



SMART SCHOOLS INVESTMENT PLAN UPDATE

MIDDLE COUNTRY CENTRAL SCHOOL DISTRICT

DISTRICT ALLOCATION = \$8,318,342

September 27, 2016 – “MDF Switch Replacement”

Introduction and Rationale

“Our students are at the center of everything we do. As educators, our foremost goal is to prepare them for their future.” - International Society for Technology in Education

The International Society for Technology in Education (ISTE) provide an internationally recognized set of standards that describe the skills and knowledge students, teachers and administrators need to learn, teach, and plan for respectively, to live productively in an increasingly global and digital society. Every piece of technology that is purchased by the Middle Country Central School District is scrutinized against these standards to provide the best learning resources for our students to increase student achievement.

In addition to project(s) listed in this Smart Schools Investment Plan, possible District projects that may be funded by the NYS Smart Schools investment plan include a structured SMART Board replacement plan, a student desktop replacement plan vs. desktop virtualization, phase 2 of wireless rollout to support a potential 1:1 program, and a district-wide replacement of all networking switches as the age out in the next few years.

Middle Country Central School District is in a good financial position. In addition to available Smart School funds, the district recently passed a local bond which contained a number of technology projects. In addition, the district also has federal money available to us via E-Rate. Current District projects that were already in progress are listed in our District Technology Plan, but the District is currently evaluating options with regard to using budget, District bond, E-Rate, and Smart Bond funds. This is done to maximize the value for the tax payers of the Middle Country Central School District. This is supported by New York State, who approve of the leveraging of as many resources as are available for these purposes.

School Connectivity

Districtwide MDF Switch Replacement – Anticipated BOE Presentation 10/5/2016

Replacing all remaining MDF switches with current, manufacturer supported equipment.

With the exception of the Computer Center, each MDF installation will include one each of the following:

- OS6450-P48-US with US power cord, OS6450-XNI-U2 stacking module, OS6450-CBL-60 stacking cable and 1 Year SUPPORT Software
- OS6450-SW-PERF: Performance Software License allowing the 2 fixed SFP+ ports to Operate at 10Gig
- SFP-10G-C1M: 10 Gigabit direct attached copper cable (1m, SFP+)

And as many of the following as necessary to replace existing switches:

- Gigabit Ethernet chassis in a 1U form factor with 48 10/100/1000 Base T ports
- OS6450-XNI-U2: Optional 10 Gigabit SFP+ module
- OS6450 60 Centimeters long SFP+ direct stacking cable
- 1 Year Support Software for OS6450

All switches will include 24x7 Remote Telephone Support, 24x7 remote Problem Diagnosis.

Description	Ext. Price
Computer Center	10,956.00
Dawnwood Middle School	12,173.00
Centereach High School	7,003.00
Newfield High School	7,003.00
Newfield High School - Computer Center	6,388.00
Eugene Auer	8,868.00
Oxhead	10,733.00
Holbrook Road	10,733.00
Unity Drive	10,733.00
Stagecoach	8,868.00
Hawkins Path	8,868.00
New Lane	12,189.00
North Coleman	7,003.00
Selden Middle School	10,733.00
Jericho	8,868.00
Bicycle Path	7003.00
Transportation - Connection to Special Education, Buildings and Grounds, Central Registration and Data Services	96.00
Total	\$ 148,218.00

Rationale:

The current switches that are installed in each building's MDF are at end-of-support as of March 2017. Building on the Middle Country Central School District Bond project where all district data closets were upgraded to switches capable of supporting 20 Gbps connections between data closets (Phase 1), this installation would replace the remaining switches in each MDF to equipment covered by support and capable of supporting higher-speed communication between switches (Phase 2).

The switches that are removed from the MDF closets will be used to support the remaining switches in the all of the district IDF closets, until they are replaced in the next phase (Phase 3).

Districtwide Internal Building Fiber Optic Cable – Submitted to NYSED 9/23/16

Supply and install 12 strand multimode 50 micron armored fiber from all instructional building MDFs to all building IDF. The fiber will be terminated at both ends using LC type connectors in a rack mount fiber termination box. This fiber optic cable will support up to 40 Gbps interconnects between District data closets, but will initially be lit at 10.

Materials used will include:

- 12 Strand Armored 50 Micron Multimode Fiber
- Rack Mount Fiber Termination Boxes
- LC Type Connectors
- Fiber Adaptor Plates

Description	Ext. Price
Dawnwood Middle School (2 IDFs & connection to DAO – Approximately 1460' of fiber)	\$11,372.00
Centereach High School (7 IDFs & connection to DMS – Approximately 3805' of fiber)	\$39,205.00
Newfield High School (7 IDFs – Approximately 2480' of fiber)	\$28,691.00
Eugene Auer (1 IDF – Approximately 410' of fiber)	\$3,332.00
Oxhead (1 IDF – Approximately 330' of fiber)	\$2854.00
Holbrook Road (2 IDFs – Approximately 605' of fiber)	\$13,079.00
Unity Drive (1 IDF – Approximately 330' of fiber)	\$6,704.00
Stagecoach (2 IDFs – Approximately 760' of fiber)	\$10,156.00
Hawkins Path (2 IDFs – Approximately 630' of fiber)	\$13,228.00
New Lane (2 IDFs – Approximately 595' of fiber)	\$5,319.00
North Coleman (2 IDFs – Approximately 720' of fiber)	\$9,917.00
Selden Middle School (7 IDFs – Approximately 2240' of fiber)	\$31,108.00
Jericho (2 IDFs – Approximately 575' of fiber)	\$31,108.00
Bicycle Path (2 IDFs – Approximately 840' of fiber)	\$6,784.00
Transportation - Connection to Special Education, Buildings and Grounds, Central Registration and Data Services - (3 IDFs)	\$28,729.00
Total	\$219,627.00

Rationale

The current fiber optic cable that is installed intra-building between main distribution frame (MDF) closets and intermediate distribution frame (IDF) closets was installed approximately 16 years ago. This fiber optic cable has a maximum bandwidth capability of only 1 Gbps. With District support services, District educational supplemental resources and State testing increasingly moving to being internet-based—as well as systems that were traditionally on parallel, separate systems (i.e. security and voice) transitioning to sitting on the common data network—the new fiber will we be able to support all of these services. This system will also support the bandwidth requirements of the Smart Schools Bond, as well as any additional network requirements deemed necessary by a wireless expansion or potential 1:1 program.

Smart Schools Investment Plan Summary

District Allocation	\$8,318,342.00
School Connectivity Sub-Allocation	\$377,845.00
Unallocated Funds	\$7,940,497.00