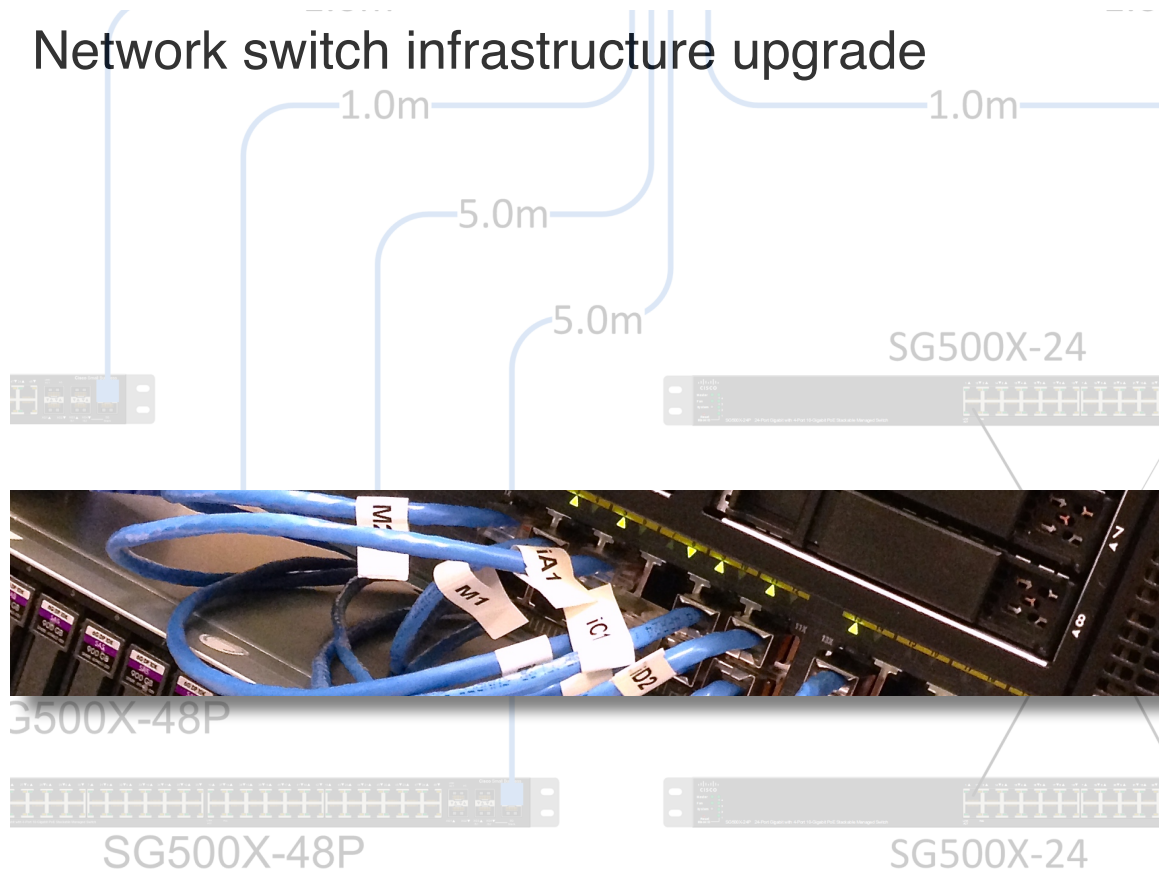# HMCPL 2016 Network Switch ITB

Network switch infrastructure upgrade

Huntsville-Madison County Public Library
915 Monroe Street
Huntsville, Alabama 35801

Aaron Sakovich, IT Services Manager
asakovich@hmcpl.org
256-532-5964

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March 18, 2016

INVITATION TO BID—NETWORK SWITCHES

The Board of Directors of the Huntsville Madison County Public Library (HMCPL) is accepting sealed bids for a total of 20 network switches plus supporting hardware for HMCPL's internal network, linking the Main Branch and 10 other HMCPL branches in Huntsville and Madison County, with one spare unit.

