

CHARTER TOWNSHIP OF SHELBY

52700 Van Dyke Ave.

Shelby Township, MI 48316

(586) 803-2035

REQUEST FOR PROPOSAL

ITEM: Township-wide Ethernet network switching equipment

DEADLINE: Before 11:00 a.m. EST on Thursday, March 2, 2017

Proposals will be accepted by the Township Clerk at 52700 Van Dyke Ave., Shelby Township, MI 48316 until 11:00 a.m. EST on Thursday, March 2, 2017. Proposals will be opened at 11:05 a.m. EST.

Shelby Township is a Participating Agency in the Michigan Inter-Governmental Trade Network (MITN). Interested vendors are encouraged to register with MITN at www.MITN.info to view specifications for this and all of our open bids.

Kindly direct **all** correspondence seeking clarification or information to MIS@shelbytwp.org.

Brian Fairbrother
Deputy Township Clerk
Shelby Township
(586) 803-2035

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I. INTRODUCTION

The Charter Township of Shelby, Michigan (hereinafter “the Township”) plans to replace its Ethernet routing and switching systems to provide a single, cohesive network which can support the computers, servers, and phones at each of the Township’s 14 buildings.

Ethernet

The Township Hall main distribution frame (MDF) hosts the primary data systems. Most of the other 13 buildings’ are interconnected with the Township Hall MDF via a private fiber-optic network. Each building has rack space in its MDF, and intermediate distribution frame (IDF) where needed. All racks are powered with 120VAC.

A firewall solution will be installed at the MDF in Township Hall. A single Comcast Internet connection is in place, located in an IDF at Town Hall.

Township Locations

- | | |
|--------------------------------|-------------------------------------|
| 1. Township Hall | 52700 Van Dyke Avenue |
| 2. Police Department | 52530 Van Dyke Avenue |
| 3. Parks and Recreation | PRM Building, 52700 Van Dyke Avenue |
| 4. 41A District Court | 51660 Van Dyke Avenue |
| 5. Public Library | 51680 Van Dyke Avenue |
| 6. Senior Center | 51670 Van Dyke Avenue |
| 7. Cable Media | 51690 Van Dyke Avenue |
| 8. Fire Station #1 | 6345 23 Mile Road |
| 9. Fire Station #2 | 48050 Ryan Road |
| 10. Fire Station #3 | 54131 Shelby Road |
| 11. Fire Station #4 | 51599 Schoenherr Road |
| 12. Fire Station #5 | 47460 Schoenherr Road |
| 13. Department of Public Works | 6333 23 Mile Road |
| 14. Shadbush Nature Center | 4101 River Bends Road |

Bidding Process Timeline and Proposal Deadline

Publish Request for Proposal	Tuesday, January 24, 2017
Bidders’ Meeting at Township Hall	10:00 a.m. on Thursday, February 2, 2017
Bidders’ Questions Due	End of business on Thursday, February 9, 2017
Answers to Bidders’ Questions Posted	Thursday, February 16, 2017
Proposal Due	11:00 a.m. EST on Thursday, March 2, 2017

Bidders' Questions

Submit questions regarding this request for proposal to MIS@shelbytwp.org. Enter "BID #17-03" in the subject line. Please respect the deadline, which is the end of business on Thursday, February 9, 2017. All questions and answers will be posted to the RFP in MITN in a single response.

Biding Guidelines

Bidders **must** attend the pre-bid meeting at 10:00 a.m. on Thursday, February 2, 2017. Bids from companies not represented at this meeting will be rejected by the bidding process.

- Bids may be rejected for not completing the requirements listed in the request for proposal.
- All proposals must be submitted in a sealed, opaque envelope and will become the property of the Township and may be subject to FOIA requests.
- Bidders are required to submit three (3) copies and one (1) original proposal for a total of four (4) printed copies, plus a PDF electronic copy on a CD ROM or thumb drive.
- The cost of responding to the RFP is the sole responsibility of the bidder and is not charged to the Township.
- Proposals may be rejected for any reason, in whole or in part, by the Township, as best suits the Township's needs.
- Each proposal will be evaluated using a weighted scoring tabulation of the following criteria.
 - Cost
 - Quality of Equipment
 - Local Support Office
 - Redundancy
 - Internal Costs
 - References
- Pricing will be at the lowest GSA schedule price. If a lower price becomes available before the contract is awarded, the lower price will be used.

