

Need for Multi-Year MIS Core Computing Hardware Upgrade

A multi-year approach is required to upgrade the District's MIS core computing and storage capabilities to be able to continue to support the ever-increasing data processing demands of our students, faculty and staff. A rash of recent hardware failures illustrates that the current system is well past its useful life. Efforts to support new programming and capabilities are also being limited by the current system. A system upgrade is especially necessary soon so that the District can adequately absorb the payroll responsibilities being transferred from the County effective January 1, 2017. Anyone not want to be paid?

Making the investment now to "virtualize" the core computing and storage capabilities of the system will save future hardware and support costs by virtualizing PCs and Labs. Also, the new Core Data Network must be high speed to provide the performance and response times required by end system users. Wireless Access Points, edge network electronics, and servers have reached end-of-sale and end-of-life. Campus fiber-optic backbone needs to be upgraded to meet the demands of multimedia applications, streaming video, and online interactive applications.

The proposal is divided into the following components that are listed in High, Medium and Low priority order in addition to be further divided into one-time and ongoing expenses.

- (a) Data Center Core Computer Upgrades
- (b) Disaster Recovery Infrastructure
- (c) Network Access to Computer Systems
- (d) Building IT Closet and Inside Cabling Upgrades

List of recent hardware failures in the past few months:

- Exchange email server OS hard drive failure
- Exchange email server Database hard drive failure
- Main file server 1 hard drive failure
- Main file server 1 Raid controller battery failure
- Main file server 2 Raid controller battery failure
- Primary domain controller Raid controller battery and/or memory failure
- VMWare host 5 hard drive failure
- MGE UPS failure
- Main web server hard drive failure

Core infrastructure past usable life:

- Network can't support latest infrastructure
- Wireless network is end of life and has seen many failures
- 1/3 of campus running on Fiber Optic network 15 years old – can't support higher speeds
- Network core and edge can't support current high speed demands
- Storage is not backed up properly
- Core systems can't recover from disaster/failure - major data loss possible

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New demands on MIS:

- Payroll in house needs rock solid backup/disaster solution
- More data/metrics needed for reporting
- Navigate student services program from EAB
- Banner XE upgrade
- New initiatives from Student Services
- Campus computers have increased almost 3-fold in the past few years

Looking ahead to the next 5-10 years:

- Consolidate and Virtualize datacenter
- Consolidate and virtualize storage
- Huge opportunity to save costs by also virtualizing PCs, Labs
- Will be able to continue operations, distance ed, classroom, payroll with new hardware without interruptions
- Any current or new initiative is 100% reliant on the network, storage, and compute capability of MIS
- Make MIS more productive, proactive and less reactive

Technology Expenditure Category (matched to report categories)	One-time Cost	Annual Recurring Cost	Priority						
				FY 2015-16	FY 2016-17 (one-time)	FY 2016-17 (ongoing)	FY 2017-18	FY 2019-20	
2.0 Data Center Core Computing Upgrades									
2.1 Data Storage									
2.1.1 Primary Data Center	87,744	7,115	High	\$ 87,743.75	\$ -	\$ 7,115.00	\$ 7,115.00	\$ 7,115.00	\$ 7,115.00
2.1.2 Secondary Data Center	65,450	5,100	High	\$ 65,450.00	\$ -	\$ 5,100.00	\$ 5,100.00	\$ 5,100.00	\$ 5,100.00
2.2 Core Servers and Virtualization	100,145	15,022	High	\$ 100,144.70	\$ -	\$ 15,021.70	\$ 15,021.70	\$ 15,021.70	\$ 15,021.70
2.3 Core Data Network - Switches	68,553	10,283	High	\$ 68,552.76	\$ -	\$ 10,282.91	\$ 10,282.91	\$ 10,282.91	\$ 10,282.91
3.0 Disaster Recovery Infrastructure									
3.1 Disaster Recovery Business Requirements and Detailed Design	50,000		High	\$ 50,000.00	\$ -	\$ -	\$ -	\$ -	\$ -
3.3 Gavilan Outreach Center Secondary Site (Coyote Valley Project)	34,533	40,991	High	\$ 34,533.28	\$ -	\$ -	\$ -	\$ -	\$ -
Subtotal High Priority	\$ 406,424	\$ 78,511	\$ 484,935	\$ 406,424.49	\$ -	\$ -	\$ -	\$ -	\$ -
4.0 Access to Computing Systems									
4.1 Wireless Data Networking Replacement	150,930	15,093	Med	\$ 150,930.00	\$ -	\$ 15,093.00	\$ 15,093.00	\$ 15,093.00	\$ 15,093.00
4.2 Edge Network Electronics Access - Switches	168,997		Med	\$ 168,997.07	\$ -	\$ -	\$ -	\$ -	\$ -
4.3 Campus Fiber Optics Backbone Upgrades	168,278		Med	\$ -	\$ 168,278.40	\$ -	\$ -	\$ -	\$ -
				\$ 319,927.07	\$ 168,278.40	\$ 15,093.00	\$ 15,093.00	\$ 15,093.00	\$ 15,093.00
5.2 IT Infrastructure Support Tools									
5.1 Remote Desktop Support		2,500	Med	\$ -		\$ 2,500.00	\$ 2,500.00	\$ 2,500.00	\$ 2,500.00
5.2 Device Imaging		630	Med	\$ -		\$ 630.00	\$ 630.00	\$ 630.00	\$ 630.00
5.3 Multipoint Server Support	3,375	2,100	Med	\$ -	\$ 3,375.00	\$ 2,100.00	\$ 2,100.00	\$ 2,100.00	\$ 2,100.00
5.4 Network Element Manager	1,000	170	Med	\$ 1,000.00		\$ 170.00	\$ 170.00	\$ 170.00	\$ 170.00
Subtotal Medium Priority	\$ 492,580	\$ 20,493	\$ 513,073	\$ 1,000.00	\$ 3,375.00	\$ 5,400.00	\$ 5,400.00	\$ 5,400.00	\$ 5,400.00
4.4 Building IT Closet and Inside Cabling Upgrades									
4.4.1 Library - 1	36,000		Low	\$ -	\$ 36,000.00	\$ -	\$ -	\$ -	\$ -
4.4.2 Library - 2	36,000		Low	\$ -	\$ 36,000.00	\$ -	\$ -	\$ -	\$ -
4.4.3 Library - 3	72,000		Low	\$ -	\$ 72,000.00	\$ -	\$ -	\$ -	\$ -
4.4.4 Theater	12,000		Low	\$ -	\$ 12,000.00	\$ -	\$ -	\$ -	\$ -
4.4.5 Gym	6,000		Low	\$ -	\$ 6,000.00	\$ -	\$ -	\$ -	\$ -
Subtotal Low Priority	\$ 162,000			\$ -	\$ 162,000.00	\$ -	\$ -	\$ -	\$ -
Totals-->	\$ 1,061,005	\$ 99,004	\$ 1,160,009	\$ 727,351.55	\$ 333,653.40	\$ 20,493.00	\$ 20,493.00	\$ 20,493.00	\$ 20,493.00