

*The Governor's Productivity Investment Fund*

**Productivity Investment Fund Request for Information Response**

**Statement of Interest Submission Template**

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All submissions must be received by 11:59 pm Eastern Standard Time, by email or mail. Electronic responses are preferred and should include **Productivity Investment Fund RFI Response** in the subject line. Non-electronic responses will also be accepted. Please send to:

Please provide answers to all questions.

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*Section 1 – Administrative Information*

Indicate the name of your proposal and the date this submission was prepared. Also, provide the name, title, address, phone number and email address of the individual who is taking accountability for this submission. Finally, please indicate which partner agency head is sponsoring this proposal (if different from above), and attach a brief email or letter of support from this individual as indicated in the RFI. NOTE: Any SOI without support from the head of the sponsoring agency WILL NOT BE CONSIDERED FOR FUNDING.

*Section 1 – Administrative Information*

**Proposal Name:**

**Google Applications Classroom for K-12 Education**

**Date:**

June 13, 2008

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**Sponsor:**

Virginia Department of Education

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(Letter of Support Attached)

## *Section 2 - Problem Statement*

- What is the need?
- How/why is it not being met?
- What are the impacts of this opportunity?
- Who are the Stakeholders and what are their interests?

### *Section 2 – Problem Statement*

Mecklenburg County Public Schools' six elementary, two middle, and two high schools serve 4,600 students in kindergarten – grade twelve. Seven hundred staff members that include administrators, curriculum specialists, program directors, eachers, and support staff work very hard to provide a high quality education for the students in the school division. Mecklenburg County Public Schools (MCPS) recognizes and understands that collaboration and team work play an important role in being an effective and efficient school division. The problem that impacts this rural school division is the distance between schools and the travel cost involved using with face to face collaboration as an effective way to enhance instruction. There are twenty miles between the two high schools, twenty-seven miles between the two middle schools, and thirty three miles between the elementary schools at each end of the county line.

To minimize operating costs, the school division purchased an enterprise grade division-wide email system, network telephones, video conferencing units, and has strategically held meetings and staff development opportunities in central locations to reduce travel times and mileage expenses. Even though these strategies are adequate, they are expensive to maintain and operate. Software upgrades every three to four years have been costly to the division. The projected upgrade for the Microsoft E-mail exchange server software and staff user licenses for 2008 is **\$5,757**. It is projected MCPS would spend an additional **\$17,493** in user licensing alone to expand our email service to include students (middle and high school only). Server upgrades to house the email service cost **\$6,719** and spam filter appliance expenses are approximately **\$6,520** every three years.

Many school divisions throughout the Commonwealth of Virginia battle similar issues. Schools and educational facilities need to be able to collaborate with each other and work together to develop lesson plans, discuss best practices, and develop new educational strategies. School divisions are continually challenged to find user friendly tools and resources to effectively accomplish this goal.

Mecklenburg County Schools has deployed several free and open source solutions that have enhanced the ability of its schools to collaborate more efficiently and effectively. The deployment also saves the division thousands of dollars in operating expenses. Moodle, an open source online course delivery management system, was implemented two years ago to provide teachers and students with an effective communication tool that reaches beyond the classroom. Students that are absent are able to go online to receive

their assignments and make up work. The system was used to offer an online class for students in Career and Technical Education. The system was used during the 2007-2008 school year to provide free online division - wide staff development opportunities in areas such as Internet Safety and technology integration. This cost efficient program would not have been possible without this open source resource. Mecklenburg County Schools has experienced great success with Moodle. This system could be expanded to school divisions all across the region and state. School Divisions need to be able to collaborate and work together on such things as developing media rich lesson plans and staff development opportunities. Online classes and locally developed staff development opportunities could be shared among schools interested in participating. However, in order for this initiative to be successful, training and documentation is needed to illustrate how this system works and to demonstrate the user features of the program. A documentation repository is needed to provide easy access to this information once it has been developed.

