

Request for Information

HACP Network Switch and Switch Infrastructure Refresh

Responses due September 29, 2017 @ 11:00AM

deliver to

**HACP Procurement Department
100 Ross Street, 2nd floor
Pittsburgh, PA 15219
Attn: Debbie Norkevicius**

Introduction

The Housing Authority of the City of Pittsburgh last changed our network switching technology in 2007. Since that time the Authority has maintained our switching network based on the standards set at that time.

Network switching and supporting infrastructure has progressed significantly in the past ten years and the Authority's switching hardware is coming to the end of its useful life. Rather than simply update the existing switching infrastructure, the Authority will, through this Request for Information, perform a technology and market review in preparation to replace existing switching hardware and management technology. The Authority intends to replace all switches in our datacenter, building risers and remote offices along with riser cabling where appropriate.

The goal of this Request for Information is to determine the best technology on which to base the HACP network infrastructure. **Note, hardware and services will be purchased under the terms and conditions of a State of Pennsylvania purchase contract or a Federal GSA contract.** The information provided in response to this Request for Information will become the basis for setting HACP hardware standards. Use of the Pennsylvania or GSA contract will allow the Authority to purchase hardware and services in compliance with our standards over a period of several years.

An informational meeting will be held:

**Housing Authority of the City of Pittsburgh
Procurement Dept.
100 Ross Street 2nd. Fl. Ste. 200
Pittsburgh, PA 15213
Thursday, September 21, 2017 at 11:00 A.M.
Call-in: 1 (202) 602-1295
Access Code: 598-776-271#**

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Description of Environment

The descriptions below are intended to describe the requirements and environment of the Authority and communicate to the vendor sufficient requirements to allow the vendor to offer their most appropriate solution for the Authority.

The Authority operates a WAN with 1Gb fiber connections to all offices. The WAN includes routing. Switches and infrastructure described in this RFI will **NOT** be responsible for inter-office routing.

The infrastructure will support Administrative, Process Control, Security and VOIP applications.

The Housing Authority of the City of Pittsburgh is a public housing agency in Pittsburgh Pennsylvania with the majority of our administrative and property management offices as follows:

- Primary Administrative offices at 200 Ross Street – 1 location (Offices occupy all or parts of five floors in a thirteen story building. This building houses the Authority's data center. Each floor holds 15 to 50 staff members. A central riser closet connects all floors in the building.)
- Authority Data Center contains two virtual host clusters with various servers and supporting hardware. The Data Center contains both user facing switches connecting the virtual servers to the user network and a data side network connecting Virtual Hosts, iSCSI SAN hardware and data backup operations. The current user side switches contain 96 ports. The current data side switches contain 48 ports.
- Offices having from 10 and 25 Staff members - 4 locations with 1 to 4 floors in the location
- Offices having from 5 to 9 Staff members – 1 location
- Offices having 1 to 4 Staff members – 17 locations

HACP Infrastructure Assumptions

The Assumptions below are based on HACP requirement and our current understanding of the state of the art. **Vendors are encouraged to recommend options or hardware not anticipated in our assumptions.** The Authority will consider all submissions based on its ability to meet our needs, its flexibility in configuration, and our evaluation of the future viability of the options suggested.

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Infrastructure Management

The Housing Authority expects to install and/or configure an infrastructure management tool to manage the infrastructure and monitor its performance. This tool may be installed behind the Authority firewall or may be a cloud based management tool. The Authority anticipates that the management tool will manage both the wired and wi-fi network hardware.

To support and manage the various traffic types the Housing Authority will require VLAN, QoS and Port Aggregation/Bonding support.

Switching Hardware

The Housing Authority assumption is that vendors responding to this RFI will recommend a family of stackable switches. If the vendor has a better option, the vendor is encouraged to define that option in response to this RFI and to provide sufficient information to show that the vendor option will provide better results to the Authority.

The infrastructure should include POE support on all wired drop ports. The infrastructure should support VLAN, QoS and Port Aggregation/Bonding.

In all locations the Authority expects the switches to support 1Gb and 100Mb drops from the switch to the terminal device; and where needed, dedicated stack ports with a minimum 10Gb throughput. The wired infrastructure should contain sufficient ports to support the existing user population and have sufficient flexibility to both grow and shrink to accommodate staffing changes as they take place.

For switching in the computer room the Authority expects: 1Gb copper drops from the switches to the user side server ports, 1Gb and 10Gb copper and 10Gb fiber drops from the switches to the data side server ports. Data side switches do NOT require POE.

For switching in the multi-floor offices the Authority expects the switches to support: 1Gb and 10Gb fiber uplinks and redundant uplink paths.

Wi-Fi

The Housing Authority plans to install both wired and Wi-Fi infrastructure in each of the above locations. Where appropriate the Authority will install a Wi-Fi mesh allowing persons to move from place to place within the location without losing connection to the Wi-Fi.