II. SCOPE OF SERVICES

The work plan for this project includes the following tasks at each location where equipment is installed and configured:

General

- **Delivery** – The vendor will order, take delivery, and reconcile orders for equipment and materials, providing complete information to the Township’s project manager.
- **Unboxing** – The vendor will unbox equipment and examine unboxed equipment for damage.
- **Rack** – The vendor will install the equipment into the rack space provided, employing proper length patch cables and cable management.
- **Installation of Fiber Optic Cabling** – The Township will provide fiber optic interconnections between all buildings capable of 10 Gbps. If 10Gbps does not function as intended for specific WAN links, 1Gbps will need to be implemented using the new switching hardware, with existing fiber optics. Existing fiber optic part numbers can be provided to check compatibility. The Vendor will install and test new proper length fiber optic patch cables where needed.
- **Installation of Copper Ethernet Cabling** – The vendor will refer to the wiring plan at each MDF or IDF and install and test proper length Cat 6 patch cables.
- **Installation of Patch Panels** – Wherever new patch panels are deemed necessary by the vendor, their installers will punch down all network cables.
- **Patch Cable Color** – To aide in the identification of patch panel locations, please provide the following colors of patch cables:
 - Pink – Wireless
 - Green – Security
 - Blue – Workstations
 - Red – Mission-critical devices such as servers, other switches, other network equipment.
- **Burn-in Period** – To verify that all equipment has been shipped in working order, the vendor will enforce a 10-day burn-in period.
- **Documentation** – The vendor will provide the Township with documentation of the cable routing between switch and patch panels.
- **Register equipment** – Newly purchased and installed equipment will be registered with its manufacturer by the vendor as being owned by the Charter Township of Shelby, Michigan.
- **Inventory** – The vendor’s final documentation provided to the Township will list the inventory of the installed equipment and the existing equipment to which it is connected in the Ethernet network in an Excel spreadsheet.
- **Equipment must be new** – All equipment must be new, and in sealed containers from the manufacturer, when delivered to the Township. Used, refurbished or previously sold equipment will not be accepted.

- **Service Level Agreement**—Cisco SMARTnet 8x5 support with next business day hardware replacement must be added to each device purchased.
- **Cable** – All patch cables and switch-stacking cables must be provided by bidder.
- **Grounding** – Equipment will be grounded to the equipment rack

Ethernet

General requirements

- **IP addressing and subnetting** – The Township will provide the IP schema template. The winning bidder will adhere to this template. Each site will have unique addresses. The winning bidder will be responsible for configuring the gateways for each new network.
- **Port speed** – Station port speeds must be at least 1 Gbps, and uplink ports should be 10 Gbps except where port speed is specified. Speed must be documented in the bid worksheet.
- **Test ports** – The vendor will verify that each switch port in each router, core switch and distribution switch functions properly and is configured correctly.
- **Update firmware** – The vendor will upgrade the firmware in each device to the latest stable version, and document the upgrades.
- **Network monitoring software** – A solution which monitors through the application layer will be installed, configured and tested. ManageEngine OpManager is the preferred solution. The winning bidder is responsible for configuring installed devices to integrate with the network monitoring solution including SNMP, SSH, NetFlow, ICMP, and automatic configuration backup.
- **DMVPN for dynamic failover** – A DMVPN environment will be configured to perform as a secondary WAN connection between Township Hall (the primary site and data center), Police, and Fire Station #1. This configuration needs to be scalable to support additional departments, if needed.
- **Dynamic routing** – The vendor will be responsible for configuring a scalable dynamic routing solution. This routing protocol will need to support all WAN sites, including sites connected via DMVPN backup. The Township currently has two internet connections. The selected routing protocol will need to support failover between the primary internet connection, and the secondary internet connection.

Uninterruptible Power Supply

- Please provide a quotation for installation of new uninterruptible power supplies with a 20—minute runtime of all equipment in the MDF and IDFs for Township Hall, Police Department, Department of Public Works, and Fire Station #1. The UPSes must have a network card installed.

Project Notes

- The Township will provide documentation for all copper and fiber cable runs.
- Installation tasks requiring system downtime will be scheduled one (1) week in advance, and work will be scheduled at least 30 minutes past posted business hours. The project manager for the vendor will send the notice to The Township's project manager and its chief engineer.