MCPS has implemented Google Applications for Education for teachers and staff within the division. In addition to the savings in email expenses, money is saved in licensing fees for word processing, spreadsheet and presentation programs. MCPS was able to offer the online Google Docs program included in Google Applications instead of upgrading 2,050 Microsoft XP licenses to Microsoft Office 2007 at a cost of **\$110,728**. The Google initiative offers the same services division-wide at no cost over the next five years. These online applications are accessible anywhere that has an Internet connection. Google has developed a beta version of a synchronization program that would also allow users to access the program offline. MCPS has its own domain that allows users to collaborate on documents and see changes in real time. They have the opportunity to collaborate with others in the organization and the option to allow others worldwide to have access.

Moving to Google Applications and integrating these services with the existing open source web services that MCPS has to offer will provide a collaborative environment for teachers, parents, and students alike. The applications provided by Google will add collaborative value through the sharing of resources over long distances. The email system is now no longer hosted on-site, eliminating the cost and liability of on-site administration of both the email system, and spam filters. Current trends also show that Colleges and Universities are moving over to the same platform, making the resource even more valuable by making the student comfortable with the same services they may be using in Post Secondary Education.

While the financial incentives of using Google Apps is a huge benefit for school divisions, the benefits for building a more collaborative teaching and learning environment should also be a strong advantage of its implementation. These benefits include peer review of academic work, and the ability to observe and participate in the creation of outstanding material. Today's educational users are generally comfortable sharing and collectively generating knowledge. The Google Apps model of application delivery and file storage provides a set of tools and infrastructure to make this happen. By leveraging interest in the use of such tools, institutions may be able to encourage more experimentation with collaborative learning. Google Apps also facilitates sharing of

information and offers an easy way to publish teacher and student work as well as projects. Google Apps allows teachers, students and staff to focus on creative ways to use technology in education without focusing on the cost and installation of the technology tools.

MCPS would like to document the process by showing:

- 1) How the migration to the new platform affects teachers and staff in the upcoming 2008-2009 school year.
- 2) How the new Google Apps system will integrate with the current systems such as Moodle, Drupal, and Active Directory.
- 3) How much training will be involved in moving all employees and students over to the new system?
- 4) Collaboration with other Districts to see if there are trends, good or bad, moving to this type of system.
- 5) Estimation of the total cost of entry for this type of system if it were rolled out on a larger scale.

MCPS would also like to share this initiative with other school divisions to possibly create a regional or statewide Virginia Open Educational Community, which would include the Google Classroom initiative. We will need funding and personnel to develop the media and resources to provide this information. In order to effectively complete this initiative we must:

- 1) Create an online community based on the experiences of "Integrating Google Apps into the K-12 School Division." Using existing services to create a free and open learning environment.
- 2) Provide the code for these integrations through a web based repository.
- 3) Collaborate with other projects currently underway around the state to create a joint effort within Virginia to allow for others to benefit from communal work.
- 4) Provide materials and documentation needed to train teachers, students, staff all other users to utilize Google Apps and create a community online portal to make these resources readily available to all interested users and school divisions in Virginia.

### *Section 3 – Description of Solution*

- What actions need to be taken to address this opportunity?
- What resources are needed to develop and implement this solution?
- How is success defined and measured?
- When could development of this solution get started?
- How long would it take until implementation?

### *Section 3 – Description of Solution*

Mecklenburg County Schools is testing and implementing the education edition of Google Applications to replace several key tools that we use in our division. The main components that Google Apps provides MCPS are free 24-7 supported E-mail services, online document storage and an online word processor, spreadsheet, and presentation application. These features allowed MCPS to eliminate Microsoft Exchange services and an older version of Microsoft Office. The project has lowered operating costs and provided a more efficient and effective way to collaborate with users across the division. With the application in place and ready to be used, our goal is to increase collaboration between schools and school divisions both regionally and statewide. We have a solution that will allow this free collaboration tool to be implemented in any school division willing to participate. Our solution provides training opportunities and creates technical documentation in digital format that can be shared on the Internet. These resources will allow users to learn the features of the application at any time and share the content with others. Other school divisions can use this information to determine the feasibility of implementing this initiative in their localities.

This can be accomplished with both an administrative and technical solution. First, MCPS would like to hire one Google Applications Implementation Specialist who would be responsible for developing and implementing training programs for the end users (teachers and staff), and also fully document the process through written, oral, and visual presentation formats that can be shared in digital format. (Attachment A: Google Application Implementation Specialist Job Description)

Second, MCPS would host this content on a web 2.0 platform to encourage community involvement and gain both the technical and administrative momentum needed to make a drastic change like this. The server can be virtual or dedicated. MCPS will go through the proper procurement procedures to acquire the server and share the resource with the Department of Education and any other interested parties.

