



Request for Proposal 3093

CCAC Infrastructure Upgrade Phase 1: Campus Core Switch Upgrade Project

Procurement of Core Switch Network Hardware and Software Solution and Seamless Integration with Campus Network with Accompanying Professional Services

RESPONSES TO THIS REQUEST FOR PROPOSAL

**MUST BE DELIVERED TO THE PROCUREMENT DEPARTMENT OF
THE COMMUNITY COLLEGE OF ALLEGHENY COUNTY**

800 ALLEGHENY AVENUE, PITTSBURGH, PA 15233 NO LATER THAN:

Tuesday, August 8, 2017 AT 2:00 PM

No fax or e-mail proposals will be accepted.

See optional site visit dates beginning on Page 13.

The CCAC Procurement Department publishes all Invitations to Proposal and Requests for Proposals (Proposals and RFP's) via the CCAC Procurement website at https://www.ccac.edu/Bid-RFP_Opportunities.aspx (see "Proposal and RFP Opportunities"). It will be each vendor's responsibility to monitor the Proposal/RFP activity within the given website and/or verify they are on the CCAC vendor list for this particular Proposal/RFP in order to ensure receipt of and compliance with all applicable documents inclusive of any issued addenda. Failure to incorporate any applicable addenda in the final submittal may result in the rejection of your proposal.

Interested parties may obtain further information from: mcvetic@ccac.edu.

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1.0 PURPOSE

The purpose of this Request for Proposal (RFP) “ **CCAC Infrastructure Upgrade Phase 1: Campus Core Switch Upgrade Project** is to solicit proposals from qualified vendors to upgrade current Cisco and Hewlett Packard based core switches to a better Ethernet Fabric which can support emerging CCAC’s business requirements. Switch fabric should support richer and more complex business processes to meet increasing student and faculty expectations for consistently strong network performance, quality, reliability, and security.

2.0 PROJECT BACKGROUND

CCAC is simultaneously publishing RFP to upgrade its Network Infrastructure. Network Infrastructure upgrade will be completed in three phases (to maintain maximum business continuity except for scheduled downtime) in following order:

1. **RFP CCAC Infrastructure Upgrade Phase 1: Campus Core Switch Upgrade Project:** In the first phase, all CCAC campus core switches will be replaced by new Ethernet Fabric Chassis. New Ethernet Fabric Chassis will provide connectivity to legacy Optical Cisco ONS15454 and edge switches so that CCAC’s business continuity is maintained at all times.
2. **RFP CCAC Infrastructure Upgrade Phase 2: Campus Optical Node Upgrade Project:** In the second phase, legacy Optical Cisco ONS15454 will be replaced by the new DWDM Optical node(s) solution. The new DWDM Optical node will integrate with the client(new Ethernet Fabric Chassis) to multiple 100G interfaces.
3. **RFP CCAC Infrastructure Upgrade Phase 3: Campus Edge/Access Switch Upgrade Project:** In the third phase, edge switches will be replaced by new and uplinked to Ethernet Fabric Chassis over two 40G/ (Option 2: 100G) uplinks.

Note:

1. "Phase 2: Campus Optical Node Upgrade Project " and "Phase 3: Campus Edge/Access Switch Upgrade Project" has a dependency on "Phase 1: Campus Core Switch Upgrade Project."
2. Start date of "Phase 2: Campus Optical Node Upgrade Project " will be determined immediately after "Phase 1: Campus Core Switch Upgrade Project." is complete. Vendors are required to maintain quoted price and discount level (even if CCAC decides to choose better hardware and software at later date) up to December 2020.
3. Start date of "Phase 3: Campus Edge/Access Switch Upgrade Project." will be determined immediately after "Phase 2: Campus Optical Node Upgrade Project " is complete. Vendors are required to maintain quoted price and discount level (even if CCAC decides to choose better hardware and software at later date) up to December 2020.

The Community College of Allegheny County is the largest institution of postsecondary higher education in Pennsylvania. The college serves 30,000 credit students through 170 degree and certificate programs and offers thousands of lifelong learning non-credit and workforce development courses to 35,000 students annually.

Incorporating a learning-centered environment committed to the future of the region, CCAC continues to expand its reach through innovative programming and accessible instruction offered via convenient day, evening, weekend and

online courses. With four campuses and five centers serving Allegheny County and surrounding communities, CCAC endeavors to fulfill its mission to provide affordable access to quality education and offer a dynamic, diverse and supportive learning environment that prepares the region's residents for academic, professional and personal success in our changing global society. More information about CCAC can be found on CCAC's website at https://www.ccac.edu/Welcome_Message.aspx.

2.1 Current Environment

CCAC LAN/WAN network consists of five sites – Office of College Services Network Operation Center (OCS-NOC), Allegheny campus (AL), North Campus (NO), South Campus Disaster Recover (SO-DR), and Boyce campus (BO). Attached, in 19.0: Appendix C please find network topology diagram.

CCAC has leased dark fiber from <http://www.lighttower.com>

Each site has a Cisco ONS 15454 Optical node. The optical network is SONET-based with SONET transmission rate OC-192.

Each Cisco ONS 15454 node has two ML-1000-2 cards. Each ML-1000-2 has two GigE interfaces. On the client side, the Core Switch Cisco 6513 (at each site) connects to two Cisco ML-1000 cards over Layer-3 port-channel configuration and participates in OSPF routing protocol. On optical side, each ML-1000-2 has two Packet over SONET(POS) ports configured in an overlay ring configuration namely resilient packet ring (RPR ring).

Additionally, the West Hills center (WH) has a point-to-point leased dark fiber connection to Allegheny campus (AL). West Hills (WH) is not part of the optical ring. WH connects to OCS-NOC via Allegheny campus (AL) over Layer-3 and participates in OSPF routing protocol. Attached, in 20.0: Appendix D please find network fiber characterization

2.2 Business Objectives

The college's primary purpose is serving current and prospective students—from those selecting a college while in high school to those finding themselves in a midlife career transition—as well as important secondary markets of parents, funders, legislators, community leaders, partner institutions and the like. In support of this, technology hardware is a critical component of IT strategy. All proposed solutions must be business class solutions to ensure the technology is utilized as a tool to facilitate and enhance teaching and learning and to help reach a larger, more diverse student population. The technology to be implemented must enable or assist the college in achieving the following business objectives (the order of the list doesn't reflect the importance or the priority of the objectives):

- a. Support the College's mission. Please see the [College's Vision, Mission, and Goals](#) for more information.
- b. Provide technology as a tool to facilitate and enhance teaching and learning.
- c. Capability to accommodate and support current and future online learning experiences and support of location agnostic technology services to different constituents on various mobile devices with different form factors.
- d. Improve the college's responsiveness to changing business conditions.
- e. Improve network availability, resiliency, and capacity without being cost prohibitive.

CCAC invites interested parties that meet the qualifications listed in this document to submit proposals regarding their product and related service offerings. All information shall be submitted in the format stipulated in this RFP.

2.3 Solution Vision

Campus core Ethernet Fabric solution should enhance teaching and learning experience within the classrooms, online and upcoming Cyber campus initiative. Ethernet Fabric solution should support college identified future strategic technologies like Open Micro-credentials, Digital assessment, Predictive Learning, virtual reality (VR) / augmented reality (AR), Integration Technologies, Institution management, Smart machines, Listening and sensing technologies, Robotic Telepresence, Affective Computing, Maker Spaces etc..

This Request for Proposal (RFP) will require the vendor to provide all relevant information based on multiple configurations detailed within the RFP.

The selected vendor (or vendors) is/are expected to provide the following hardware, software, installation, configuration, testing, integration services and training:

- a. The vendor of the selected Campus core Ethernet Fabric solution will setup and configure the proposed solution and work with the college's staff to integrate into the existing network infrastructure.
- b. The vendor of the selected Campus core Ethernet Fabric will setup and configure the proposed solution in high availability configuration. The vendor is required to migrate the current current core Cisco and HP switches to the new proposed solution as part of the implementation while providing new functionality and integration with legacy Cisco/HP access switches and the Optical node at each campus.
- c. The vendor of the selected "Campus core Ethernet Fabric" solution will rack install, setup and configure Campus core switches at each campus and integrate the proposed solution into the college's networks. The selected vendor is required to review and understand current core switch hardware and software configurations for successful implementation.
- d. For equipment and software in the proposal, if not manufactured by the vendor, the vendor must include signed copy of the agreement from third party licenses and pertinent warranties.