Bids

Bidders may submit costs for outright purchase only. Prices must be listed on the Cost Sheet provided in Appendix C. Prices quoted shall be delivered prices, exclusive of all federal or state excise, sales, and manufacturer's taxes. HMCPL is sales tax exempt.

Bidder must also provide a listing of all equipment by brand name and model. HMCPL reserves the right to reject any bid quoting inferior, generic or out-of-production equipment. All equipment bid must be new. Responses to this request are required to meet all specifications listed in this ITB.

Warranty, Maintenance, and Support

Warranty period must be specified. Maintenance and support costs (Cisco SmartNET, 8x5 NBD, or equivalent) after the warranty expires must be quoted for 1, 2 and 3 year periods. Support services must be detailed in the bid.

Equipment

All equipment will be installed by HMCPL staff; do not quote installation costs.

The branch locations and network configuration diagram are included in the Appendix A and B, respectively.

Switches are to be Cisco Small Business SG5x0 series stackable switches or equivalent (see Table 1). The switches at the 10 remote branch locations are individual units, connected to a router via existing CAT5E Ethernet cable, and to the computing devices via existing CAT5E cables. The branch switches must all support POE, though not all ports need to provide maximum power simultaneously; each switch should be able to provide at least 375 watts total.

At the Main Branch, only the 4 Computer Room and 2 Second Floor switches need support 375 watts to POE equipment; the Main Hub and Server Farm iSCSI switches do not require POE.

The switch configuration at the Main Branch is detailed in Appendix B, showing a single switch ("Main Hub") connecting all other switches on-site via 10 Gigabit fiber optic connections.

One cable is required to go from the 3rd floor Computer Room to the Second Floor wiring closet; please quote a new spool of 80 - 100 meters of either OM3 or OM4 multimode cable pre-built with the correct LC connectors for the fiber SFP+ modules specified.

The interconnects between switches in the Computer Room will all be LC-to-LC, multimode, OM3, fiber optic cables. This will require quantity 4 x 1.0 meter and 2 x 5.0 meter fiber optic cables, to connect the SG550XG-8F8T Main Hub to the other Computer Room switches. We also require a fifth 1.0 meter fiber optic cable between the 2 switches

Table 1: Switch locations, models, and quantities

	Location	Model (or equivalent)	POE	Quantity
Main Hub	3rd floor	SG550XG-8F8T	No	1
Computer Room	3rd floor	SG500X-48P	Yes	4
Server Farm iSCSI	3rd floor	SG500X-24	No	2
Second Floor	2nd floor	SG500X-48P	Yes	2
Branches	branches	SG500-52P	Yes	10
On-site spare switch		SG500-52P	Yes	1

Table 2: SFP+ types

	Model (or equivalent)	Quantity
SFP+ short range	SFP-10G-SR	14
SFP+ long reach	SFP-10G-LRM	2

Table 3: Fiber optic cable specifications

Length	Wavelength (nm)	Mode	Core size	Quantity
1 meter	850	MMF	50μ	5
5 meter	850	MMF	50μ	2
80 to 100m	1310	MMF	50μ	1

on the Second Floor. See Appendix B for details. The connection from the Main Hub to the existing router will use an existing CAT5E cable.

All SFP+ modules will be provided to meet the needs described above and as shown in Appendix B. Table 1 details the types and number of switches; Table 2, the SFP+ modules needed. Table 3 details OM3 or OM4 cabling required.

Switches must support the following standards and features:
- IPv4 & IPv6
- STP / RSTP / MSTP
- VLAN, with support for 4,000+ VLANs
- QoS
- ACL
- SSH
- SSL
- SNMP

- LLDP
- CDP
- POE (per table 1)

E-rate Requirement

Bidders must participate in the Schools and Libraries Universal Service Program, also known as E-rate. The company SPIN number must be provided with the bid.

Equipment Timeframe

The new contract for network switches must be effective July 1, 2016. All equipment quoted in response to this ITB must be delivered by July 1, 2016.