The success of this project will be measured by the number of school divisions that successfully implement Google Applications into their organization. The Google Applications Implementation Specialist will conduct research studies using tools such as an electronic survey. The data that will be analyzed to determine how many school

divisions successfully implemented the initiative, if it lowered operating costs, how it affected collaboration between their users, and if they were successfully able to integrate the application with other free and open source products. The effectiveness of the training material and documentation developed will also be measured. MCPS will work with school divisions to determine enhancements that may be needed to improve the education version and work directly with Google representatives to meet our needs and possibly expand the services for education.

If this initiative is funded, the project could start immediately. The Google Applications Implementation Specialist position would be advertised and interviews conducted. This process would be completed by August 1, 2008 so that the specialist could work with the Mecklenburg County Schools Director of Technology, Manager of Technical Services, and Technology Resource Teachers to begin the implementation process. It is desirable to have the process start when the 2008-2009 school year begins.

#### *Section 4 – Business and Financial Analysis*

- What are the financial costs and benefits of your solution? (Please attach all supporting documentation as appropriate, giving dollar estimates of costs and savings, if applicable.)
- What other costs and benefits are associated with your solution? In particular, how well does it address the three Commonwealth objectives presented in the RFI? (e.g., lower operating costs, reducing constituent transaction times, and advancing key agency performance goals. Be sure to quantify all costs and benefits). For more information on state agency performance goals, please visit the *Virginia Performs* website at [www.vaperforms.virginia.gov](http://www.vaperforms.virginia.gov)
  - Please consider how key outcomes will be measured. You will be required to establish measurements upon award (see template for more details and examples)
  - If your solution addresses the "lower operating costs" measure then please describe the repayment method, time-frame and frequency of payment.
- What critical assumptions, if any, have you made in your analysis?
- What do you anticipate as obstacles or constraints in implementing your solution? How do you propose to avoid/overcome obstacles?
- What risks/trade-offs does your solution create?

*Section 4 – Business & Financial Analysis (Please attach all supporting documentation)*

Financial Analysis

Based on the Mecklenburg County School's cost benefit analysis, this project would be an outstanding investment for other schools in Virginia. The analysis showed that Mecklenburg County Schools will save **\$123,204** during the first year of implementation alone. An additional **\$77,193** will be saved in the next four years. The following attachments are included to support this information and provide a budget for the implementation.

Attachment B: Five Year Savings Analysis for Mecklenburg County Schools

*Note: Quotes and Invoices for Microsoft Exchange, Microsoft Office 2007, Spam Filters, and Servers are on file at the Mecklenburg County School Board Office. Copies are available upon request.*

Attachment C: Google Applications Project Budget

Goals, Obstacles and Solutions

By the end of four years, our goal is to have 100 percent of the school divisions in the Southside Regional Technology Consortium and 50 percent of the divisions successfully using Google Applications statewide. This will be measured by the number of divisions using Google Applications in their division and data from performance and satisfaction surveys.

Even though documentation has shown many advantages to implementing Google Applications, one critical assumption is that users will commit to using this new application. The product is very similar to the Microsoft products but, sometimes users resist change. The training material, documentation development, and marketing the application will be a critical part of the success of this program. The Google Application Implementation Specialist and other partners must work together to provide training and support to users. Another critical assumption is that Google will continue to provide this application free to educational institutions and allow users to have input into the development and enhancement of the applications.

*Section 5 – Additional Information*

- What opportunity, if any, is there to leverage your solution across multiple agencies?
- If your proposal receives funding, what would be your initial next steps?
- Please list key project risks.
- Is there anything else we should know?

*Section 5 – Additional Information*

The documentation and support that the Google Application Implementation Specialist develops will provide school divisions in the state of Virginia with research based data on this initiative. Once funding is obtained, the staff would be hired to begin the process.

As the project progresses, MCPS would work closely with Google and other free and open source resources to continue to develop this initiative. Partnerships with Professor Ed Berger from the University of Virginia and other researchers will be used to study how these other tools may be used to improve student performance.