In summary, the selected vendor (or group of vendors at college discretion) will provide the solution installation, configuration, testing, migration, and eventual final configuration, software updates (if any), training, support and integration services for the proposed solution.

Once a contract has been reached, a purchase order will be cut and development and implementation of the new solution will begin. The system will be rolled out in a phased approach as estimated in the project timeline prepared by the vendor.

The selected vendor (or group of vendors at college discretion) is/are expected to provide equipment and pricing by specifications and requirements contained herein.

The vendors must provide their recommended specifications and optimal configurations of all hardware and software in their proposals.

The proposed solution will be purchased through the proper channels of CCAC procurement.

3.0 SOLUTION REQUIREMENTS

Vendor use information provided at 20.0 Appendix D, Initial Client Side port count for chassis based core switch Ethernet Fabric. Proposed solution should meet or exceed solution requirements. From an installation perspective, vendors must detail any pre-installation, staging, or installation services.

All work must be done under the supervision of a dedicated vendor's most qualified certified core switch network expert (utilizing the resources of other less qualified technical personnel when it's necessary and/or appropriate). The overall technical responsibility of the project is to be carried out by the vendor's dedicated/certified engineer. At project completion, this dedicated engineer must provide and sign-off on the final document(s) to acknowledge the conformity of the work completed by the vendor.

The vendor must inventory all deliverables at the Office of College services with designated CCAC ITS staff person.

If the solution is awarded to multiple vendors, the vendors are responsible for their part of the project including the solution's integration with the college's network and coordination with other vendors working in parallel. Proposed solution should successfully interface physically with DWDM Optical node and provide logical connectivity to far site of the network.

Vendors are required to submit their responses as a comprehensive turnkey solution. Therefore, all submittals must bundle the proposed designed products, vendor approved training, and technical labor, in addition to delineating material and labor in a clearly itemized list (in spreadsheet format), as part of the vendor's proposal. CCAC recognizes that this project involves significant technical capability for successful completion. Any information provided by CCAC with regard to this project is strictly confidential and shall not be disclosed to third parties

The proposed solution(s) must address the technical requirements and design objectives delineated herein. The vendor is solely responsible to deliver a fully functional solution meeting the specifications described herein. After the award of the contract, the awarded vendor (contractor) is responsible for any necessary items not brought to the attention of CCAC before the award in order to complete the project by the specifications & design objectives.

3.1 Design Objectives and hardware and software Requirements

The proposed Ethernet Fabric solution will enable academic success by incorporating innovative use of technology to advance the delivery of instruction and services and support college educational goals.

CCAC's critical business services reside at Office of College Services Network Operation Center (OCS-NOC) and South Campus Disaster Recovery (SO-DR) site.

Most of the CCAC college's business network traffic from Allegheny campus (AL), Boyce campus (BO), South Campus (SO-DR) and North Campus (NO) are destined to OCS-NOC. In case OCS-NOC is unavailable, the college's network traffic is redirected to the disaster recovery site SO-DR.

With respect to above network traffic pattern, CCAC is building point-to-point DWDM network between its sites. Vendors must fulfill port count requirements in designing Ethernet Fabric solution as detailed in 20.0 Appendix D.

The following Ethernet Fabric requirements are mandatory. The vendor response should include the detailed explanation for each requirement stated below in the context of the proposed solution:

- The proposed Ethernet Fabric chassis based switch should have at least eight slots to accommodate future growth. Ethernet Fabric chassis backplane should be nonblocking when populated fully.
- The proposed Ethernet Fabric should support multiple physical network devices interconnect as a single logical entity to deliver edge-to-edge Layer 2 and/or Layer 3 network services.
- The proposed Ethernet Fabric solution must interface with 100GE client side port at DWDM optical node at each site.
- Proposed solution should support bandwidth-intensive applications and services, and new applications with stringent performance requirements associated with real-time applications (e.g., collaboration, streaming desktop, and applications and real-time analytics)
- Proposed solution should support network automation for network device configuration tasks, network fault and performance monitoring and orchestrating the broader configuration change process across physical and virtual infrastructures.
- Proposed solution should support modularity for fault analysis and recovery, standardization for better agility, and automation for the lower operational cost.
- Proposed solution should minimize your risk of downtime by supporting enhanced scalability to the availability and performance.
- Proposed Ethernet Fabric fabric should support network automation by enabling centralized management and zero/low-touch provisioning, especially when adding or removing fabric devices.
- Proposed Ethernet Fabric should support open-standards-based protocols.
- Proposed Ethernet Fabric should support multiple active paths and fast failover, eliminating the need to run the legacy Spanning Tree Protocol by supporting Multi-Chassis Link Aggregation Group, Transparent Interconnection of Lots of Links (TRILL), Shortest Path Bridging (SPB), IP Layer 3 routing, OpenFlow or other protocols.
- Describe proposed Ethernet Fabric solution's hardware and software roadmaps, End-of-sale, End-of-Life, and end-of-support timeline or probable dates
- Proposed Ethernet Fabric solution should supports management by CLI, SSH, secure copy and Web GUI. Does it support RADIUS/TACACS for management security?
- Proposed Ethernet Fabric solution should support logging to a remote Syslog server, support TFTP, and FTP for copying OS images onto the system
- Proposed Ethernet Fabric solution should support SNMPv3 and SNMP traps for monitoring and fault management.
- Proposed access/edge switch should support Ipv4 and IPv6 for static routing, OSPF, OSPF v3, BGP, BGP4, IS-IS, IS-ISv6, MPLS, MPLS VPNs and MPLS-TE, multicast, with complete support of PIM-DM, PIM-SM, PIM-SSM, and MSDP
- Proposed Ethernet Fabric solution vendor is required to provide product roadmap and approximate details of End-of-Life(EOF) in years.

- Proposed solution should include UPS with two-hour hot swappable battery backup to support Ethernet Fabric solution during the power outage. Proposed UPS solution should fit within 19-inch rack.
- Proposed Ethernet Fabric solution should have “performance and availability” at 99.7% or higher.
- Proposed Ethernet Fabric solution should support standards listed at 21 APPENDIX G: STANDARDS SUPPORT FOR CORE SWITCH.

Note: If any of the above requirements cannot be met, CCAC might consider alternative configurations (conforming to other requirements). Please provide detailed explanation if suggesting alternative configurations. If any alternative configuration directly affects another requirement, this should be clearly communicated with the proposal response.

Desired features

- Proposed Ethernet Fabric solution should support northbound APIs, which allow the network to be controlled by external systems.
- The proposed Ethernet Fabric may support controller(or fabric manager) to interact with every physical and/or virtual device to collect network-state view, orchestrate network policy and automate/simplify the operation of fabric device operation.
- Support for Continuous configuration automation (CCA) tools, such as Puppet, Chef and Ansible.
- To better align with college business - configurations should be based on application and business policies, rather than IP addressing and routing rules.

3.2 Implementation Requirements

The college expects the selected vendor to provide industry best practices for management of production services and any specifics related to their proposed solution. It is desired that the solution architecture is designed to accommodate future growth without requiring the college to invest in expensive network architecture redesign. In case the college chooses to work with more than one vendor for the right solution, it is expected that all vendors work together for the successful completion of the project. It is very important for vendors to understand the current network design and configuration and come up with a plan showing proposed solution steps. The following requirements are mandatory:

3.2.1 Testing, Staging and Deployment Schedule

- a. Demonstrate prototype solution showing the configuration as it interoperates with the college’s network.
- b. Describe how the solution works during link and device failure.
- c. Vendors are required to submit the complete plan and action steps clearly specifying execution items.
- d. The vendor is required to provide product road map and its end of life details.

- e. The vendor must provide a summary of known outstanding bugs associated with the current network equipment image/software version.
- f. The vendor must provide a physical and logical network diagram using Visio tool.
- g. Vendors must work in such a manner that college business is not affected in any way. If network down time is inevitable to deliver the proposed solution, at least 15 days' prior written notice is required by the college's ServiceDesk.
- h. It is the vendor's responsibility to install, configure and integrate the complete solution as per college business schedule.

3.2.2 Availability and Business Continuity

The college's information systems operate as a 'virtual campus', where users access these systems from any place at any time. The proposed design is expected to prevent possible single points of failure within the system.

3.2.3 Management and Monitoring

- a. The vendor must specify the recommended and minimum memory, number of CPUs, and disk space for the proposed system hardware and operating system for the network management tool. The system must be installed and updated by ITS personnel on CCAC owned hardware located in the college's network operations center.
- b. Configure the management tool to provide alerts for failures via phone, text messaging, email etc.
- c. Describe how the system logs errors, what error data constituents are documented and how to view useable information from log errors.
- d. Describe any monitoring tools or plug-ins (i.e. Nagios plug-ins) that exists to monitor the system.
- e. Describe how the system monitors status.

