Budget

Cleveland Municipal (043786) - Cuyahoga County - 2014 - Straight A Fund - Rev 0 - Straight A Fund - Application Number (209)

U.S.A.S. Fund #:
Plus/Minus Sheet (opens new window)

Object Code / Purpose Code	Salaries 100	Retirement Fringe Benefits 200	Purchased Services 400	Supplies 500	Capital Outlay 600	Other 800	Total
Instruction	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Support Services	0.00	0.00	0.00	0.00	5,000,000.00	0.00	5,000,000.00
Governance/Admin	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Prof Development	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Family/Community	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Safety	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Facilities	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Transportation	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	0.00	0.00	0.00	0.00	5,000,000.00	0.00	5,000,000.00
						Adjusted Allocation	0.00
						Remaining	-5,000,000.00

Application

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Applicants shall respond to the prompts or questions in the areas listed below in a narrative form.

A) APPLICANT INFORMATION - General Information, Experience and Capacity

1. Project Title:CMSD Core IT Infrastructure Development

2.Executive summary: Provide an executive summary of your project proposal and which goal(s) in question 9 you seek to achieve. Please limit your responses to no more than three sentences.

The Cleveland Metropolitan School District seeks to increase student achievement and achieve spending reductions in the five year fiscal forecast by investing and upgrading our Core Technological Infrastructure and move it to the district facility. Our current core Network and Server equipment was acquired eight years ago in an effort to build an enterprise infrastructure. However, there have been great advancements in technology relating to consolidation, power consumption and overall network delivery relating to infrastructure equipment. Conversely, there are mobile devices, tablets and e-Readers that demand greater Internet connectivity consumption. The cost of maintaining older infrastructure equipment continues to increase, along with the frequency of hardware failures, which adversely impacts teachers and students making optimal use of technology in the classroom challenging.

40000 3. Total Students Impacted:

4. Lead applicant primary contact: - Provide the following information:

First Name, last Name of contact for lead applicant: Eric Gordon

Organizational name of lead applicant: Cleveland Metropolitan School District

Unique Identifier (IRN/Fed Tax ID): 043786

Address of lead applicant: 1111 Superior Avenue Cleveland Ohio 44114

Phone Number of lead applicant: 216-838-0020

Email Address of lead applicant: eric.gordon@clevelandmetroschools.org

5. Secondary applicant contact: - Provide the following information, if applicable:

First Name, last Name of contact for secondary applicant: Joseph Podach

Organizational name of secondary applicant: Cleveland Metropolitan School District

Unique Identifier (IRN/Fed Tax ID): 043786

Address of secondary applicant: 1111 Superior Avenue Cleveland Ohio 44114

Phone number of secondary applicant: 216-838-0414

Email address of secondary applicant: joseph.podach@clevelandmetroschools.org

6. List all other participating entities by name: Provide the following information for each additional participating entity, if applicable: Mention First Name, Last Name, Organizational Name, Unique Identifier (IRN/Fed Tax ID), Address, Phone Number, Email Address of Contact for All Secondary Applicants in the box below.

NA

7. Partnership and consortia agreements and letters of support: - (Click on the link below to upload necessary documents).

* Letters of support are for districts in academic or fiscal distress only. If school or district is in academic or fiscal distress and has a commission assigned, please include a resolution from the commission in support of the project.

* If a partnership or consortium will be established, please include the signed Straight A Description of Nature of Partnership or Description of Nature of Consortium Agreement.

UploadGrantApplicationAttachment.aspx

8. Please provide a brief description of the team or individuals responsible for the implementation of this project including relevant experience in other innovative projects. You should also include descriptions and experiences of partnering entities.