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Project Management

- The vendor will provide an explicit and detailed description of the proposed work in the form of a work breakdown structure. From this, the vendor will develop the project schedule.
- The Township will assign a project manager responsible for coordinating installation of the Ethernet network. The vendor will direct communications regarding the work in the scope of this proposal to the Township's project manager.
- The vendor's assigned project manager will be interviewed by the Township before the contract is signed.
- Contact information for the Township and vendor project managers will be made available to one another, and they will be available to communicate regarding the project at all times.
- The vendor will assign its employees and subcontractors to a project team. The vendor will provide a list of teams, and the members of those teams. The vendor will staff all positions in the project team, as it is described in the bid documents, at all times.
- The vendor will be responsible for the performance of its team members, including subcontractors. The vendor's project manager will be the direct report for these team members.
- Management of the vendor's team includes scheduling, and a phone/email tree for escalation.
- Meetings of the project team will be called on a regular basis by the vendor's project manager. The project manager is responsible for scheduling team members to attend these meetings, and to lead these meetings.
- The vendor will provide the Township with a completed, industry standard project scheduling plan. This method and form for organizing and tracking planned work must be agreeable to both the Township and the vendor before the contract is signed. This plan will include dependencies between tasks. Any tasks to be completed by the Township's project group must be explicitly included in the scheduling plan.
- Project closing and final payment will be approved after testing is completed.
 - The project completion will include testing for the Ethernet and firewall, plus handoff documentation, including but not limited to
 - Parts Lists
 - Warranty/Service Agreement Lists
 - Network Diagrams
 - The bidding vendor will provide this project closing testing check list as part of the project management within their proposal.
 - Final payment will not be made until the testing is complete and signed off by the Township's project manager.

Equipment Quote Forms

The equipment quote forms have been provided on the following pages to aide bidders in organizing their proposals. They are organized first by equipment category, then location.

Table Name	Equipment Category
A	Core Switching
B	Primary Edge Firewall
C	Routing and Distribution Switches
D	Access Layer Switches
E	WAN Routing and DMVPN
F	10GB and 1GB Optics
G	Patch Cables
H	SMARTnet and Warranty
I	Uninterruptible Power Supply

Each page must be filled out as completely as possible. Additional documentation should be attached to the end of the proposal as an addendum. Please include SMARTnet information as instructed for five years of coverage. Complete the bidding company's name, and the initial of the person preparing the quotation in the bidding company.

Transfer the subtotal cost from each form to summary Table J, at the end of this section, providing the grand total cost for the quoted equipment.

Alternative configurations

If a second, alternative solution is proposed, duplicate the forms and summary page. Clearly indicate that it is an alternative proposal. This could be an alternative brand of network switch, router, or a firewall with new features that would benefit the Township. Any alternative hardware or software must meet or exceed the General Requirements outlined on page 4.

II. EQUIPMENT QUOTATION TABLES

Table A – Core Switch

Town Hall

The currently installed Cisco 4506E core switch in the Township MDF will be replaced with a Cisco 4500 Series Fixed 10 Gigabit Ethernet Aggregation Switch. Must support 10GB interfaces, redundant power options, and advanced features. Include additional part numbers as necessary for a successful implementation.

Table A Equipment Quotation

Item Qty.	Description / Manufacturer	Part Number	Unit Cost	Ext. Cost
1	Cisco 4500 Series Fixed 10 Gigabit Ethernet Aggregation Switch	WS-C4500X-16SFP+		
1	Redundant Power Supply for 4500-X series switch	C4KX-PWR-750AC-R		
1	Cisco 2GB SD Flash Memory Card for Catalyst 4500	SD-X45-2GB-E		
1	Catalyst 4500-X IP BASE to Enterprise Services upgrade license (electronic delivery) for 16-port and 24-port models	C4500X-16P-IP-ES		
	Additional items required for this implementation			

Table A Subtotal: _____

Warranty description for above items:

Provide any sales brochures as an attachment.

Bidding organization: _____ Bidder's Representative (initials) _____

Table B – Primary Edge Firewall

Town Hall

Currently, a Cisco ASA 5510 is in production as the edge firewall. The bid must include all necessary parts to replace the end-of-life Cisco ASA 5510 firewall with a Cisco ASA 5525X firewall and FirePower services. This solution will include Control, Protection, and AMP. VMWare resources are available if necessary for this solution. Please complete the following table with quantities, part numbers, descriptions, unit costs, and extended cost.