3.3 Security and Audit

The solution should not cause security vulnerabilities.

3.4 Training and Support

3.4.1 Training

- a. Provide manufacturer certified training for three CCAC employees to be trained to configure, operate and maintain the proposed solutions and any college requested technology. The assumptions about

the proficiency of the CCAC personnel must be noted. CCAC may use these vouchers at any point in time.

- b. Provide a list of the printed documentation provided for installation, operation, use, and administration of the whole solution.
- c. In addition to formal classroom training, the college requires the vendor to provide on-site training of key concepts including skills transfer specific to the proposed solution. The vendor must specify the type of training provided.
- d. Specify and describe any help files provided by the system, and whether they can be customized for CCAC.

3.4.2 Support

- a. Describe if and how you will provide 24 x 7 support and the time frame of guaranteed initial response time.
- b. Specify whether you will provide on-site support of initial installation.
- c. Describe other services for maintaining the solution in a supported state.
- d. Proposed quote should include pricing for hardware and software support for options 24x7x4, 24x7xNBD and 8x5xNBD.

3.5 Project Deliverables

This RFP address the First phase of the College infrastructure upgrade project. A brief description of each of the three phases is stated below.

1. **RFP CCAC Infrastructure Upgrade Phase 1: Campus Core Switch Upgrade Project:** In the first phase, all CCAC campus core switches will be replaced by new Ethernet Fabric Chassis. New Ethernet Fabric Chassis will provide connectivity to legacy Optical Cisco ONS15454 and edge switches so that CCAC's business continuity is maintained at all time.
2. **RFP CCAC Infrastructure Upgrade Phase 2: Campus Optical Node Upgrade Project:** In the second phase, legacy Optical Cisco ONS15454 will be replaced by the new DWDM Optical node(s) solution. The new DWDM Optical node will integrate with the client(new Ethernet Fabric Chassis) to multiple 100G interfaces.
3. **RFP CCAC Infrastructure Upgrade Phase 3: Campus Edge/Access Switch Upgrade Project:** In the third phase, edge switches will be replaced by new and uplinked to Ethernet Fabric Chassis over two 40G/ (Option 2: 100G) uplinks.

The goal of this RFP is to the complete first phase of network implementation with included deliverables below.

- 1) Project Management Plan
Purpose

The purpose of the Project Management Plan (PMP) documents how the Project Team will plan, execute, monitor, control, and close the project. The PMP details the approach to manage the project and ensure optimal project performance. The PMP should the following plans:

- a) Scope - what is in scope and what is out of scope
 - b) Schedule – include tentative schedule for the entire project from initiation to closing
 - c) Cost – what costs are fixed, recurring or time and materials
 - d) Quality – include quality industry benchmarks or metrics
 - e) Change Management plan – how changes will be managed after go-live
 - f) Staff training – hours and number of staff to be trained
 - g) Communication plan
 - h) Risk Management
 - i) Procurement – include licensing requirement for each equipment, owned or supplied by a third party
 - j) Assumptions – include any known assumptions of your proposed solution that you are making
 - k) Constraints - Include any known constraints of your proposed solution
- 2) A fully functional solution that meets with design objectives, technical requirements, standards and best industry practices for proposed turnkey solution
 - 3) The vendor is responsible for submitting cut-over plan a week before scheduled implementation of Ethernet fabric at each site. The vendor is required to provide rollback plan if original plan did not work as anticipated. Business continuity is paramount, and successful restoration of college business is mandatory before scheduled maintenance is over.
 - 4) The vendor will visit each equipment installation site for “Site readiness” and make recommendations on the environment (temperature etc.), shelves/Rack unit space, and electrical power requirements and electrical receptacle to interface with the proposed solution.
 - 5) Business continuity has to be maintained at all time. Network downtime needs to be scheduled in advance of 15 days.
 - 6) The vendor will visit each equipment installation site, remove old Core switch(s) and patch cords from the rack(s), install new Ethernet Fabric solution into racks and necessary patch cords; Test each connected device to Ethernet Fabric for optimum network throughput and performance.
 - 7) The vendor is solely responsible for arranging necessary patch cords (copper or fiber), compatible transceiver, and power cord(s) to make the proposed solution work.
 - 8) The vendor is required to clean each end of fiber patch cords before insertion.
 - 9) The vendor is solely responsible for labeling at each end of individual patch cables (copper or fiber) and creating documentation for future tracing and troubleshooting.
 - 10) The vendor is solely responsible for porting current core switch Cisco 6513 configuration to new Ethernet Fabric Chassis and integrating with DWDM optical node.
 - 11) The vendor is solely responsible for moving current access switch/switch stack trunk ports from core switch Cisco 6513 to new Ethernet Fabric and making sure users have same level of connectivity as before.
 - 12) The vendor is solely responsible for delivering a fully functional solution meeting the specifications described herein.
 - 13) The vendor is responsible for integrating 100G ports to Optical client ports during the " CCAC Infrastructure Upgrade Phase 2: Campus Optical Node Upgrade Project". The vendor is responsible for

making sure that all sites Core switches(Ethernet Fabric) are successfully communicating and supporting college business applications at optimal throughput.

- 14) The vendor is responsible for UPS installation as part of their proposed solution.
- 15) The vendor will provide technical data on all equipment and component parts.
- 16) The vendor will provide detailed project plan for the preparation, implementation, training, testing and acceptance phases of this project and related technologies.
- 17) The on-site and vendor certified training of CCAC personnel and the verification and testing of all project related technologies.
- 18) A list of acceptance-testing procedures to be followed upon completion of installation to demonstrate the functionality of the system and compliance with these specifications & design objectives.
- 19) A detailed final documentation (upon completion of the project), containing installation, configuration, configuration backup procedures. Restore configuration procedures, contact information, best practices and recommended operating protocol, and procedural guidelines.
- 20) The vendor will guide CCAC personnel on the parameters of security policies to facilitate decision-making regarding operation and maintenance.
- 21) The vendor will provide as-configured documentation to include logical and physical layout diagrams in paper and electronic format (in a Visio drawing format).
- 22) Demonstrate the capability to help in troubleshooting of new Ethernet Fabric Chassis Network outage due to equipment/module failure.
- 23) Create equipment/management application access based on role to the system resources and prevent accidental changes to the system.
- 24) Install and test all equipment and software in the purchase contract between CCAC and the vendor. Ensure the interoperability between the new equipment and the existing network.
- 25) Provide all required training (on and off-site) and documentation on the new equipment. Note section 3.4 Training and Support for details

4.0 SCHEDULE OF EVENTS

RFP release July 17, 2017

Pre-Proposal onsite visit (optional with email to mcvetic@ccac.edu to register with Mr. Michael Cvetic, Director of Purchasing)

1. OCS, OCS-NOC and Allegheny Campus Core TR July 20, 2017

Meet in lobby at 10:00 a.m. 800 Allegheny Ave., Pittsburgh, PA 15233.

2. South Campus Core TR July 21, 2017

Meet at 10:00 a.m. at Security Desk, inside main entrance, around right side of complex, 1750 Clairton Rd., West Mifflin, PA 15122

3. North Campus Core TR July 24, 2017

Meet at 10:00 a.m. at Security Office, 8701 Perry Highway, Pittsburgh, PA 15237

4. Boyce Campus Core TR July 25, 2017

Meet at 10:00 a.m. at Security Office, 595 Beatty Road, Monroeville, PA 15146

5. West Hills Center Core TR July 26, 2017

Meet at 10:00 a.m. at Security Office, bear left up driveway, 1000 McKee Rd., Oakdale, PA 15071

Close date for RFP questions Aug 1, 2017

Proposal due 2:00 PM Aug 8, 2017

Contract signed for "Phase 1: Campus Core Switch Upgrade Project" (estimated)..... August 21, 2017

Implementation to begin (estimated)..... **Week of August 28, 2017**

The project is completed on (estimated)December 22, **2017**

5.0 INSTRUCTIONS TO VENDORS

5.1 RFP Questions and Clarifications

Vendors shall aggregate their requests for clarification and submit them via e-mail to mcvetic@ccac.edu. Contact should be no later than **4:00 PM EDT on August 1, 2017**. Such requests for clarification, and CCAC's response, will be supplied in writing to all parties that have received copies of the RFP, without identifying the source of the inquiry.