The team will consist of: Lead: Joseph Podach, Deputy Chief of Technology for CMSD. Mr. Podach has over 25 years of expertise in implementing and managing large scale projects. Project Management and implementation: Intellinet Corporation. Intellinet currently is awarded the E-Rate contract for server maintenance, network support, and email services Network Security systems: Rosie Tufts, Manager Network Security. Systems Engineer: Robert Daley, System and network Engineer. Additional resources: Representatives from Academics, Child Nutrition, Transportation, Student Services, Safety and Security, and One Community.

B) PROJECT DESCRIPTION - Overall description of project and alignment with Outcomes

9. Which of the stated Straight A Fund goals does the proposal aim to achieve? - (Check all that apply)

- [x] Student achievement
- [x] Spending reductions in the five-year fiscal forecast
- [ ] Utilization of a greater share of resources in the classroom

10. Which of the following best describes the proposed project? - (Select one:)

- [ ] New - never before implemented
- [ ] Existing and researched-based - never implemented in your district or community school but proven successful in other educational environments
- [ ] Mixed Concept - incorporates new and existing elements
- [x] Enhancing/Scale Up - elevating or expanding an effective program that is already implemented in your district, school, or consortia partnership

11. Describe the innovative project.

The Cleveland Metropolitan School District seeks to increase student achievement, improve employee productivity, and achieve spending reductions in the five year fiscal forecast by investing and upgrading our Core IT Technological Infrastructure, and moving it to a district facility. Our current Core IT Infrastructure is 7-10 years old, unsupported by the vendors and does not support the current school district requirements. As a result, the district experiences numerous bottlenecks which diminish access to information and externally hosted (cloud) solutions like common core. These numerous technical challenges are summarized below: Increased Data Loss - Current storage hardware failure rates are increasing resulting in increased data loss. Accelerated Support Risks - Current hardware is at or past end of life and cannot support the latest supported software versions which results in lack of vendor support during a failure and no option for upgrades. Reduced Performance - Current internet access is limited to 25% of the available bandwidth because of hardware limitations. The impact grows significantly as more end-user devices coming online at the district as part of the Blended Learning Initiative, and the increased use of online learning and testing. Lost Cost Savings Options - The current network hardware does not permit the use of new technologies (i.e. virtualization, etc.) that would significantly reduce operating costs. Limited Enhancement Options - Current IT environment provides little to no option of automating new district business requirements and results in inconsistent processes and poor data quality. Impossible to make timely business decisions. It is imperative that the district invest in new, more efficient and cost effective Core IT Infrastructure. Thus, this grant request will allow us to significantly improve our Core Infrastructure capacity and performance, by making specific investments and upgrades to the following key items: Upgrade Security and Authentication - Move to update and modernize our authentication and security capabilities. This project will need approximately 4-6 physical servers with 500GB of disk space. The result will be focused on improve security, reduces maintenance, and up to date support. CMSD authentication for cloud (hosted) solutions - As the district begins to leverage cloud-based (hosted) solutions, this provides for the capability to ensure all communications are secure and protected. SchoolWires is one of the projects that will require this type of set up. This project will require 1 physical server with 100GB of disk space. New/Upgraded Software Implementations - The current server infrastructure is fully utilized and unsupported. Requirements for Server and SAN space will vary. Additional Internet Capacity - Provides for the capability to leverage the full capacity of our Internet service provider's capability thus resulting in the ability to utilize all state required testing services as well as district's shared service solutions. A key partner of CMSD is The Lubrizol Corporation. Lubrizol has donated extensive support of its IT and finance staff, helping the district assess its IT and finance systems. As a $6.1 billion, global company, Lubrizol has modern advanced IT and finance systems and processes in place, and their staff expertise is providing much needed consulting and technical support as CMSD seeks to modernize its respective systems. The

technical support of Lubrizol will positively impact this grant request.

12. Describe how it will meet the goal(s) selected above. - If school/district receives school improvement funds/support, include a brief explanation of how this project will advance the improvement plan.