Table B Equipment Quotation

Item Qty.	Description / Manufacture	Part Number	Unit Cost	Ext. Cost
1	Cisco ASA 5525x with FirePower Services	ASA5525-FPWR-K9		

Table B Subtotal: _____

Warranty description for above Items:

Provide any sales brochures as an attachment.

Bidding organization: _____ Bidder's Representative (initials) _____

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Table C – Distribution and Routing Switches

Shelby Township will be deploying Cisco 3850 switches at each location as distribution and Layer 3 boundaries between sites. The following switches will be required to implement the desired topology.

Table C Equipment Quotation

Item Qty.	Description / Manufacturer	Part Number	Unit Cost	Ext. Cost
5	Cisco 3850 48 port Layer 3 switch (PoE+) Township Hall Parks and Rec Police Department DPW 41A/Senior Center/Shelby TV	WS-C3850-48P-E		
5	Redundant power supply	PWR-C1-715WAC		
1	Cisco 10 Gb Network Module	C3850-NM-4-10G		
1	Cisco 3850 48 port Layer 3 switch	WS-C3850-48T-E		
1	Redundant power supply	PWR-C1-350WAC		
5	Cisco 10 Gb Network Module	C3850-NM-2-10G		
1	Cisco Catalyst 3850-12XS-S Switch	WS-C3850-12XS		
	Additional items required for this implementation			

Table C Subtotal: _____

Warranty description for above items:

Provide any sales brochures as an attachment.

Bidding organization: _____ Bidder's Representative (initials) _____

Table D – Access Layer Switches

Access switches are being purchased to replace aging and end-of-life Cisco switches. The following Cisco 2960 switches will be added to the network.

- 4 – Township Hall
- 2 – Police Department
- 1 – Senior Center
- 1 – Nature Center
- 1 – Fire Department Station 1
- 1 – DPW (24 port)

Table D Equipment Quotation

Item Qty.	Description / Manufacturer	Part Number	Unit Cost	Ext. Cost
9	Cisco Catalyst 2960X-48FPD-L Switch	2960X-48FPD-L		
10	Cisco Catalyst 2960-X Stacking with FlexStack and FlexStack-Plus Technology	C2960X-STACK		
1	Cisco Catalyst 2960X-24PS-L Switch	2960X-24PS-L		
	Additional items required for this implementation			

Table D Subtotal: _____

Warranty description for above items:

Provide any sales brochures as an attachment.

Bidding organization: _____ Bidder's Representative (initials) _____

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Table E – WAN Routing and DMVPN

Table E Equipment Quotation

Item Qty.	Description / Manufacturer	Part Number	Unit Cost	Ext. Cost
1	Cisco ISR 4351 (3 GE, 2 NIM, 1 SM, 4 GB FLASH, 4 GB DRAM (default memory))	ISR4351/SEC-K9		
3	Cisco ISR 4331 (3 GE, 2 NIM, 1 SM, 4 GB FLASH, 4 GB DRAM (default memory))	ISR4331/SEC-K9		
	Additional items required for this implementation			

Table E Subtotal: _____

Warranty description for above items:
Provide any sales brochures as an attachment.

Bidding organization: _____ Bidder's Representative (initials) _____

Table F – 10GB and 1GB Optics

Table F Equipment Quotation

Item Qty.	Description / Manufacturer	Part Number	Unit Cost	Ext. Cost
18	10GB MM Optics			
4	10GB SM Optics			
4	1GB RJ-45 Optics	GLC-T		
	Additional items required for this implementation			

Table F Subtotal: _____

Warranty description for above Items:

Provide any sales brochures as an attachment.

Bidding organization: _____ Bidder's Representative (initials) _____

Table G – Patch Cables

Table G Equipment Quotation

Item Qty.	Description / Manufacturer	Part Number	Unit Cost	Ext. Cost
25	3 foot Pink Cat6 patch cable			
18	3 meter Multi-mode fiber patch cable			
4	3 meter Single mode fiber patch cable			
	Cat6 Patch cables, color coded as per the scope of work			
	Additional items required for this implementation			

Table G Subtotal: _____

Warranty description for above Items:

Provide any sales brochures as an attachment.