5.2 RFP Response Format

Vendors must address all information specified by this RFP. All questions must be answered completely. CCAC reserves the right to verify any information contained in the vendor's RFP response, and to request additional information after the RFP response has been received. Any supplemental information that you provide must be in writing and will become part of your proposal.

Marketing brochures included as part of the main body of the proposal response shall not be considered. Such material must be submitted only as attachments and must not be used as a substitute for written responses. In case of any conflict between the content in the attachments and a vendor's answers in the body of the proposal, the latter will prevail.

5.3 Cover Letter

The proposal must be accompanied by a cover letter, signed by an individual authorized to bind the proposed entity.

5.4 Vendor Profile and Demographics

Provide a statement giving a brief history of your company, how it is organized, and how its available products and of years under the present business name.

- a. The number of years that the vendor has been providing the specific solution that forms part of its current proposal.
- b. A description of the vendor's operations: facilities, business and objectives, and the number of employees.

5.5 Financial Information

Upon request (within 48 hours) the vendor shall provide a complete set of audited financial statements for the past three years. All financial statements should be prepared to generally accepted accounting principles. Each vendor should note that CCAC reserves the right to purchase credit reports and additional financial information as it deems necessary. The vendor shall also provide a copy of its corporate annual report.

5.6 Proposal Submission

Vendors' proposals should be mailed/delivered to the following address:

Mr. Michael Cvetic
Assistant Director of Purchasing
Community College of Allegheny County
800 Allegheny Avenue
Pittsburgh, PA 15233-1895

Please note that it is the vendor's responsibility to ensure that the proposal and all other required documents are received at the address named above by the closing date specified above. CCAC will be the sole judge of the qualifications of all prospective candidates, and reserves the right to reject any and all submittals without recourse.

CCAC is aware that information contained in the proposals indicates the vendor's current operations. Therefore, use of this information shall be confined to this request and will be treated as confidential.

Vendors shall bear all costs associated with preparing and submitting responses to this RFP and the subsequent evaluation phase. CCAC will, in no way, be responsible for these costs, regardless of the conduct or outcome of the prequalification process.

5.7 Proposal Evaluation

The evaluation process may include:

- a. Detailed description and presentation of DWDM solution at College Office, 800 Allegheny Avenue, PA 15233
- b. A detailed technical evaluation to determine conformity to the requirements.
- c. After completing the evaluation phase of the process, CCAC will enter into contract/financial negotiations with identified vendors. The final selection will be based on the satisfactory outcome of these negotiations.

5.8 Preliminary Examination

CCAC will examine the proposals to determine whether they are complete, that the documents have been properly signed and that they are compliant with the general proposal requirements.

5.9 Detailed Technical Evaluation

An evaluation of proposed products will generally include an assessment of the viability of those products in the proposed solution. These assessments will be based on an established installed base, market share and growth trends, for which vendors must provide supporting information.

Evaluation will also include the fit and integration with related CCAC infrastructure, system environments and business applications. Technical merits and features will be reviewed against the requirements identified in the vendor and technical requirements sections of this document.

5.10 References

The vendor should provide details of three to five customers for reference. References should be for customers with objectives and requirements similar to those of CCAC. References should include information about the contract (specific products in use, date of contract execution, "go live" and completion date and any services provided), as well as contact information for the client's project manager or other senior staff members familiar with the project. CCAC reserves the right to contact these references and discuss the client's level of satisfaction with the vendor and its products.

5.11 Sample of Proposed Systems

Vendor must submit samples of proposed systems prior to proposal due date. Samples will be returned to vendor after testing. Vendors might be asked to demonstrate certain features. Exact-configuration sample models are required.

5.12 Treatment of Information

All information about CCAC provided during the RFP process shall remain under nondisclosure and cannot be released without the express permission of CCAC. The vendor may not make any public announcements or news releases pertaining to the vendor's intent to enter into an agreement without CCAC's prior written permission.

6.0 VENDOR REQUIREMENTS:

6.1 Operational requirements:

- a. The vendor must be flexible in modifying their project plan timeframe to meet the college's project demands. The project must be completed within the published timeframe.
- b. The vendor shall furnish acceptable evidence of the proposed systems in use by other schools/institutions. Vendor to provide 3 references.
- c. CCAC recognizes that this project involves significant technical capability for successful completion. Any information provided by CCAC with regard to this project is strictly confidential and shall not be disclosed to third parties.
- d. Any information provided by CCAC or any vendor prior to the release of this RFP, verbally or in writing, is considered preliminary and is not binding for CCAC or the vendor.
- e. No interpretation of the meaning of the specifications or other proposal documents, or correction of any apparent ambiguity, inconsistency, or error therein will be made orally to any vendor. Every request for such interpretation or correction must be in writing, addressed to a CCAC agent. In case CCAC finds it expedient to supplement, modify, or interpret any portion of the proposal documents prior to the proposal due date, such procedure will be accomplished by the issuance of written addenda to the RFP which will be e-mailed, mailed, faxed, or delivered to all prospective vendors at the respective address furnished for such purpose.
- f. All addenda must be acknowledged in writing and included within the proposal documents submitted by the vendor.
- g. This RFP, any subsequent addenda, and any written responses to questions take precedence over any information previously provided.
- h. The solution integration and interoperation may necessitate some changes on the college's existing information technology systems. In such case, the proposed changes have to be reviewed and approved by the appropriate college staff.
- i. Clarification and Interpretation of RFP:

The words "must", "will", "should", or "shall", in this RFP indicate mandatory requirements. Taking exception to any mandatory requirement may be grounds for rejection of the proposal.

- j. A proposal, which is in any way incomplete, irregular, or conditional, will not be accepted unless approved in advance by CCAC.
- k. The college expects the new solution to be delivered within sixteen weeks of issuance of the PO(s). Purchase order will reflect exact purchase requirements.
- l. THE VENDOR MUST ENSURE INTEGRATED OPERABILITY BETWEEN THE NEWLY INSTALLED SOLUTION AND THE COLLEGE'S EXISTING INFORMATION RESOURCES FOR A 60-DAY PERIOD FOLLOWING THE NEW SOLUTION INSTALLATION BEFORE THE COLLEGE SHALL PROVIDE THE PROJECT SIGN-OFF. ONCE THE SIGN-OFF IS MADE, THE REMAINING 25% OF THE AWARD WILL BE REMITTED TO THE VENDOR, MINUS PENALTIES.
 - a. Note: Installation is not required
- m. The vendor must address the technical requirements delineated herein and professional services objectives identified in section 2.3 Solution Vision. After the award of the contract, the awarded vendor (contractor) is responsible for any necessary item not brought to the attention of CCAC before the award in order to complete the project.
- n. It is not the intent of this specification to describe all technical requirements essential to operation, installation, and management of the solution, nor to set forth those requirements adequately covered by applicable codes, industry standards, and accepted trade practices. It's the vendor's responsibility to implement and deliver a fully functioning, complete, optimized system that meets the criteria of all objectives, technical and functional requirements.

7.0 VENDOR COMPLIANCE MATRIX

The accompanying Vendor Compliance Matrix must be completed by each respondent (**Attachment 1**).

8.0 REQUIRED SUBMITTALS

The College requires that responses to this solicitation contain the following information:

- ☐ **SUBMITTAL FORM –1:** Vendor must complete, sign, and submit this page with their proposal response.
- ☐ **PRICING SUMMARY PAGES:** Submit the designated Pricing Page (and attach detailed pricing breakdown).
- ☐ **VENDOR COMPLIANCE MATRIX – (see Attachment 1):** Vendor must complete, sign, and submit this form with their proposal response.
- ☐ **REQUIRED DOCUMENTATION:** Submit all documentation and support materials as described throughout this RFP.
- ☐ **REFERENCES –** submit at least three customer references for similar services.

- ❑ **MBE/WBE PARTICIPATION:** CCAC encourages the participation of minority and women-owned businesses in all of its contracts and is committed to providing maximum opportunities for qualified minority and/or women-owned business enterprises ("MBE/WBEs") to participate in its work. Vendor agrees (1) if qualified, to take reasonable and timely steps to obtain appropriate certification as an MBE and/or WBE, (2) to ensure that MBE and/or WBEs are appropriately considered as subcontractors and/or suppliers under this Agreement; and (3) to report moneys spent for MBE and/or WBE subcontractors and/or suppliers for work as CCAC may from time to time reasonably request. CCAC's goal for MBE/WBE participation is 15%. Please provide documentation as to your firm's good faith effort to reach this goal by describing all applicable details of MBE/WBE participation that may be included in the resulting agreement.