References

Bidders must provide three references for customers with multiple locations similar to HMCPL. The name of the organization and contact information must be included. Governmental references are desirable.

ITB Timeline and Delivery Instructions

Bids are to be mailed or delivered to:

> **Aaron Sakovich**
> **Huntsville Madison County Public Library**
> **P.O. Box 443**
> **Huntsville, AL 35804**

or

> **915 Monroe Street**
> **Huntsville, AL 35801**

The words "*Sealed Bid — Network Switch Upgrade*" must be on the outside of the envelope.

Bids must be received by 10:00 AM on Tuesday, April 19, 2016. The bids will be opened at 10:00 AM in the Board Room located on the third floor of the Main Library, 915 Monroe Street. Late bids will not be considered. The Library will not be responsible for any carrier's failure to deliver a bid.

The Library reserves the right to reject any and all bids. The Library also reserves the right to implement all or portions of the bid. Failure to comply with specifications for bidding will result in a bid's rejection.
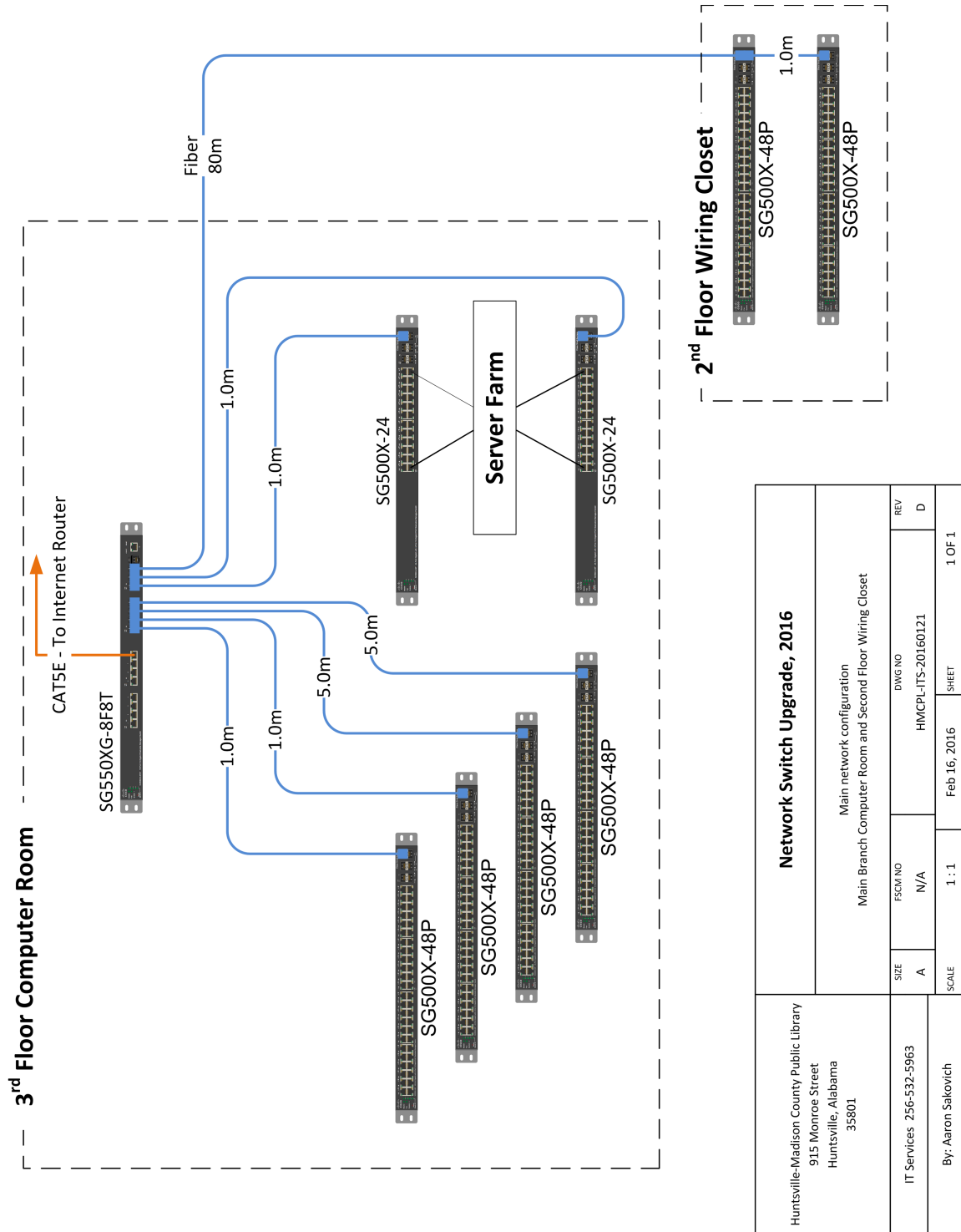
Questions for further information, should be directed to Aaron Sakovich by email at asakovich@hmcpl.org or phone at 256-532-5964.

