

ORANGE COUNTY  
BOARD OF EDUCATION

AGENDA ITEM ABSTRACT

Meeting Date: February 24, 2014

AGENDA ITEM No. 14-02-(2)-10

ACTION ITEM: (Y/N) N

SUBJECT: Digital Conversion Update

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**ATTACHMENTS:**

1. Original Proposed Funding Plan for OCS 1:1 Laptop Initiative – Revised 2/24/14
2. Business Case—Infrastructure/Network Upgrade-Phase I
3. Business Case—Provide all Grade 3 students with refurbished laptops (5 year warranty)

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**PURPOSE:** To provide the Board with an update on the secondary and elementary digital conversion and the current network infrastructure needs for the district.

**BACKGROUND:** In 2011 Orange County Schools (OCS) began the process of systematizing the use of educational technology to move the district in the direction of Digital Learning. Ten strategies were developed for a successful digital conversion. Included in these strategies was a 3 phase roll out of devices to all teachers and students in Grades 3-12. In June – July of 2012, Phase I provided training and laptops to all teachers. Phase II, in August and September of 2012, distributed laptops to students in Grades 6-12.

Throughout the 2012-2013 school year the district monitored the program by analyzing data repair costs, types of repairs and input received from all stakeholders. During the summer 2013, student laptops were reimaged, professional development continued, and revisions to support documents and procedures were made.

Blended and project based learning is the underpinning of all professional development. To meet the individual needs of teachers all schools developed a technology professional development plan for the year. Several teachers at each school are designated as Tech Blazers; they are instrumental in the professional development and serve as a resource for teachers.

The 2013 roll out of secondary student laptops produced two substantive suggestions for modifying the process. The first suggestion for improvement was for the district to start receiving Laptop Fees August 1<sup>st</sup>. This would allow for a quicker distribution of the laptops. The second recommendation was to order additional laptops in early July to ensure their arrival for the opening of school.

In October 2013, the OCS Board of Education approved the purchase of laptops and carts for all Grade 4 & 5 students, Phase 3 and the final phase of the digital conversion. By the first week of December all Grades 3 – 4 – 5 classrooms had laptops and carts. Prior to laptop carts going "live" into classrooms teachers in Grades 3-5 were trained on Elementary Laptop Care, Laptop Cart Procedures and were reminded of the shared documents on digital resources available for students, staff and parents. Several videos were created as resources for teachers on how to set up a digital classroom, tips on the pedagogy of teaching in a digital classroom, establishing laptop rules, transitions/tips and laptop care and safety.

An Elementary Digital conversion webpage was created and populated with the information, forms and links to resources. With Phases 1-3 of the digital conversion complete, a webpage combining all resources and digital information from the Secondary and Elementary conversion program is currently being developed.

The district is again partnering with Kramden Institute to provide a desktop computer for all OCS families who do not have a computer in their home. Distribution will be on a Saturday morning in late March.

The Family Academy program has scheduled a parent informational night on March 13, *Understanding Technology in Orange County Schools*. The evening will have multiple informational sessions that will highlight homework helper websites along with digital programs that are used with students district-wide.

As the Digital Conversion has progressed through the three phases so too has the upgrade of the network infrastructure. Servers were virtualized and the wireless network was upgraded in stages to move the district from a coverage model to meeting the capacity of an additional 6,300 users/devices on the network.

The current network was designed in 1994. The design has all schools connecting to Orange High School and going out to the world from one router at this location. With increased data requirements and different types of data flowing through our network, a new network topology is needed. Cisco Systems Inc. (Cisco) reviewed the network topology and proposed a design to maximize bandwidth and increase efficiencies in security and redundancy.

The budgetary figure suggested by Cisco for the complete upgrade of the infrastructure is \$889,714. Cisco put forth a proposal that the upgrade could be divided into several phases dependent on funds available. Phase I would include the complete design programming, addition of a district router, and new replacement routers with higher capacities and routing capabilities at Orange and Cedar Ridge High School. At the November 6 Superintendent Technology Advisory meeting the new network design prints and hardware information were presented. The Advisory agreed the design was appropriate to meet future needs of the district and would allow for the critical need of redundancy.

**FINANCIAL IMPACT:** The Original Funding Plan for the Digital Conversion (revised June 2013) included \$360,555 from State Textbook Funds as a funding source for Phase 3 of the Digital Conversion. This amount was based on the state planning allotment as provided on 2/21/13 from the Department of Instruction (DPI). Unfortunately, the actual allotment on 8/8/13 for the State Textbook Fund was \$106,607. As a result of this shortfall, a business case was presented to and approved by the Board as a part of the overall budget on October 14, 2013 to use fund balance to cover the expense of the Grade 4-5 laptops and carts. This funded amount was \$815,160. As a result of this approved expenditure, \$360,555 allotted from the Technology CIP fund for the elementary devices was no longer encumbered. Therefore, the attached business case reflects the recommendation for consideration to repurpose these funds.

