



## **Network Switches and Cabling Phase I (Submission deadline is 12 p.m. CDT on July 10, 2020)**

### **Purpose**

The purpose of this Request for Proposal (RFP) is to solicit proposals from qualified vendors to upgrade access layer network switches, battery backups and access points in multiple locations.

### **Overview**

The Colby Community College (CCC) network experienced several outages over the years due to hub and spoke system design with single point of failure being the single switch and single fiber uplink. CCC deployed 24-pair and 48-strand fiber optic to each building in Phase I deployment of campus fiber infrastructure. This allows the campus to utilize multiple fibers between buildings and the campus core for redundancy, growth, and flexibility. In order to meet performance expectations, the College is looking to purchase 10Gbps capable POE+ switches.

CCC seeks to compare product solutions from various manufacturers. Vendors are encouraged to submit multiple product solutions within their proposal. All new infrastructures must be supported and configured through our existing campus network. CCC will consider equivalent products or alternate products provided that the proposed solution(s) seamlessly integrates into the existing network with no loss of efficiency, features, or functionality

### **Existing Infrastructure with Backwards Compatibility**

CLI & Web management, port naming, OS dual partition, multiple configuration files, IPv6 dual-stack, MLD snooping, IPv6 ACLs/QoS, IPv6 routing, Layer 3 switches VRRP, IEEE 802.1s, IEEE 802.3ad, IEEE 802.1ad Q-in-Q, IEEE 802.1Q, IEEE 802.1v, GARP, static routing, RIP v1 v2 v3, OSPF v2 v3, ACLs ipv4 and ipv6, IEEE 802.1x, web authentication, mac authentication, ICMP DoS mitigation, STP BPDU protection, RADIUS/TACACS+,SSH, Telnet, SSL, SFTP, USB, Multicast Routing, IGMP, IEEE 802.1AB LLDP, IEEE 802.3af POE, IEEE 802.3at POE+, CoS, QoS, DSCP, Layer 4 prioritization, traffic shaping, port mirroring, RMON, XRMON, and or sFlow, Jumbo Frames, Auto-MDIX, USB software upgrade, 1Gb Ethernet.

Current Wireless Access Points are Openmesh AP60 and Openmesh MR1750 that support 802.11AC MU-MIMO 3x3. The College experienced several issues in high video traffic environments such as the residence halls. There have also been complaints with Xbox One and Playstation 3 clients with this deployment.

CCC must have the network functionality to include technology-based deterrents included to address the issues outlined H.R.4137 Higher Education Opportunity Act 2008: PL 110-315 to protect against unauthorized distribution of copyrighted materials by users of the institution's network without unduly interfering with educational and research use of the network. New proposals must include mitigation techniques as our institution accepts federal student financial aid (Title IV HEA programs) therefore the College is not exempt.

It is preferred to adhere to the campus fabric topology as opposed to the current outdated hub and spoke design

that remains to be a single point of failure.

## Locations

### **Location: H.F. Davis Memorial Library, IT Department Core Switch**

- 48 x 1Gbps SFP ports layer 3 managed switch, LAG/LACP capable, QSFP+ 40G/100G stackable
- 48 x 10Gbps SFP+ ports layer 3 managed switch, LAG/LACP capable, QSFP+ 40G/100G stackable
- 48 x 10GBaseT layer 3 managed switch, LAG/LACP capable, QSFP+ 40G/100G stackable
- 33,000BTU Air conditioning unit designed for IT data center cooling of switches and four racks of servers
- 2 x 10,000VA 208/240V single phase online battery backup unit with 1 hour runtime for protecting switches and servers

### **Location: H.F. Davis Memorial Library**

- 134 ports (68 POE+, 66 data access)
- 2 x 48 port 1Gigabit ethernet/2.5 Gigabit ethernet layer 2 managed switch, support Wifi6 AP's, POE+, 10Gbps uplinks LAG/LACP capable, stackable
- 2 x 48 port 1Gigabit ethernet layer 2 managed switch, support Wifi6 AP's, POE+, 10Gbps uplinks LAG/LACP capable, stackable
- Nine POE+ 802.11AC Wave 2 access points

### **Location: Administration**

- 54 ports (30 POE+, 24 data access)
- 1 x 48 port 1Gigabit ethernet/2.5 Gigabit ethernet layer 2 managed switch, support Wifi6 AP's, POE+, 10Gbps uplinks LAG/LACP capable, stackable
- 1 x 48 port 1Gigabit ethernet layer 2 managed switch, support Wifi6 AP's, POE+, 10Gbps uplinks LAG/LACP capable, stackable
- Three POE +802.11AC Wave 2 access points

### **Location: Thomas Hall**

- 100 ports (68 POE+, 32 data access)
- 1 x 48 port 1Gigabit ethernet/2.5 Gigabit ethernet layer 2 managed switch, support Wifi6 AP's, POE+, 10Gbps uplinks LAG/LACP capable, stackable
- 2 x 48 port 1Gigabit ethernet layer 2 managed switch, support Wifi6 AP's, POE+, 10Gbps uplinks LAG/LACP capable, stackable
- Nine POE+ 802.11AC Wave 2 Access Points