9.0 GENERAL SUBMITTAL REQUIREMENTS

- ❑ All proposal responses, inclusive of the required submittals and all other documentation, must be submitted in hard copy and either mailed, delivered by private carrier, or hand-delivered (no fax or electronic responses).
- ❑ **PROPOSAL DEADLINE:** Proposals are due by 2:00 p.m. Tuesday, August 8, 2017. (Proposals received late will not be considered by the College.)

One original and one digital copy (disk or flash drive) such shall be appropriately identified and delivered to: Community College of Allegheny County, Purchasing Department - Attn: Michael Cvetic, 800 Allegheny Avenue, Pittsburgh, PA 15233

- ❑ Proposals shall clearly indicate company name, full address, contact person, phone number, fax number and e-mail address.
- ❑ Proposals must contain the original signature of a duly authorized officer or agent of the company submitting the proposal.
- ❑ Any/all information/language that is proposed to be incorporated into any final agreement shall be submitted with the vendor's response.
- ❑ All costs incurred in preparing a response shall be at the vendor's expense.

- ❑ **VENDOR REPRESENTATION / WARRANTY**

Any responding vendor, by submitting a proposal, specifically represents and warrants that it has and shall possess, and that its employees, agents and subcontractors have and shall possess, the required education, knowledge, experience and character necessary to qualify them individually for the particular duties they perform. CCAC shall reserve the right to inspect and/or evaluate any potential awardee's facility, physical equipment, staff, and all matters that may bear upon the ability to successfully perform the scope of work. CCAC shall conduct interviews of vendors as needed to evaluate qualifications. Should CCAC reasonably find that any vendor does not have the capacity to perform the work, CCAC may reject the vendor's proposal.

□ CONTRACTOR INTEGRITY PROVISIONS

The awarded Contractor must agree and abide by the following integrity, confidentiality and non-disclosure provisions:

- **COLLEGE'S INTERESTS:** Contractor agrees that it will not during the term of the resulting agreement engage in any activity which is contrary to and in conflict with the best interests, goals and purposes of the College.
- **CONFIDENTIALITY:** The Contractor shall not disclose to others any confidential information gained by virtue of the proposal process and the resulting contract.
- **COMPLIANCE WITH APPLICABLE LAW:** The Contractor shall maintain the highest standards of integrity in the performance of the contract and shall take no action in violation of state or federal laws, regulations, or any other requirements that govern contracting with the College.
- **PREVIOUS PERFORMANCE CONSIDERATIONS:** Contracts will not be awarded by the College to any corporation, firm or individual that has failed in any former contract with the College to perform or complete work or, in the College's sole judgment, to satisfactorily deliver or provide the quality of materials, fulfill any guarantee(s) or complete work in accordance with the schedule for such prior contract.

10.0 GENERAL TERMS AND CONDITIONS OF THE AWARDED CONTRACT

Execution of a written contract, with terms and conditions in such form attached hereto under **Appendix A (Master Service Agreement)**, will be required by any company selected to perform the work that is the subject of this RFP. The final, executed contract will incorporate this RFP document, any addenda to the RFP issued by the College, and those portions of the selected vendor's proposal designated as accepted by College.

The Master Service Agreement (MSA) and any documents referred to or incorporated therein and/or attached thereto shall be complementary, and what is called for by any one shall be as binding as if called for by all. If, with respect to any subject, the terms and conditions set forth in such documents and attachments are consistent with the terms and conditions of the MSA, then their provisions and requirements shall be deemed cumulative and Seller shall comply with each provision and requirement. However, to the extent that any provision in such documents is, or may be, inconsistent with a provision therein, on the same subject or a part of a subject, then the Contractor shall comply with the provision which is most favorable to College, as determined by College.

Any terms and conditions of a responding vendor that are in conflict with the College's terms and conditions, inclusive of any specific contractual requirements, must be identified within the vendor's response. CCAC, at its sole discretion, may negotiate the inclusion, exclusion, or alteration of any language, terms, pricing or conditions prior to the issuance of a signed contract or, if applicable, throughout the term of the contract.

Systems proposed must be fully functional. The cost of any omissions will be the responsibility of the vendor.

11.0 INSURANCE AND INDEMNIFICATION REQUIREMENTS

The awarded Contractor agrees to comply with the College's insurance and indemnification requirements as stated in **Form B** attached and incorporated herein. An insurance certificate that meets all requirements must be submitted by the Contractor prior to any work being performed.

12.0 EVALUATION AND AWARD OF PROPOSALS

While each proposal shall be considered objectively, CCAC reserves the right to accept or reject any proposal and to waive any formalities, informalities or technicalities in the RFP process at its own discretion.

CCAC will not be bound by oral explanations or instructions given by any CCAC employee or agent at any time during the competitive proposal process or after award. Only modifications to specifications issued in writing by way of an addendum shall be valid.

CCAC may award this RFP in any manner that is deemed to be in the college's best interest.

13.0 FORM B

COMMUNITY COLLEGE OF ALLEGHENY COUNTY INSURANCE AND INDEMNIFICATION REQUIREMENTS

FORM B

Indemnification. To the fullest extent permitted by law, Contractor shall defend, indemnify and hold harmless the Community College of Allegheny County (CCAC), its agents, officers, employees, and volunteers from and against all claims, damages, losses, and expenses (including but not limited to attorney fees and court costs) to the extent directly arising from the acts, errors, mistakes, omissions, work or service of Contractor, its agents, employees, or any tier of its subcontractors in the performance of this Contract. The amount and type of insurance coverage requirements of this Contract will in no way be construed as limiting the scope of indemnification in this Paragraph.

Insurance. Contractor shall maintain during the term of this Contract insurance policies described below issued by companies licensed in Pennsylvania with a current A.M. Best rating of A- or better. At the signing of this Contract, and prior to the commencement of any work, Contractor shall furnish the CCAC Procurement Department with a Certificate of Insurance evidencing the required coverages, conditions, and limits required by this Contract at the following address: Community College of Allegheny County, Procurement Department, 800 Allegheny Avenue, Pittsburgh, PA 15233.

The insurance policies, except Workers' Compensation and Professional Liability (as applicable), shall be endorsed to name Community College of Allegheny County, its agents, officers, employees, and volunteers as Additional Insureds with the following language or its equivalent:

Community College of Allegheny County, its agents, officers, employees, and volunteers are hereby named as additional insureds as their interest may appear.

All such Certificates shall provide a 30-day notice of cancellation. Renewal Certificates must be provided for any policies that expire during the term of this Contract. Certificate must specify whether coverage is written on an Occurrence or a Claims Made Policy form.

Insurance coverage required under this Contract is:

- 1) **Commercial General Liability** insurance with a limit of not less than \$1,000,000 per occurrence for bodily injury, property damage, personal injury, products and completed operations, and blanket contractual coverage, including but not limited to the liability assumed under the indemnification provisions of this Contract.
- 2) **Automobile Liability** insurance with a combined single limit for bodily injury and property damage of not less than \$1,000,000 each occurrence with respect to Contractor's owned, hired, and non-owned vehicles.
- 3) **Workers' Compensation insurance with limits statutorily required by any Federal or State law and Employer's Liability insurance of not less than \$100,000 for each accident, \$100,000 disease for each employee, and \$500,000 disease policy limit.**

14.0 SUBMITTAL FORM

SUBMITTAL FORM - page 1 of 3

All responses must be typewritten or printed. If an explanation is requested or additional space is required, please include additional pages as required and sign each additional page. The signatory represents and warrants the accuracy of all information and responses provided on this form. Failure to submit a fully completed Submittal Form may cause the proposal to be deemed non-responsive and disqualified from further review. If a change occurs which would necessitate a modification of any response, the proposer should submit an updated form to the CCAC Procurement Department within thirty (30) calendar days.