Technologically rich learning environments are critical if a school is to succeed in developing students who have 21st Century skills. A strategic imperative of the Cleveland Plan is to deploy and employ academic technology as well as efficient and effective business process to manage key shared services. The use of academic technology is growing as a way of enhancing curriculum, extending quality instruction, providing immediate feedback, engaging and empowering students and redesigning schools and classrooms. CMSD needs to better understand and take advantage of these promising practices. CMSD has a wireless infrastructure deployed in all school buildings, resulting in our students having increased access to technology. However, with increased access and use of school based technology, our Core Infrastructure does not have the capacity to support and/or sustain increased use, resulting in a bottleneck effect in the core. Without upgrading our Core Infrastructure, our plans to expand the use of computer aided and web-based curriculum, instruction, and assessment, plus explore development of blended learning school models, will be drastically impaired and reduced. Investing in upgrading our Core Infrastructure is a direct strategic action to support the implementation of the Cleveland Plan, and will help us meet the goals of increasing student achievement and reduce cost by allowing us to: Supporting Quality Schools with reliable and effective technology. Supporting quality schools requires a commitment to operational effectiveness at the district level to sustain a modern tech platform. Thus the need to maintain and support the systems and the technical infrastructure required. Having multiple computers in every classroom, filled with the latest educational software and apps will come to naught if the core infrastructure is not in place which can support all of this. Creating demand for our schools. Reliable technology and robust and nimble IT infrastructure allows portfolio schools to utilize technology for instructional differentiation as we seek to raise student achievement while closing achievement gaps, and significantly improve the conditions for learning. Strengthening the capacity of teachers and leaders. CMSD can provide Professional Development and digital literacy standards for teachers, leaders and support staff. This is essential as we make the shift to fully implementing the Common Core and PARCC assessments. Serving as effective resource stewards. We will be able to increase Shared services, standards and alignment, sustainability strategies that reduce waste and inefficiencies.

C) SUSTAINABILITY - Planning for ongoing funding of the project, cost breakdown

13. Financial Documentation - All applicants must enter or upload the following supporting information. Responses should refer to specific information in the financial documents when applicable:

a. Enter a project budget

b. Upload the Straight A Financial Impact Template forecasting the expected changes to the five-year forecast resulting from implementation of this project. If applying as a consortia or partnership, please include the five-year forecasts of each school district, community school or STEM school member for review.

c. If subsection (b) is not applicable, please explain why, in addition to how the project will demonstrate sustainability and impact.

NA

14. What is the total cost for implementing the innovative project?

5,000,000.00 * Total project cost

* Provide a brief narrative explanation of the overall budget. The narrative should include the source and amount of other funds that may be used to support this concept (e.g., Title I funding, RttT money, local funding, foundation support, etc.), and provide details on the cost of items included in the budget (i.e. staff counts and salary/benefits, equipment to be purchased and cost, etc).