Bidding organization: _____ Bidder's Representative (initials) _____

Table H – SMARTnet and Warranty

The Township requires that all Cisco network equipment in the bid which qualifies have a 5-year SMARTnet warranty, with 8 x 5 support, and next-day hardware replacement. Please recall the requirement that Charter Township of Shelby, Michigan must be registered as the owner of the networking equipment. Please include all SMARTnet part numbers and pricing in the table below.

Table H Equipment Quotation

Item Qty.	Description / Manufacturer	Part Number	Unit Cost	Ext. Cost

Table H Subtotal: _____

Warranty description for above Items:
Provide any sales brochures as an attachment.

Bidding organization: _____ Bidder's Representative (initials) _____

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Table I – Uninterruptable Power Supply

Every UPS should be speced out to provide 20 minutes of runtime based on the connected equipment.
NOTE: Floor units are required in some locations – see descriptions.

Table I Equipment Quotation

Item Qty.	Description / Manufacturer	Part Number	Unit Cost	Ext. Cost
1	Township Hall MDF 2 – 3850 1 – 4500x 1 – 4351 1 – Cisco ASA Firewall			
1	Township Hall IDF (accessing closet) 2 – 2960x			
1	Township Hall IDF (phone room) -- Floor Unit 2 – 2960x			
1	Police Department 1 – 3850 2 – 2960x 1 – 4331			
1	41 A District Court – Floor Unit 1 – 3850			
1	DPW – Floor Unit 1 – 3850			
1	Fire Department Station 1 MDF 1 – 3850 1 – 2960 1 – Existing 5515 firewall 1 – 4331 1 – WOW Modem 1 – HP Proliant DC 380 Gen 8 1 – HP Workstation			

Table I Subtotal:

Bidding organization: _____ Bidder's Representative (initials) _____	Warranty description for above Items: Provide any sales brochures as an attachment.
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Table J – Bid Pricing Summary

In the table below, enter the total amounts from the location summary pages A through I.

Table	Equipment Category	Equipment	Amount
A	Core Switch	(1) Cisco 4500 Series Fixed 10 Gigabit Ethernet Aggregation Switch with redundant power supply WS-C4500X-16SFP+ Includes related items, see Table A	
B	Primary Edge Firewall	(1) Cisco ASA 5525x with FirePower Services ASA5525-FPWR-K9	
C	Routing and Distribution Switches	(5) Cisco 3850 48 port Layer 3 switches (PoE+) with redundant power supplies WS-C3850-48P-E (1) Cisco 3850 48 port Layer 3 switches with redundant power supplies WS-C3850-48T-E (1) Cisco Catalyst 3850-12XS-S Switch WS-C3850-12XS (5) Cisco 10 Gb Network Modules C3850-NM-4-10G (5) Cisco 10 Gb Network Modules C3850-NM-2-10G	
D	Access Layer Switches	(9) Cisco Catalyst 2960X-48FPD-L Switch 2960X-48FPD-L (9) Cisco Catalyst 2960-X Stacking with FlexStack and FlexStack-Plus Technology C2960X-STACK	
E	WAN Routing and DMVPN	(1) Cisco ISR 4351 (3 GE, 2 NIM, 1 SM, 4 GB FLASH, 4 GB DRAM (default memory)) ISR4351/SEC-K9 (3) Cisco ISR 4331 (3 GE, 2 NIM, 1 SM, 4 GB FLASH, 4 GB DRAM (default memory)) ISR4331/SEC-K9	
F	10GB and 1GB Optics	(18) 10GB MM Optics (4) 10GB SM Optics (4) 1GB RJ-45 Optics	
G	Patch Cables	(25) 3 foot pink Cat6 patch cable (18) 3 meter Multi-mode fiber patch cable (4) 3 meter Single mode fiber patch cable Patch cables, color coded as per the scope of work	
H	SMARTnet and Warranty	Include for all Cisco devices a 5-year SMARTnet warranty, with 8 x 5 support and next-day hardware replacement.	
I	UPS	(9) See Table H for locations and loads requiring a 20-minute runtime	

Total Bid: _____

Bid Total _____

Written Out in
English

Bidding organization: _____

Bidder's Representative (initials) _____