GENERAL INFORMATION

1. **Legal Name of Organization:** _____
2. **Principal Office/Business Address:**
Street Address: _____

City/State: _____
Zip Code: _____
3. **Business Phone Number:** _____
4. **Fax Number:** _____
5. **Website Address:** _____
6. **Location of Branch Offices:** _____
7. **Years in Business:** _____
8. **Number of Employees:** _____
9. **Federal Employer Tax ID No.:** _____

ORGANIZATION STRUCTURE

1. Type of Business Entity (check one):

☐ Corporation ☐ Partnership ☐ Other (*please attach document describing ownership structure*)

2. Corporation Information (if applicable):

Date of Incorporation: _____
State of Incorporation: _____
President: _____
Vice-President(s): _____
Secretary: _____
Treasurer: _____

3. Partnership Information (if applicable):

Date of Organization: _____
Type (limited; general): _____
Name/Addresses of Partners: _____

4. Are you a certified M/W/DBE? ☐ YES ☐ NO

If “YES”, list certification number and classification:

5. Indicate whether you anticipate subcontracting any portion of these services, and the names and addresses of any proposed subcontractors:

6. List any and all other legal and DBA names under which your firm has operated during the past ten (10) years, including dates when used and the reasons for the subsequent change in name(s):

7. State whether any firm owner, partner or officer has operated a similar business in the past ten (10) years. Include the names and addresses of each such business:

CONTACT INFORMATION FOR RFP RESPONSE

Please provide the requested information for the individual(s) responsible for preparing your organization's response to this RFP and/or to whom requests for additional information or clarification should be directed:

Name: _____
Title: _____
Address: _____

City/State/Zip: _____
Phone Number: _____
Fax Number: _____
Email: _____

ACKNOWLEDGMENT AND SIGNATURE

The undersigned, having carefully examined all sections and attachments to this Request for Proposal (RFP), does hereby offer to furnish all labor, materials, equipment, supplies, insurance and any bonds specified, and all services necessary to fulfill the requirements set forth in the RFP. The undersigned further represents and warrants by its signature below that it has fully reviewed and understands all elements of the RFP, that all information submitted by it or included with its proposal, including all responses on this Submittal Form, is truthful and accurate, and that it agrees to be bound by all terms and conditions set forth in the RFP, any resulting addenda, and its attachments.

STATEMENT OF NON-COLLUSION

The undersigned also certifies that this proposal is made without previous understanding, agreement or connection with any person, firm, or corporation making a proposal on this same service and is in all respects, fair and without collusion or fraud.

Company Name: _____
Signature **of** _____
Representative: _____
Printed Name **of** _____
Representative: _____
Title: _____
Date: _____

15.0 PERFORMANCE BOND REQUIREMENTS

Performance Bond Required of Awarded Vendor – \$25,000.00

Must use the college's form on the next page.

In lieu of a performance bond, the awarded vendor may submit either a certified or cashier's check or an Irrevocable Letter of Credit in the amount of \$25,000.00.

Irrevocable Letter of Credit shall be as follows:

A contractor or supplier to the Community College of Allegheny County may substitute an Irrevocable Letter of Credit in lieu of a Performance Bond. If this option is chosen by the contractor or supplier, the Irrevocable Letter of Credit must include the following terms.

- a. The terms of payment must be stated as follows:

“The drafts must be accompanied by your (CCAC) signed statement certifying that the contractor has not performed satisfactorily in accordance with the specifications and conditions of the contract.

Unsatisfactory performance will be determined solely by the Community College of Allegheny County”.

- b. The Irrevocable Letter of Credit must be payable and confirmed through a correspondent bank headquartered within the United States and which has total assets of at least \$5 billion.

Any performance bond, certified/cashier's check, or Irrevocable Letter of Credit submitted by the awarded vendor shall remain in effect (certified/cashier's check held by CCAC) for a period of ninety days beyond the final date of acceptance and signoff by CCAC.

16.0 PERFORMANCE BOND

COMMUNITY COLLEGE OF ALLEGHENY COUNTY

800 Allegheny Avenue, Pittsburgh, Pennsylvania 15233

BOND NUMBER _____

PERFORMANCE BOND

Know all men by these Presents that we _____
(hereinafter called "Principal") as Principal, and _____

authorized to do business in the Commonwealth of Pennsylvania (hereinafter called "Surety") as Surety,
are held and firmly bound unto the Community College of Allegheny County, through its Board of Trustees,
_____ in the sum of _____

to be paid to the said College aforesaid, its certain attorney, or assigns. To which payment will and truly be
made, said principal and said surety to bind themselves, their respective successors or assigns jointly and
severally, firmly by these presents.

WITNESS our hands and seals, the _____ day of _____ the year of our Lord
2009.

WHEREAS the above bounded _____
has filed with the Community College of Allegheny County proposals for the _____
_____. The Condition of the above Obligation is such that if the said
_____ shall perform _____ In
accordance with the agreement between _____
and the Community College of Allegheny County of even date herewith and the specifications and proposals
attached to and made part of the agreement, shall indemnify and save harmless the said Community College
of Allegheny County from all liens, charges, demands, losses and damages of every kind and nature,
whatsoever. Then this obligations to be void, otherwise to be and remain in full force and virtue.

Attest:

CONTRACTOR

(SEAL)

SECRETARY

PRESIDENT

Signed, Sealed, and Delivered in presence of:

(SEAL)

SURETY COMPANY

WITNESS

ADDRESS

TITLE

17.0 APPENDIX A

MASTER SERVICES AGREEMENT

THIS MASTER SERVICES AGREEMENT ("Agreement") is made and entered into as of this ____ day of _____, 2017, by and between Community College of Allegheny County, with a business office located at 800 Allegheny Avenue, Pittsburgh, PA 15233 (hereinafter referred to as the "College"), and the company or business listed on the signature page hereto (hereinafter referred to as "Contractor").

RECITALS

WHEREAS, the College has issued a Request for Quotation, Proposal Solicitation, Request for Proposal, and/or a Purchase Order (hereinafter individually and collectively referred to as the "Order"), pursuant to

Proposal No.

which College seeks to procure certain work and services, as more fully described on the Order; and

WHEREAS, Contractor has submitted a proposal to the College to provide the services described in the Order, a copy of which is attached hereto as Exhibit A (hereinafter the "Proposal") and incorporated by reference;

WHEREAS, the College desires to engage Contractor to provide the services, pursuant to and in accordance with the terms and conditions that this Agreement set forth herein.

NOW, THEREFORE, in consideration of the premises and covenants that this Agreement contains, the receipt and adequacy of which are hereby acknowledged, the parties, intending to be legally bound, agree as follows:

1. Term. The term of this Agreement shall be as specified in the Order unless otherwise stated in the section below. If no date is specified, this Agreement shall begin with the date first stated above and terminate upon satisfactory completion of the services described herein.
2. Services. Contractor shall fully and faithfully perform the work and services described in the Order and the Proposal and any specifications, scope of work or other documentation attached thereto. Contractor warrants that all work and services performed by or on behalf of it under this Agreement will conform to all terms and specifications set forth in the Order and in the Proposal.
3. Price/Fees: The College shall pay Contractor for the services and work performed by Contractor in accordance with the fees and/or prices set forth in the Proposal.
4. Terms and Conditions: This Agreement, and the services to be performed by Contractor hereunder, will be subject to and governed by College's Standard Terms and Conditions for the Purchase of Goods and Services ("Master Terms"), which are incorporated herein by reference. The Master Terms can be viewed and downloaded at

https://www.ccac.edu/Terms_and_Conditions.aspx. By signing below, Contractor acknowledges its receipt and acceptance of the Master Terms.

5. Insurance Requirements: In addition to the Master Terms, Contractor shall comply with the insurance and indemnification requirements set forth on Exhibit B, which are incorporated herein by reference. Prior to commencing performance of the Services, Contractor shall furnish to the College a properly executed certificate(s) of insurance which evidence all insurance required by Exhibit B. Said certificate(s) of insurance shall be attached herein as Exhibit C.

6. Assignment. Contractor may not assign or subcontract this Agreement or its performance thereof, in whole or in part, without the College's prior written consent.

7. Entire Agreement; Modification. This Agreement, together with the Exhibits and other documents referenced and incorporated herein, sets forth the entire agreement of the parties on the subject matter hereof and supersedes all previous or concurrent agreements between them, whether oral or written. Any proposal, quotation, acknowledgment, confirmation or other writing submitted by Contractor to the College shall not be deemed to amend or modify this Agreement, and will be of no legal effect except to the extent that it serves to identify the work and services to be performed by the Contractor. This Agreement, and the terms set forth in the Master Terms, will control over any conflicting terms or provisions contained in any proposal, invoice or other documentation submitted by Contractor to College. The terms of this Agreement may not be modified or changed except by a writing that both parties sign. This Agreement shall inure to the benefit of the College and Contractor and the College's successors and assigns.

IN WITNESS WHEREOF, the parties have executed this Agreement as of the day and year first above written.