New Server Infrastructure Recommendations The new server infrastructure should have the minimum requirements: ? Distributed environment using the latest in blade enclosure technologies ? Support the latest x64 OS architecture and hypervisor technology ? At minimum, CPU configuration per blade should be 2.5 GHz dual-quad core processors ? Blades should have a minimum of 64GB of RAM each with no local storage (Boot from SAN) with options for 96GB and 128GB of RAM configurations ? Facilitate the centralized Management of a Virtual Environment ? System should be scalable enough to allow future expansion Cost: $750,000 New SAN and Backup Upgrade Recommendations It is recommended that a new SAN system: ? Minimally configured for 40TB raw storage capacity with the option to additional storage as needed. The minimum of the "max" configurable additional raw storage must be over 100TB for the system. ? Utilize the latest iSCSI technology over 10Gb network connections. ? Facilitate the server infrastructure with Boot from SAN ? System architecture to facilitate a flexible virtual environment and any future DR initiatives ? Allow the use of different classes of hard disks (high performance, standard, etc.) Cost: $400,000 It is recommended that a new backup system: ? Utilize a similarly-sized disk system for near-online backups ? System can be either onsite or hosted offsite ? If disk backup system is hosted offsite, provisions for network connectivity will need to be made ? Enterprise backup software solution to take advantage of disk-based backups ? Monthly and Yearly backups to be completed by a tape backup system ? Tape backup system to interface disk-based backup system, not production SAN Cost: $600,000 New Network Infrastructure Recommendations Core and Distribution switches ? Two Core and two distribution switches (should be same model switch) ? 2 Tbps Backplane throughput per switch ? Internal/virtual firewalls on distribution switches ? Support for Virtual Chassis and converged Ethernet ? Support Multicasting via PIM, BGP, AAA, Netflow-SFlow ? Support Layer 2/3 QOS, VLAN, GRE Tunneling, ? Advanced Routing Protocols ? Advanced Cryptography (AES-3DES) ? 10Gb and Gigabit Ethernet ? First Hop Redundancy Protocol (VRRP) ? Redundant Power Supplies Internet Distribution Switches ? Two switches supporting 10Gb and virtual chassis Access Control and Network Access Services ? Two appliances or virtual devices to centrally manage network device access, VPN authentication and other authentication services. ? System must have robust reporting for security audits (authentication attempts, current login, failed authentication attempts, etc.) Internet Edge Routing ? Two HA routers supporting 1.5 Gbps throughput each ? 5 Gigabit connections minimum ? BGP, OSPF, Advanced Routing Protocol, Cryptography, First Hop Redundancy Protocol (VRRP), IPv6 and Sflow/Netflow. ? Provisions for Channelized DS3 Edge Firewall ? Two HA firewalls supporting 1.5Gbps throughput each ? VPN Services with web client ? Advanced cryptography ? Stateful failover OOB Console Server - Allow the out of band management of all network equipment remotely. Cost: $1,500,000 Virtual Desktop Infrastructure The District's current OS standard (Microsoft XP) will be unsupported by its manufacturer starting in the first quarter of 2014. Several major application developers have already notified the district that their products will not be supported in the Windows XP environment, including Renaissance Learning and the PARCC Technology Guidelines.

15. What **new/recurring costs** of your innovative project will continue once the grant has expired? If there are no new/recurring costs, please explain why.

0.00 * Specific amount of new/recurring cost (annual cost after project is implemented)

* Narrative explanation/rationale: Provide details on the cost of items included in the budget (i.e. staff counts and salary/benefits, equipment to be purchased and cost, etc.). If there are no new/recurring costs, please explain why.

NA

16. Are there **expected savings** that may result from the implementation of the innovative project?

2,466,000.00 * Specific amount of expected savings (annual)

* Narrative explanation/rationale: Provide details on the anticipated savings (i.e. staff counts and salary/benefits, equipment to be purchased and cost, etc.)

The cost savings associated with bringing the data center back in house will result in excess of $300,000 cost savings annually. Currently, the COLO Network and Server Infrastructure is housed and operated by Blue Bridge Networks, with an annual cost of $300,000/year. Our contract with Sunguard K-12 Education for the hosting services of eSchoolPLUS is $216,000 per year. To move this function in-house will require CMSD to hire an eSchoolPlus administrator, at the cost of $70,000 per year. Thus the net annual savings will be $146,000 per year. The cost savings associated with the Virtual Desktop Infrastructure will be $2,000,000 every year. This is accomplished by being able to purchase thin clients verses traditional PC workstations. The budget for a 4 year PC refresh cycle using traditional PC's is $3.8 million/year. Utilizing thin client hardware the cost would be $1.9 million allowing the district to save $1.9 million annually for hardware replacement. An additional $100,000 savings will be realized through decreased tech support. The thin client devices are much easier to support and the configuration/applications are managed centrally. Over the five year period of this grant, we will have anticipated savings of $12,230,000.