The Housing Authority prefers that the Wi-Fi network provide concurrent Guest and Authenticated access over the Wi-Fi mesh. The Wi-Fi mesh should support different network

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configuration (IP Range, Gateway, mask, etc.) for Guest and Authenticated users. The Authority expects that the Wi-Fi mesh will be able to authenticate users against our Active Directory.

Requested Information Submission

The vendor is asked to provide specific answers the questions below; cut sheets or other marketing and technical materials describing the configurations, capabilities, and operation of all recommendations; warranty and maintenance options for all recommendations; and completed cost sheet showing recommended software, hardware and services with associated purchase, lease, use, and maintenance costs based on a Pennsylvania state contract or GSA schedule in the format attached to this Request for Information. A copy of the cost sheet in Excel format will also be provided.

Questions

General Questions

1. Are the goods and services recommended in this response available to the Housing Authority of the City of Pittsburgh under the State of Pennsylvania CoStars contract?
2. Are the goods and services recommended in this response available to the Housing Authority of the City of Pittsburgh under the State of Pennsylvania PEPPM contract?
3. Are the goods and services recommended in this response available to the Housing Authority of the City of Pittsburgh under Federal GSA contract?
4. Are the goods and services recommended in this response available to the Housing Authority of the City of Pittsburgh under another collaborative procurement contract?

Infrastructure Management

5. List recommended tool(s) for infrastructure management?
6. Are the recommended tools cloud hosted or hosted behind the HACP firewall?
7. What additional hardware and software are required to support the recommended tool(s)?
8. Does a single management tool support both wired and Wi-Fi network?
9. What actions are required by Authority to register a new device to the management tool?
10. Does the management tool support device configuration for both wired and Wi-Fi devices?

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11. Does the management tool support back-up and restore of specific device configurations?
12. Does the management tool monitor status of known devices and notify HACP staff via SMS messages and e-mail should a defined fault occur?
13. Does the management tool monitor infrastructure throughput and notify HACP staff via SMS message and e-mail should throughput drop below defined levels?
14. Does the management tool support devices manufactured by OEM's not the Original Equipment Manufacturer of the devices proposed in the Request for Information?
15. How is pricing for the management tool(s) determined (i.e. port count, device count, user count,...)?

Switching Hardware

16. List recommended Ethernet switches with model number, drop ports, uplink ports, and stack ports.
17. Will each switch auto negotiate port speed, duplex, and DTE/DCE configurations?
18. Does each device listed support POE on all copper drop ports?
19. List bandwidth options for each switch drop port and port type (copper, fiber).
20. List backplane capacity for each switch listed.
21. List switching capacity for each switch listed.
22. List uplink options for each switch uplink port and type (copper, fiber).
23. List stack options for each switch and port type (copper, fiber).
24. List stack redundancy options for each switch and port type (copper, fiber).
25. When stacked, is the management directed to the stack or is each switch in the stack managed as an individual unit?
26. List warranty included and/or available for each switch and port type (copper, fiber).
27. List firmware update options for each switch and port type (copper, fiber).

Wi-Fi

28. List Wi-Fi access and routing devices.
29. List 802.11 standards supported by each device (i.e. a, g, n, ac, ...)
30. List transmission frequencies supported by each device.
31. List number of antennas for each device.
32. Do devices listed support Wi-Fi mesh?

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- 33. Show impact of Wi-Fi mesh communications between access points on the perceived user throughput.
- 34. Do devices listed support best routing where multiple devices have wired access to internet?
- 35. Do devices listed support user connection mobility across multiple access points where only one of the access points is connected to the wired network?
- 36. Do devices listed support user connection mobility across multiple access points where more than one of the access points is connected to the wired network?
- 37. Do devices recommended provide concurrent guest/authenticated operation?
- 38. Do devices recommended support authentication of users and devices via Microsoft Active Directory?

For more information or questions, please contact Debbie Norkevics @ 412-456-5000 X 8505 or Debbie.Norkevics@HACP.org

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Infrastructure Management Tool(s)

Tool Vendor	Tool Name	Acquisition Cost	Annual Expense

WiFi Hardware

Manufacturer	Model	Antenna	Uplink	Managed	Standards	Acquisition Cost	Annual Cost
Ford	Focus	3	Copper	Yes	a,b,g,n,ac	10.00	10.00

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Switch Hardware

Manufacturer	Model	Managed	Port Count			Maximum Port Speed/Media			POE	Acquisition Cost	Annual Expense
			Drop	Uplink	Stack	Drop	Uplink	Stack			
Ford	Fusion	No	24	2	2	1GB/copper	10GB/Fiber	40GB/Copper	Yes	\$0,000.00	\$0,000.00