CONTRACTOR:

By: _____

Signature: _____

Title: _____

Date: _____

COMMUNITY COLLEGE

OF ALLEGHENY COUNTY:

By: _____

Signature: _____

Title: _____

Date: _____

EXHIBITS - The following Exhibits are attached hereto and made a part of this Agreement for all purposes:

- ☐ Exhibit A - Contractor's Proposal Response
- ☐ Exhibit B - Insurance Requirements
- ☐ Exhibit C - Contractor's Certificate(s) of Insurance.
- ☐ Exhibit D - Performance and Payment Bonds
- ☐ Exhibit E - No-Lien Agreement

18.0 APPENDIX B Pricing Page

PRICING PAGE – RFP 3093 - Infrastructure Upgrade Phase 1: Campus Core Switch Upgrade Project

In addition to this Pricing Summary Page, vendors must submit **complete and itemized listings** of all proposed charges (i.e.: equipment, parts, and materials; software, shipping; labor, installation, integration, and implementation; maintenance options; etc.). Systems proposed must be fully functional. The cost of any omissions will be the responsibility of the vendor.

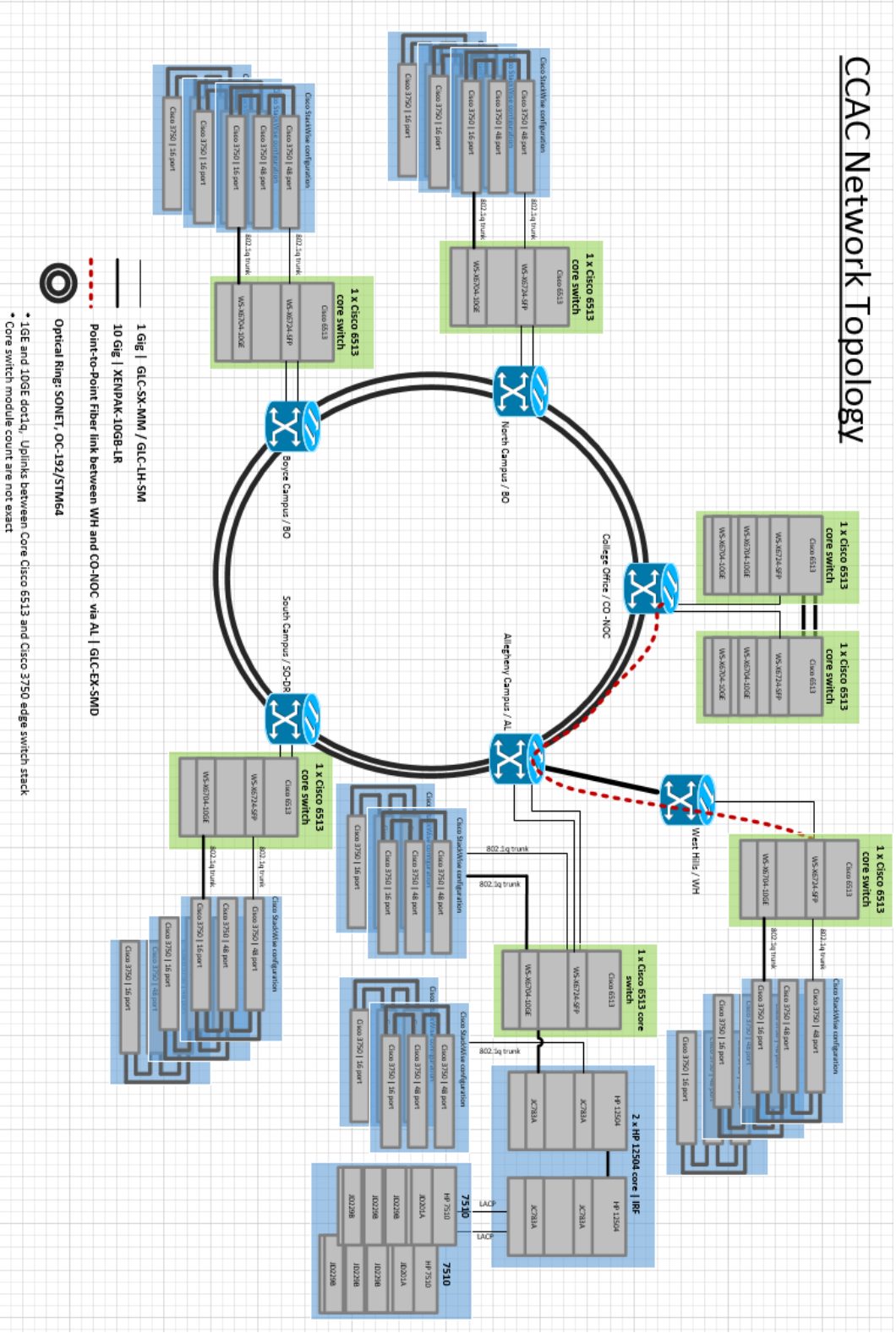
Lump Sum Hardware Cost	\$
Lump Sum Software Cost	\$
Lump Sum Labor, Installation, Integration, Implementation, Testing, Training, and Other Costs	\$
Grand Total	\$

Annual Hardware and Software Maintenance Options:

24 x 7 x 4	\$
24 x 7 x NBD	\$
8 x 5 x NBD	\$

Vendor Name: _____

19.0 APPENDIX C:Network Topology Diagram



20.0 APPENDIX D: Chassis Based Ethernet Fabric Core switch Ports Count

Site: College Office(CO-NOC)		
Part Number	Description	Qty
	Core Chassis Ethernet Fabric	2
	100GE ports; Non-blocking, Distributed among at least 2 modules	8
	Modules with 48 port, 1G , supporting copper/fiber transceiver	6
	Modules supporting 40G ports with Direct-attach breakout option for 10G copper or optical	2
	1GE copper ports transceiver	192
	1GE Fiber ports transceiver, LH SM	4
	1GE Fiber ports transceiver, SX MM	6
	10GE fiber ports transceiver, LR , $\lambda=1310\text{nm}$	30
	10GE fiber ports transceiver, SR , $\lambda=850\text{nm}$	30
	10GE copper ports transceiver	10
	40GE fiber ports transceiver	4

Site: Allegheny Campus (AL)		
Part Number	Description	Qty
	Core Chassis Ethernet Fabric	2
	100GE ports; Non-blocking, Distributed among at least 2 modules	6
	Modules with 48 port, 1G , supporting copper/fiber transceiver	2
	Modules supporting 40G ports with Direct-attach breakout option for 10G copper and optical	2
	1GE copper ports transceiver	24
	1GE Fiber ports transceiver, LH SM	15
	1GE Fiber ports transceiver, SX MM	10
	10GE fiber ports transceiver, LR , $\lambda=1310\text{nm}$	82
	10GE copper ports transceiver	4
	40GE fiber ports transceiver	4

Site: South Campus(SO-DR)		
Part Number	Description	Qty
	Core Chassis Ethernet Fabric	2
	100GE ports; Non-blocking, Distributed among at least 2 modules	8
	Module with 48 port, 1G , supporting copper/fiber transceiver	2
	Module supporting 40G ports with Direct-attach breakout option for 10G copper and optical	2
	1GE copper ports transceiver	30
	1GE Fiber ports transceiver, LH SM	2
	1GE Fiber ports transceiver, SX MM	24
	10GE fiber ports transceiver, LR , $\lambda=1310\text{nm}$	24
	10GE copper ports transceiver	0
	40GE fiber ports transceiver	0

Site: Boyce Campus (BO)		
Part Number	Description	Qty
	Core Chassis Ethernet Fabric	2
	100GE ports; Non-blocking, Distributed among at least 2 modules	4
	Module with 48 port, 1G , supporting copper/fiber transceiver	1
	Module supporting 40G ports with Direct-attach breakout option for 10G copper and optical	1
	1GE copper ports transceiver	24
	1GE Fiber ports transceiver, LH SM	8
	1GE Fiber ports transceiver, SX MM	8
	10GE fiber ports transceiver, LR , $\lambda=1310\text{nm}$	20
	10GE copper ports transceiver	0
	40GE fiber ports transceiver	0

Site: North Campus (NO)		
Part Number	Description	Qty
	Core Chassis Ethernet Fabric	2
	100GE ports; Non-blocking, Distributed among at least 2 modules	4
	Module with 48 port, 1G , supporting copper/fiber transceiver	1
	Module supporting 40G ports with Direct-attach breakout option for 10G copper and optical	1
	1GE copper ports transceiver	24
	1GE Fiber ports transceiver, LH SM	6
	1GE Fiber ports transceiver, SX MM	12
	10GE fiber ports transceiver, LR , $\lambda=1310\text{nm}$	12
	10GE copper ports transceiver	0
	40GE fiber ports transceiver	0

