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Strategic Plan: Goals/Objectives 1.1.1.2, 1.3, 1.4, 1.5, 1.8

Three-Year-Old Preschool Class Expansion

The Charlottesville City Schools Strategic Plan contains a strategy for expanding and improving the quality of our preschool programs. Governor Kaine has promoted an early childhood initiative as one of his priorities. We are in communication with the University of Virginia staff regarding the development of a model framework for preschool education. Research has indicated that one strategy for closing the achievement gap is high-quality early childhood education. A broad-based collaboration of partners, linking the community's higher education institutions with the early learning providers and the school division will be established to consider the expansion of early childhood education services, improve the quality of programs, increase access, enhance family literacy, and improve learning readiness for preschool children.

The Charlottesville City Schools currently has one class for children who turn three by September 30th of the school year of entry. The class is located at Clark Elementary School and is in session five days a week from 9:15 to 2:00. School buses transport the children to and from school. There are twelve children in the class with a certified teacher and a highly qualified teaching assistant. The children must live in the city of Charlottesville, qualify for free or reduced meals and be toilet trained. Selections are made based on the number of family stressors identified through the application process. The class offers a positive, nurturing environment and preparation for the Four-Year-Old program the following year. Adding one additional class for three-year-old students is recommended.

Estimated Expenditures

Staff	
1 Teacher for three-year old class @ \$60,000	60,000
1 Instructional Assistant @\$28,000	28,000
(Each of the cost figures includes fringe benefits.)	
Furniture for 1 classroom	15,000
Instructional materials for 1 classroom	15,000
Professional development for program planning and staff	3,300
Renovation costs to meet preschool requirements	10,000
Transportation	28,800
Total	\$160,100

14 January 2009

To: Jim Henderson

From: Mark Leach

Re: Proposal to Supply Laptop Computers to All Teachers

A proposal to supply laptops to all teachers must take into account several factors. There are initial expenditures to acquire the hardware and software, ongoing costs for support, repair and maintenance, and future considerations for replacement. This proposal attempts to describe and quantify the costs related to the effort to providing each teacher in the division with a laptop for classroom and home use.

The largest outlay of monies would be required up front to get the equipment in the hands of the teachers. If \$1,200 is used as a rough estimate of the cost of either an Apple MacBook or Dell Latitude with carrying case, the initial cost for the hardware would be approximately \$520,800 for the four hundred thirty-four teachers in the division. In addition there would be approximately \$120 needed per laptop to cover baseline software. This represents an additional \$144,000 in expenditures. This figure could increase if other software tools currently licensed for use in the division were placed on the laptops with the idea that teachers should have full access to these software tools in order to become facile with them and use them for improved instruction. This brings the total initial outlay to around \$664,800. This initial cost could be somewhat softened if purchases were spread out over a three year period and a staggered rollout was adopted. One other option to reduce the up-front cash need would be to look at the option of leasing the hardware.

The secondary impact of this proposal is the ongoing repair and maintenance of the laptops as well as the required support once they are deployed. We have found, and research supports, that laptops cost more to maintain than desktops. This is due to a number of factors including: higher component failure rates, higher component costs, higher risk of damage and theft, and battery replacement costs. If the assumption is made that each laptop will need a replacement battery (@ ~\$90 each) and that 10% of the laptops will either be significantly damaged, stolen, or require significant repairs each year (@ ~ \$400 per instance) an additional \$70,400 would be required over four years. With the benefits of mobility comes the increased likelihood that users will need assistance connecting to the network and that they will need assistance while they are disconnected from the network. Both of these scenarios require increased access to technical support. It may be possible to outsource this support, but it is likely that hiring another in-house technician would be the more economical solution. This would require an outlay of approximately \$240,000 over four years (\$60,000 in salary and benefits for an additional staff member). An approximate four year support cost of \$310,400 would be needed.

One additional factor that needs to be considered is what happens after four years. The original laptops will either need to be replaced or retired. If the laptops are replaced we would essentially start over and the four year cost of nearly \$1,000,000 would be repeated for another four year cycle. This would require a consistent source of funding if the initiative were to be maintained.

Total cost over 4 years: Approximately \$974,800.

23 January 2009

To: Dr. Rosa Atkins

From: Mark Leach

Re: Proposal to Provide Each Classroom with a Telephone

Our current phone system is nearly at capacity. We have reached the limits of expandability, so deploying more phones using the design of the current system would require a cost-prohibitive replacement of the whole system and require physical space beyond what is currently available in the phone closet. In looking at how to provide expanded telephone access for classrooms and other areas in our buildings it becomes necessary to rethink how we provision voice services. Fortunately, due to the recent upgrade of our Wide Area Network, we now have the option of using our data network to transport voice traffic in addition to our existing data traffic.

Voice Over IP (VoIP) is a method of delivering voice communications over a data network. Specialized digital phone equipment utilizes the same network as our computers to deliver voice calls to anywhere a connection to the data network currently exists. Currently every classroom and office in the division has a connection to the data network. VoIP overcomes the need to provide separate, dedicated phone wiring in each classroom. Our current phone system can be adapted to support VoIP phones alongside our existing analog and digital phones, and would be more cost-effective than replacing the entire system.

However, modifying our current system to be able to utilize this method of delivering voice services does require a significant initial investment in money and time. Our existing phone system will need to be upgraded, additional equipment will need to be installed on the data network, our data network will need to be reconfigured, and new phone instruments will need to be purchased. Longer-term benefits to migrating our voice services to a VoIP platform are:

- Greater Portability – it is simpler and less costly to move the central phone system to another location if voice traffic is running over a packet switched data network instead of dedicated voice circuits.
- Future Expandability – new systems installed today are more likely to be based on a VoIP platform, so we would be able to position ourselves to have a voice system that is viable into the future.
- Simplified Changes – moves, adds, and changes become simpler to manage and less costly. An IP based phone can be unplugged from one location and plugged in to another location and will be able to make and receive calls without any system changes. Additionally, the installation of an IP based phone would not require installing separate dedicated wiring in the new location.
- Paging & Intercom Services – the option exists to provide paging to the IP phones and to integrate them with intercom systems.

My recommendation would be to pursue a partial VoIP implementation at 8 schools, plus the classrooms at CHS currently without phones, at an estimated cost of \$497,000. This option provides the best blend of functionality, growth potential, and cost and would provide us with a flexible and stable platform for voice services that should serve us well for years to come. If one-time funding can't be secured for the full amount, then I would recommend pursuing a limited VoIP implementation for classrooms only at a cost of approximately \$331,000, but only if a commitment is made to allocate funding in subsequent years to build the system out to a comparable level as would be attained with the option recommended above. This limited implementation by itself, with no further improvements, would not serve as a desirable voice services platform. One other

approach would be to do a phased implementation at CHS, Buford, Walker and one elementary school for an estimated initial cost of \$300,000 and complete the remaining schools by allocating an additional \$200,000 in the following budget year.