### **Location: Student Union**

- 170 ports (96 POE+, 74 data access)
- 1 x 48 port 1Gigabit ethernet/2.5 Gigabit ethernet layer 2 managed switch, support Wifi6 AP's, POE+, 10Gbps uplinks LAG/LACP capable, stackable
- 3 x 48 port 1Gigabit ethernet layer 2 managed switch, support Wifi6 AP's, POE+, 10Gbps uplinks LAG/LACP capable, stackable
- Nine POE+ 802.11AC Wave 2 Access Points

### **Location: Bedker Memorial Complex**

- 156 ports (59 POE+, 97 data access)
- 1 x 48 port 1Gigabit ethernet/2.5 Gigabit layer 2 ethernet managed switch, support Wifi6 AP's, POE+, 10Gbps uplinks LAG/LACP capable, stackable
- 3 x 48 port 1Gigabit ethernet layer 2 managed switch, support Wifi6 AP's, POE+, 10Gbps uplinks LAG/LACP capable, stackable

- Ten POE+ 802.11AC Wave 2 Access Points

### **Location: Ferguson Hall**

- 120 ports (49 POE+, 70 data access)
- 1 x 48 port 1Gigabit ethernet/2.5 Gigabit ethernet layer 2 managed switch, support Wifi6 AP's, POE+, 10Gbps uplinks LAG/LACP capable, stackable
- 2 x 48 port 1Gigabit ethernet layer 2 managed switch, support Wifi6 AP's, POE+, 10Gbps uplinks LAG/LACP capable, stackable
- Eight POE+ 802.11AC Wave 2 Access Points

### **Location: Steve Lampe Athletic Center**

- 45 ports (35 POE+, 10 data access)
- 1 x 48 port 1Gigabit ethernet/2.5 Gigabit ethernet layer 2 managed switch, support Wifi6 AP's, POE+, 10Gbps uplinks LAG/LACP capable, stackable
- Three POE+ 802.11AC Wave 2 Access Points

### **UPS Battery Backup**

UPS battery backups are required at each location with a minimum one hour runtime. Power has historically gone as low as 80VAC in brown outs at the CCC campus. The UPS must be capable of sustaining operation under load. Any interfacing required for switch interfacing such as USB, serial, or other technology, and centralized network management of the UPS systems must also be addressed in the solution.

### **Warranty Support**

Please provide any and all warranty and or annual support renewal options for one-year, three-year, five-year, seven-year, and ten-year.

### **Vendor Responsibilities**

1. Vendor will provide the quantity of switches needed to replace our existing switches at each site with a minimum of two 10Gbps SFP+ uplinks in LAG/LACP or equivalent according to specifications below.
2. Vendor will provide the quantity of stacking modules, transceivers, etc. according to specifications below. Third-party optics are acceptable for transceivers.
3. Vendor must provide an adequate amount of field replaceable units on site. Due to CCC's geographic location it can take up to four days for an RMA to take place. The College must have what it needs on hand to repair for an outage.
4. All equipment provided must be in new condition. No equipment with rapid EOL dates. No refurbished or used equipment will be accepted.
5. Vendor will provide on- premise physical appliance or virtual appliance for centralized management of the network devices.
6. Vendor will provide a on-premise network access controller solution
7. Vendor will provide online training services for I.T. staff
8. Vendor will provide configuration and deployment support assistance for initial deployment
9. I.T . staff will physically install and configure all switches on site

CCC seeks an integrated and qualified proposal that addresses the configuration and customer/client training related to the specifications defined in this RFP. All proposals are to meet or exceed these specifications. CCC reserves the right to reject any and all proposals, and award all or part of the bid and to make the award on merit/or features of design and quality, delivery and availability of parts and service to the best interest of CCC. CCC requires that any vendor quoting an equivalent, please provide documentation of equivalence.

### **Project Timeline**

Bids must be received by 2:00 p.m. on Friday, July 10, 2020, to be considered. All equipment must be shipped no later than August 1, 2020.

## Exclusions

Any project exclusions or any portion of the proposal that cannot be provided must be disclosed in an area labeled exclusions.

## Deadline for Proposals

Proposals will be received to the Vice President of Business Affairs, Carolyn Kasdorf, [carolyn.kasdorf@colbycc.edu](mailto:carolyn.kasdorf@colbycc.edu), until Friday, July 10, 2020, by 2:00 PM. Electronic submissions via email will be accepted or submission can be mailed to 1255 S Range, Colby, KS 67701 Attention: Carolyn Kasdorf.

Vendors are required to prepare and submit, at their own cost, one signed original proposal. Submission must include the Vendor's full response including all attachments, product services and specifications. Electronic submission must be PDF or Microsoft Word format.

## Award Date

The Board meeting will be held on Monday, July 20, 2020, to select a vendor. The selected vendor will be notified after approval has been received from the Board of Trustees.

Contact Information: Please direct questions or bids to [carolyn.kasdorf@colbycc.edu](mailto:carolyn.kasdorf@colbycc.edu) or contact directly at (785) 460-5407.

## Statement of Disclosure

The board reserves the right to reject any or all bids, to accept that bid which appears to be in the best interest of the college, to waive any informalities in any part of any bid, and to reject any or all bids received after the date and time specified. Any bid may be withdrawn prior to the scheduled time for the opening of bids. The bidder to whom the award is made may be required to enter into a written contract with the college and provide a performance or public works bond as required by law or the Board of Trustees (where applicable).