Site: West Hills(WH)		
Part Number	Description	Qty
	Core Chassis Ethernet Fabric	2
	100GE ports; Non-blocking, Distributed among at least 2 modules	2
	Module with 48 port, 1G , supporting copper/fiber transceiver	2
	Module supporting 40G ports with Direct-attach breakout option for 10G copper and optical	1
	1GE copper ports transceiver	24
	1GE Fiber ports transceiver, LH SM	2
	1GE Fiber ports transceiver, SX MM	10
	10GE fiber ports transceiver, LR , $\lambda=1310\text{nm}$	4
	10GE copper ports transceiver	0
	40GE fiber ports transceiver	0

Note:

- For optimum “throughput and performance” compatibility and interoperability between new edge/access switch (Infrastructure Upgrade Phase 3: Campus Edge/Access Switch Upgrade Project) and campus core Ethernet fabric, it is highly recommended to quote for both “RFP CCAC Infrastructure Upgrade Phase 1: Campus Core Switch Upgrade Project “ and “ RFP CCAC Infrastructure Upgrade Phase 3: Campus Edge/Access Switch Upgrade Project”

21.0 APPENDIX G: STANDARDS SUPPORT FOR CORE SWITCH

Quality of Service

Layer 2 QoS
Layer 3 QoS
802.1p,
L2-L4 classification criteria
Congestion avoidance capabilities

Multicast

IGMP: v1, v2, v3
IGMP snooping
PIM-SM, PIM-SSM, PIM-DM

Access Security

802.1X port-based
802.1X multiple supplicants
802.1X with VLAN assignment
802.1X with authentication bypass access (based on host
MAC address)
802.1X Supported Extensible Authentication Protocol (EAP types): Message Digest 5 (MD5), Transport
Layer Security (TLS), Tunneled TLS (TTLS), Protected Extensible Authenticated Protocol (PEAP)
RADIUS
TACACS+
SSHv2
Secure copy
HTTP/HTTps
System logging
Temperature sensor
Configuration backup via FTP/secure copy

Layer 2 Switching

Compatible with Per-VLAN Spanning Tree Plus (PVST+)
IEEE 802.1AB: Link Layer Discovery Protocol (LLDP)
LLDP-MED with VoIP integration
IEEE 802.1p: CoS prioritization
IEEE 802.1Q: VLAN tagging
IEEE 802.1X: Port Access Control
IEEE 802.3: 10BASE-T
IEEE 802.3u: 100BASE-T
IEEE 802.3ab: 1000BASE-T
IEEE 802.3z: 1000BASE-X
IEEE 802.3ae: 10-Gigabit Ethernet
IEEE 802.3ba: 40-Gigabit Ethernet
IEEE 802.3af: Power over Ethernet
IEEE 802.3at: Power over Ethernet Plus

Spanning Tree

IEEE 802.1D: Spanning Tree Protocol

IEEE 802.1s: Multiple instances of Spanning Tree Protocol(MSTP)

IEEE 802.1w: Rapid reconfiguration of Spanning Tree Protocol

Link Aggregation

IEEE 802.3ad: Link Aggregation Control Protocol

802.3ad (LACP) support:

Supported RFCs

RFC 768 UDP

RFC 783 TFTP

RFC 791 IP

RFC 792 ICMP

RFC 793 TCP

RFC 826 ARP

RFC 854 Telnet client and server

RFC 894 IP over Ethernet

RFC 903 RARP

RFC 906 TFTP Bootstrap

RFC 951, 1542 BootP

RFC 1027 Proxy ARP

RFC 1112 IGMP v1

RFC 1492 TACACS+

RFC 1519 CIDR

RFC 1587 OSPF NSSA Option

RFC 1591 DNS

RFC 1812 Requirements for IP Version 4 Routers

RFC 1981 Path MTU Discovery for IPv6

RFC 2030 SNTP, Simple Network Time Protocol

RFC 2068 HTTP server

RFC 2131 BOOTP/DHCP relay agent and DHCP server

RFC 2138 RADIUS Authentication

RFC 2139 RADIUS Accounting

RFC 2154 OSPF w/Digital Signatures (Password, MD-5)

RFC 2236 IGMP v2

RFC 2267 Network Ingress Filtering

RFC 2328 OSPF v2 (Edge-mode)

RFC 2338 VRRP

RFC 2362 PIM-SM (Edge-mode)

21.0 APPENDIX G: STANDARDS SUPPORT FOR CORE SWITCH - CONTINUED

RFC 2460 Internet Protocol, Version 6 (IPv6) Specification
RFC 2461 Neighbor Discovery for IP Version 6 (IPv6)
RFC 2463 Internet Control Message Protocol (ICMPv6) for the Internet Protocol Version 6 (IPv6) Specification
RFC 2464 Transmission of IPv6 Packets over Ethernet Networks
RFC 2474 DiffServ Precedence, including 12 queues/port
RFC 2475 DiffServ Core and Edge Router Functions
RFC 2526 Reserved IPv6 Subnet Anycast Addresses
RFC 2597 DiffServ Assured Forwarding (AF)
RFC 2598 DiffServ Expedited Forwarding (EF)
RFC 2740 OSPF for IPv6
RFC 2925 MIB for Remote Ping, Trace
RFC 3176 sFlow
RFC 3376 IGMP v3
RFC 3484 Default Address Selection for Internet Protocol Version 6 (IPv6)
RFC 3513 Internet Protocol Version 6 (IPv6) Addressing Architecture
RFC 3569 draft-ietf-ssm-arch-06.txt PIM-SSM PIM Source Specific Multicast
RFC 3579 RADIUS EAP support for 802.1x
RFC 3618 Multicast Source Discovery Protocol (MSDP)
RFC 3623 OSPF Graceful Restart
RFC 4213 Basic Transition Mechanisms for IPv6 Hosts and Routers
RFC 4291 IPv6 Addressing Architecture

Supported MIBs

RFC 1155 SMI
RFC 1157 SNMPv1
RFC 1212, RFC 1213, RFC 1215 MIB-II, Ethernet-Like MIB and TRAPs
RFC 1493 Bridge MIB
RFC 1643 Ethernet MIB RFC 1657 BGP-4 MIB
RFC 1850 OSPFv2 MIB
RFC 1905 RFC 1907 SNMP v2c, SMIv2 and Revised MIB-II
RFC 2011 SNMPv2 for Internet Protocol using SMIv2
RFC 2012 SNMPv2 for transmission control protocol using SMIv2
RFC 2013 SNMPv2 for user datagram protocol using SMIv2
RFC 2096 IPv4 Forwarding Table MIB
RFC 2287 System Application Packages MIB
RFC 2570 – 2575 SNMPv3, user based security, encryption, and authentication
RFC 2576 Coexistence between SNMP Version 1, Version 2, and Version 3
RFC 2578 SNMP Structure of Management Information MIB
RFC 2579 SNMP Textual Conventions for SMIv2
RFC 2665 Ethernet-like interface MIB
RFC 2787 VRRP MIB

21.0 APPENDIX G: STANDARDS SUPPORT FOR CORE SWITCH - CONTINUED

RFC 2819 RMON MIB
RFC 2863 Interface Group MIB
RFC 2863 Interface MIB
RFC 2922 LLDP MIB
RFC 2925 Ping/Traceroute MIB
RFC 2932 IPv4 Multicast MIB
RFC 3413 SNMP Application MIB
RFC 3414 User-based Security model for SNMPv3
RFC 3415 View-based Access Control Model for SNMP
RFC 3621 PoE-MIB (PoE switches only)
RFC 4188 STP and Extensions MIB
RFC 4363 Definitions of Managed Objects for Bridges with Traffic Classes, Multicast Filtering, and VLAN extensions
RFC 5643 OSPF v3 MIB support
Draft – blumenthal – aes – usm - 08
Draft – reeder - snmpv3 – usm - 3desede -00
Draft-ietf-bfd-mib-02.txt
Draft-ietf-idmr-igmp-mib-13
Draft-ietf-idmr-pim-mib-09
Draft-ietf-idr-bgp4-mibv2-02.txt – Enhanced BGP-4 MIB
Draft-ietf-isis-wg-mib-07

Layer 3 Features: IPv4

Routing protocols: OSPF, BGP, IS-IS
Static routing
Routing policy
Bidirectional Forwarding Detection (BFD)
Layer 3 redundancy: Virtual Router Redundancy Protocol (VRRP)

Layer 3 Features: IPv6

Routing protocols: OSPFv3, IPv6, ISIS
Static routing