17. Provide a brief explanation of how the project is self-sustaining. If there are ongoing costs associated with the project after the term of the grant, this explanation should provide details on the cost reductions that will be made that are at least equal to the amount of new/recurring costs detailed above. If there are no new/recurring costs, explain in detail how this project will sustain itself beyond the life of the grant.

The annual recurring cost for software maintenance will not dramatically change and is part of the existing budget structure. The cost savings will occur with the added opportunities the newer hardware and network infrastructure will afford in increased opportunity and lower cost to maintain (less failures) and user satisfaction. The cost savings associated with bringing the data center back in house will result in excess of $300,000 cost savings. Currently, the COLO Network and Server Infrastructure is housed and operated by Blue Bridge Networks, with an annual cost of $300,000/year. Additionally, there will be savings of $146,000/year with CMSD taking over hosting responsibilities with eSchoolPLUS. Finally, the major savings from developing the Virtual Desktop Infrastructure will be $2,000,000 per year. Over the five year period of this grant, we will have anticipated savings of $12,230,000. Thus, this project is not adding new costs, but will have a substantial cost saving.

D) IMPLEMENTATION - Timeline, communication and contingency planning

18. Fill in the appropriate dates and an explanation of the timeline for the successful implementation of this project. In each explanation, be sure to briefly describe the largest barriers that could derail your concept or timeline for implementation and your plan to proactively mitigate such barriers. In addition, the narrative should list the stakeholders that will be engaged during that stage of the project and describe the communication that occurred as the application was developed.

Describe the ongoing communication plan with the stakeholders as the project is implemented. (Stakeholders can include parents, community leaders, foundation support and businesses, as well as educational personnel in the affected entities.)

* Proposal Timeline Dates

Plan (MM/DD/YYYY): 01/01/2014

* Narrative explanation

CMSD has already completed all planning, including specifications and prices, for this Core Infrastructure Development Project, and we are ready for implementation.

Implement (MM/DD/YYYY): 01/01/2014

* Narrative explanation

Project 1 - Implementation of Server/SAN Environment in COLOCATION and migration to Windows 2008 Active Directory functionality with new domain controllers Timeframe: 1 month Infrastructure Needed: SAN initially configured at minimum 40TB raw storage New backup system implementation with disk backup configured in relation to production SAN. Two (2) server blade enclosures populated with four servers in each enclosure (8 blade servers total) Network interconnectivity to interface new server blade infrastructure and iSCSI SAN to the existing Cisco 6500 Distribution Switches Initial Software to Support Infrastructure (Windows 2008/2012 Datacenter licensing, any virtual licensing, etc.) Project 2 - Initial New server implementations as requested. Forefront Identity Manager Implementation. Timeframe: As needed after Project 1. Infrastructure Needed: Server blades and enclosures to support incoming projects as needed SAN and expansion past 40TB raw storage (as needed) Backup storage expansion (as needed) 1-2 server blades for Forefront Identity Manager implementation Additional Software to Support Infrastructure (Windows 2008/2012 Datacenter licensing, any virtual licensing, etc.) Project 3 - Migration of existing server environment to new system Timeframe: 3-6 months Infrastructure Needed: Server blades and enclosures to support existing environment (estimated 20-25 server blades with virtualization) SAN expansion past 40TB raw storage (as needed) Backup storage expansion (as needed) 1-2 server blades for Forefront Identity Manager implementation Additional Software to Support Infrastructure (Windows 2008/2012 Datacenter licensing, any virtual licensing, etc.) Project 4 - Decommission of Old Server/SAN Environment Timeframe: 1 week after the completion of Project 3 Project 5 - Initial Virtual Desktop Infrastructure (VDI) implementations as requested. Timeframe: after Project 1, 3-4 months Infrastructure Needed: Server blades and enclosures to support incoming projects as needed SAN storage (as needed) Backup storage expansion (as needed) 2-4 server blades for VDI server implementation Additional Server Software to Support VDI Infrastructure (Windows 2008/2012 Datacenter licensing, any virtual licensing, etc.) Phase 2 - Implement New Network Hardware at Location TBD Project 1 - Design network topology with current MAN provider for service turn up and plan cutover at location TBD. Work with ISP and MAN providers to install service at new location. Timeframe: 2 months Project 2 - Installation of new Network Hardware at the location TBD Timeframe: 1-2 months Infrastructure Needed: All network recommendations proposed in section 4.3 Project 3 - Migration of MAN and ISP service to new network hardware Timeframe: 1 month Infrastructure Needed: Migrate Internet Content Filter to new location (note: purchase of new internet filter is out of scope of this document) Phase 3 - Migration of New server/SAN environment to New Location TBD Timeframe: 1 weekend Phase 4 - Decommission of Old Network/Server/SAN Devices at Old Locations(s) Timeframe: 1-2 months