APPENDIX A: HMCPL Branch Locations

Bailey Cove **256-881-0257** 1409 Weatherly Plaza Huntsville, AL 35803	**Main Branch** **256-532-5940** 915 Monroe Street Huntsville, AL 35801
Russell **256-859-9050** 3011 C Sparkman Dr. Huntsville, AL 35810	**Monrovia** **256-489-3392** 254 Allen Drake Dr. Huntsville, AL 35806
Murphy **256-881-5620** 7910 Charlotte Dr. Huntsville, AL 35802	**Showers Center** **256-851-7492** 4600 Blue Spring Road Huntsville, AL 35810
New Hope **256-723-2995** 5496 Main Street New Hope, AL 35760	**Hazel Green** **256-828-9529** 131 Knowledge Drive Hazel Green, AL 35750
Gurley **256-776-2102** 225 Walker Street Gurley, AL 35748	**Triana** **256-772-9943** 357 Record Street Triana, AL 35756
Madison **256-461-0046** 130 Plaza Blvd. Madison, AL 35758	

APPENDIX B: Network Configuration

The network shown is for those switches located at the Main Branch of the Library. All other branches have a minimal configuration with just the switch connecting devices to the local router. **All equipment will be installed by HMCPL Staff.**

2nd Floor Wiring Closet

SG500X-48P
SG500X-48P
1.0m

Fiber
80m

3rd Floor Computer Room

SG550XG-8F8T
CAT5E - To Internet Router

1.0m
1.0m
1.0m
1.0m
1.0m

Server Farm
SG500X-24
SG500X-24

5.0m
5.0m

SG500X-48P
SG500X-48P
SG500X-48P
SG500X-48P

Huntsville-Madison County Public Library
915 Monroe Street
Huntsville, Alabama
35801

IT Services 256-532-5963

By: Aaron Sakovich

Network Switch Upgrade, 2016

Main network configuration
Main Branch Computer Room and Second Floor Wiring Closet

SIZE	FSCM NO	DWG NO	REV
A	N/A	HMCPL-ITS-20160121	D

SCALE			SHEET
1 : 1	Feb 16, 2016		1 OF 1

APPENDIX C: Cost Sheet

Use these sheets to ensure you have all components priced.

Table C1: Hardware

	Quantity	Model (or equivalent)	Quoted Model	Unit price	Extended price
Main Hub	1	SG550XG-8F8T			
Computer Room	4	SG500X-48P			
Server Farm iSCSI	2	SG500X-24			
Second Floor	2	SG500X-48P			
Branches	10	SG500-52P			
On-site spare switch	1	SG500-52P			
SFP+ short range	14	SFP-10G-SR			
SFP+ long reach	2	SFP-10G-LRM			
1m FO cable	5	—			
5m FO cable	2	—			
80-100m FO	1	—			
				Total:	$

Table C2: Warranty and Maintenance

	Qty	Extended Price			Included Manufacturer Warranty Period
		1 Year	2 Year	3 Year	
Main Hub	1				
Computer Room	4				
Server Farm iSCSI	2				
Second Floor	2				
Branches	10				
On-site spare switch	1				
	Total:	$	$	$	