Concurrent IEEE 802.1X, Web, and MAC authentication schemes per switch port accepts up to 32 sessions of IEEE 802.1X, Web, and MAC authentications
- DHCP protection blocks DHCP packets from unauthorized DHCP servers, preventing denial-of-service attacks
- Secure management access delivers secure encryption of all access methods (CLI, GUI, or MIB) through SSHv2, SSL, and/or SNMPv3
- Switch CPU protection provides automatic protection against malicious network traffic trying to shut down the switch
- ICMP throttling defeats ICMP denial-of-service attacks by enabling any switch port to automatically throttle ICMP traffic
- Identity-driven ACL enables implementation of a highly granular and flexible access security policy and VLAN assignment specific to each authenticated network user
- STP BPDU port protection blocks Bridge Protocol Data Units (BPDUs) on ports that do not require BPDUs, preventing forged BPDU attacks
- Dynamic IP lockdown works with DHCP protection to block traffic from unauthorized hosts, preventing IP source address spoofing
- Dynamic ARP protection blocks ARP broadcasts from unauthorized hosts, preventing eavesdropping or theft of network data
- STP root guard protects the root bridge from malicious attacks or configuration mistakes
- Port security allows access only to specified MAC addresses, which can be learned or specified by the administrator
- MAC address lockout prevents particular configured MAC addresses from connecting to the network
- Source-port filtering allows only specified ports to communicate with each other
- Secure shell encrypts all transmitted data for secure remote CLI access over IP networks
- Secure Sockets Layer (SSL) encrypts all HTTP traffic, allowing secure access to the browser-based management GUI in the switch
- Secure FTP allows secure file transfer to and from the switch; protects against unwanted file downloads or unauthorized copying of a switch configuration file
- Critical Authentication Role ensures that important infrastructure devices such as IP phones are allowed network access even in the absence of a RADIUS server
- MAC Pinning allows non-chatty legacy devices to stay authenticated by pinning client MAC addresses to the port until the clients logoff or get disconnected
- Security banner displays a customized security policy



when users log in to the switch

- RadSec enables RADIUS authentication and accounting data to be passed safely and reliably across insecure networks

Multicast

- IGMP Snooping allows multiple VLANs to receive the same IPv4 multicast traffic, lessening network bandwidth demand by reducing multiple streams to each VLAN
- Multicast Listener Discovery (MLD) enables discovery of IPv6 multicast listeners; support MLD v1 and v2
- Protocol Independent Multicast (PIM) defines modes of IPv4 and IPv6 multicasting to allow one-to-many and many-to-many transmission of information; supports PIM Sparse Mode (SM) and Dense Mode (DM) for both IPv4 and IPv6
- Internet Group Management Protocol (IGMP) utilizes Any-Source Multicast (ASM) to manage IPv4 multicast networks; supports IGMPv1, v2, and v3
- Multicast Service Discovery Protocol (MSDP) efficiently routes multicast traffic through core networks
- MSDP for Anycast RP is an intra-domain feature that provides redundancy and load-sharing capabilities

Convergence

- IP multicast routing includes PIM Sparse and Dense modes to route IP multicast traffic
- IP multicast snooping (data-driven IGMP) prevents flooding of IP multicast traffic
- Protocol Independent Multicast for IPv6 supports one-to-many and many-to-many media casting use cases such as IPTV over IPv6 networks
- LLDP-MED (Media Endpoint Discovery) defines a standard extension of LLDP that stores values for parameters such as QoS and VLAN to automatically configure network devices such as IP phones
- PoE allocations supports multiple methods (allocation by usage or class, with LLDP and LLDP-MED) to allocate PoE power for more efficient power management and energy savings.

- Auto VLAN configuration for voice RADIUS VLAN uses a standard RADIUS attribute and LLDP-MED to automatically configure a VLAN for IP phones
- CDPv2 uses CDPv2 to configure legacy IP phones

Additional information

- Green Initiative support for RoHS (EN 50581:2012) and WEEE regulations

Warranty, services and support

- Limited Lifetime Warranty, see <https://www.arubanetworks.com/support-services/product-warranties/> for warranty and support information included with your product purchase
- For Software Releases and Documentation, refer to <https://asp.arubanetworks.com/downloads>
- For support and services information, visit <https://www.arubanetworks.com/support-services/arubacare/>