Summative evaluation (MM/DD/YYYY): 07/01/2015

* Narrative explanation

CMSD will be able to complete the full implementation of this Core Infrastructure Project in approximately six months. The summative evaluation will be completed after the first full academic year of the project, as that will allow us to get one full school year of usage. Working with our help desk, we will be able to historically track a multitude of service requests, by category, and determine what issues have declined and our level of service improvement. It is expected that with this Core Infrastructure upgrade, we will be able to measure frequency of down-time, service interruptions, nature of service calls, and speed of problem resolution.

19. Describe the expected changes to the instructional and/or organizational practices in your institution.

Currently, the entire district is "held hostage" by an aging infrastructure that reduces the capacity and capability of the technology to deliver the needed resources to the students and staff. There is nothing more frustrating than having teachers and students having wireless capability and new computers, but not being able to make optimal use of the technology tools, as the larger infrastructure that supports the network continually experiences bottlenecks. It's equivalent to having a sports car and access to a highway, but every 100 yards the highway shrinks so that only a person on foot or bicycle can pass through. This experience diminishes enthusiasm and pushes students and teachers from fully embracing technology as a powerful learning tool. The key expected change to the instructional practices is greater use of technology by our teachers and students, and increased use of online educational software and apps, resulting in more engaged learning and improved academic achievement. We anticipate broadening access to quality educational resources and experiences, plus engaging students in active learning with instructional materials and access to a wealth of resources that can facilitate the adoption of research-based principles and best practices from the learning sciences. This new technology will allow the District to provide timely and appropriate resources for student assessment and other educational opportunities, be they computer aided and web-based curriculum, instruction and assessment, or exploring the development of blended learning school models. District staff will also benefit from the changes in efficient use for resources and providing current technology to support next generation applications and hardware. Finally, our current technology would not meet the bandwidth and infrastructure requirements as Ohio moves to the Common Core and the PARCC assessments. This investment would prepare us for this critical requirement.

E) SUBSTANTIAL IMPACT AND LASTING VALUE - Impact, evaluation and replication

20. Describe the rationale, research or past success that supports the innovative project and its impact on student achievement, spending reduction in the five-year fiscal forecast or utilization of a greater share of resources in the classroom.

The rationale to invest in CMSD Core Infrastructure development is based on the reality that effective 21st Century teaching and learning is not possible without access to technology. Technology can be used to bring exciting curricula based on real-world problems into the classroom; provide scaffolds and tools to enhance learning; give students and teachers more opportunities for feedback, reflection, and revision; build local and global communities that include teachers, administrators, students, parents, practicing scientists, and others; and expand opportunities for teacher learning. Further, many young people have powerful technology in their hands via smart phones, accessing volumes of information at their fingertips, yet attend schools that do not have the ability to bring sophisticated technology into the classrooms. The age of the sage on the stage is over, as no teacher can compete with the world of information and social media that today's students are exposed to. Today's students are demanding a technology rich learning environment that is engaging and personalizes instruction. Thus, technology is no longer a luxury only for a few elite schools, but is now a basic requirement all schools must have. While not glamorous, investing in our Core Infrastructure development will allow CMSD to provide the teaching and learning environment required in the 21st century. This investment will yield significant cost savings in our five-year forecast, which can result in additional investment in student achievement.

21. Is this project able to be replicated in other districts in Ohio?

☑ Yes ☐ No

22. If so, how?

The substantial cost savings are a result of the district deciding to host its own server infrastructure. To assess this requires approximately six to nine months of analyzing current structure compared to staffing, hardware, and software needs of self-hosting. Once the analysis is completed, a district can then decide if it is more feasible to self-host its IT Infrastructure, or is it more cost effective to outsource it. If the determination is made to self-host, then the IT migration will take approximately six months to be phased in.

23. Describe the substantial value and lasting impact that the project hopes to achieve.

The substantial value is in the significant cost savings from self-hosting our Server Infrastructure and self-hosting E-School Plus, and reducing down-time due to system failure. These are significant costs which can be reinvested towards improving academic achievement. Finally, the lasting impact will be upon academic achievement, as the district will have the technology infrastructure that can support web-based curriculum, instruction and assessment, plus allow us to develop blended learning school models. The grant outcomes are the following: Outcome 1: Eliminate the cost associated with external hosting of our server infrastructure. Outcome 2: Eliminate the cost associated with external hosting of E-School Plus. Outcome 3: Reduce the cost associated with server failure, disruption, and down-time by 25%. Outcome 4: Reduce the number of calls to the CMSD Help Desk by 15%. Outcome 5: Academic technology plan and recommendations for blended learning models adopted. This project will lead to the successful attainment of project goals by reducing external costs, improving performance, and laying the foundation for an academic technology plan. We have significant costs associated with external hosting services, and by investing in the upgrade and migration of these services in-house, we will be able to eliminate these costs. Without these investments and upgrades, we cannot transfer these services in-house. We also acknowledge that there is a productivity cost with frequent system disruption, and this investment will significantly improve performance and thus productivity. Finally, any academic technology plan is only as good as the infrastructure which supports it. With this investment, we will be able to pursue and develop quality online and web-based learning modules. CMSD will be able to sustain this project after the grant, as we can reinvest the significant cost savings, plus we will not be having to make a vastly huge infrastructure investment all at once, but can make consistent smaller investments yearly to support this.

24. What are the specific benchmarks related to the fund goals identified in question 9 that the project aims to achieve in five years? Include any other anticipated outcomes of the project that you hope to achieve that may not be easily benchmarked.

Outcome 1: Eliminate the cost associated with external hosting of our server infrastructure. Baseline: CMSD spends $300,000 per year on external hosting of server infrastructure. Objective 1: Implementation of New Server Environment at Colocation, completed by 3/2/2014 Objective 2: Migration of existing server environment to new system, completed by 6/30/2014. Objective 3: Decommission of Old Server, by 7/7/2014. Outcome 2: Eliminate the cost associated with external hosting of E-School Plus. Baseline: CMSD spends $18,114.74 per month on external hosting of E-School Plus. Objective 1: Implementation of internal hosting of E-School plus, completed by 6/30/2014. Objective 2: Decommission of external E-School Plus hosting, completed by 7/7/2014 Outcome 3: Reduce the cost associated with server failure, disruption, and down-time by 25%. Baseline: The average additional cost associated with server failure is to be determined. Objective 1: Analyze and develop report on the frequency of server failure, completed by 2/01/2014. Objective 2: Develop estimates of cost and loss productivity due to server failure, completed by 3/30/2014. Objective 3: Develop cost savings metric comparing old and new server failure reports, completed by 7/1/2015. Outcome 4: Reduce the number of calls to the CMSD Help Desk by 15%. Baseline: The number of calls to the CMSD Help Desk due to server issues is to be determined. Objective 1: Develop report which tracks Help Desk calls for past three years, completed by 3/1/2014. Objective 2: Compare call frequency to Help Desk, pre and post server upgrade, completed by 6/30/2015. Objective 3: Develop matrix to reveal productivity gains post server upgrade, completed by 6/30/2016. Outcome 5: Academic technology plan and recommendations for blended learning models adopted. Baseline: CMSD does not have an academic technology plan or blended learning models beyond the eTech Ohio Technology Planning Tool (TPT). Objective 1: Complete assessment of current capacity and usage of academic technology, completed by 6/30/2014. Objective 2: Develop plan to expand use of computer aided and web-based curriculum, instruction and assessment, completed by 6/30/2014. Objective 3: Explore development of blended learning school models, by 6/30/2014.

25. Describe the plan to evaluate the impact of the concept, strategy or approaches used.

* Include the method by which progress toward short- and long-term objectives will be measured. (This section should include the types of data to be collected, the formative outputs and outcomes and the systems in place to track the program's progress).

* Include the method, process and/or procedure by which the program will modify or change the program plan if measured progress is insufficient to meet program objectives.

This project requires the evaluation of the successful implementation and migration of hardware/software, measuring how this upgrade in our server infrastructure has improved performance and productivity, and how this upgrade lays the foundation for CSMD to develop an academic technology plan. The successful implementation and migration of the hardware and software needed to upgrade our server infrastructure is probably the easiest to evaluate, as it entails managing the selecting, purchasing and installation of hardware/software, then testing and troubleshooting the system prior to full

activation. Working with Intellinet Corporation, which is currently awarded the E-Rate contract for server maintenance, network support, and email services, we have high quality project management and implementation support to assure that this part of the project is on-time, on-budget, and is operationally tested for a smooth transition and full implementation. We anticipate this aspect of the project to be fully completed by June 30, 2014. Once this is completed, we will evaluate cost savings based on prior year's expenses for external hosting of the server and E-School Plus with current expense reports. We expect to see a significant cost savings, but also recognize the potential for hidden costs post-project completion. Thus, we will track this expense line item for the duration of the five years of this grant, to verify actual results. Next, we will evaluate how the infrastructure upgrade will improve performance and productivity. The two main areas to evaluate if the upgrade to our core infrastructure improves performance and productivity is to measure the frequency of server failure/disruption, and speed, plus to measure the volume and nature of calls to the CMSD Help Desk. We do not have an external benchmark or industry standard by which to measure performance and productivity, plus how these can be extrapolated into cost savings, so we are developing our own metric for this. For server failure/disruption, we will look at the historical record of the frequency and severity of server failure/disruption, to create a baseline for how often this happened, and how long it took to get back online. With this information, we will model what this means in terms of productivity and loss work hours. Next, we will acquire the same information for the new server, to develop pre and post comparison points. Finally, with this information, we will be able to develop a cost saving matrix, which will reveal cost savings due to increased performance. We will do this every year beginning 6/01/2015, after having a year with the new system. Finally, for the academic technology plan, we will evaluate the successful implementation of this by assuring that each objective is achieved, and that the academic technology plan, including assessment of current capacity, expansion strategies, and recommendations for blended learning models are adopted by the Board of Education, by June 2014.

By virtue of applying for the Straight A Fund, all applicants agree to participate in the overall evaluation of the Straight A Fund for the duration of the evaluation timeframe. The Governing Board of the Straight A Fund reserves the right to conduct evaluation of the plan and request additional information in the form of data, surveys, interviews, focus groups, and any other related data to the legislature, governor, and other interested parties for an overall evaluation of the Straight A Fund.

PROGRAM ASSURANCES: I agree, on behalf of this applicant agency and/or all identified partners to abide by all assurances outlined in the Assurance section of the CCIP. In the box below, enter "I Accept" and indicate your name, title, agency/organization and today's date.

"I accept" Diana Ehlert Deputy Chief of Academic Resources/State and Federal Programs Cleveland Metropolitan School District October 24, 2013