The Grade 3 laptops (\$179,000) and Phase I network upgrade (\$110,000) would come from the current Technology CIP budget using funds that had been set aside for the elementary devices for Grades 4 & 5 (\$360,555). The balance of the repurposed funds (\$71,555) went toward technology allotments for the schools; the schools did not receive any money for technology in the 2012-2013 school year.

**RECOMMENDATION:** The Superintendent recommends that the Board receive information on the Digital Conversion and business cases for the infrastructure upgrade and 3<sup>rd</sup> grade laptop expenditure proposals from the 2013-2014 Technology CIP budget.



# Original Proposed Funding Plan for OCS 1:1 Laptop Initiative--Revised 2/24/14

(Lenovo laptop stay at school option)

	FY 2011-12	FY 2012-13	FY 2013-14 Original	FY 2013-2014 Revised 10/14/2013	FY 2013-2014 Requested Revision 2/24/14	FY 2014-15	FY 2015-16	Total
<b>Funding Sources</b>								
Technology Funds CIP	\$ 250,000		\$ 360,555 (3)		\$179,000			\$ 429,000
Technology Funds CIP--Wireless	\$ 125,000	\$ 135,000	\$ 135,000	\$135,000	\$135,000			\$ 395,000
Reallocation of State CTE Funds	\$ 16,200							\$ 16,200
State Textbook Funds	\$ 142,000		\$ 360,555 (3)					\$ 142,000
Quarter Cent sales tax		\$ 490,000 (2)	\$ 490,000	\$490,000	\$490,000	\$ 490,000	\$ 490,000	\$ 1,960,000
Various Curriculum & Instruction budgets		\$ 181,097 (2)	\$ 181,097	\$181,097	\$181,097	\$ 181,097	\$ 181,097	\$ 724,388
State Classroom Supplies and Materials			\$ 36,000 (4)					\$ -
Capital Fund Balance		\$ 205,000	\$ 58,050	\$815,160 (5)	\$815,160			\$ 1,020,160
Usage Fee			\$ 36,000 (1)	\$36,000	\$36,000	\$ 36,000	\$ 36,000	\$ 108,000
<b>Total Funding Sources</b>	<b>\$ 533,200</b>	<b>\$ 1,011,097</b>	<b>\$ 1,657,257</b>	<b>\$1,657,257</b>	<b>\$1,836,257</b>	<b>\$ 707,097</b>	<b>\$ 707,097</b>	<b>\$ 4,794,748 ***</b>
								\$ 4,794,748

	FY 2011-12	FY 2012-13	FY 2013-14 Original	FY 2013-2014 Revised 10/14/2013	FY 2013-2014 Requested Revision 2/24/14	FY 2014-15	FY 2015-16	Total
<b>Implementation Costs</b>								
Phase 1-Laptop Purchase - K-12 Certified Staff	\$ 408,200							\$ 408,200
Phase 2 - Annual Lease/Purchase Payment for Purchase of Grades 6 - 12 Laptops		\$ 671,097 (2)	\$ 671,097	\$671,097	\$671,097	\$ 671,097	\$ 671,097	\$ 2,684,388
Phase 2 - Backpacks/Sleeves- Grades 6-12		\$ 205,000	\$ 36,000 (1)	\$36,000	\$36,000	\$ 36,000	\$ 36,000	\$ 313,000
Phase 3 - Laptops for Grades 4-5			\$ 721,110 (3)	\$721,110 (5)	\$721,110			\$ 721,110
Phase 3 - Laptops for all Grade 3's					\$179,000			\$ 179,000
Phase 3 - Batteries			\$ 36,000 (4)	\$36,000 (5)	\$36,000			\$ 36,000
Phase 3 -Carts for Classrooms Grades 4 & 5			\$ 58,050	\$58,050 (5)	\$58,050			\$ 58,050
Wireless Infrastructure Upgrade	\$ 125,000	\$ 135,000	\$ 135,000	\$135,000	\$135,000			\$ 395,000
<b>Total Implementation Cost</b>	<b>\$ 533,200</b>	<b>\$ 1,011,097</b>	<b>\$ 1,657,257</b>	<b>\$1,657,257</b>	<b>\$1,836,257</b>	<b>\$ 707,097</b>	<b>\$ 707,097</b>	<b>\$ 4,794,748 ***</b>
								\$ 4,794,748

(1) 2013-2014 Backpack amount covers 600 rising 6th grade students and sleeves for 600 rising 9th grade students .

(2) Quarter cent sales tax plus funds from various C&I budgets will fund the annual lease payments.

(3) The elementary devices will be paid from Technology CIP and State Textbook funds. 2013-2014, Textbook Planning Allotment: \$419,317; Actual Allotment, \$106,607.

(4) State Classroom Supplies and Materials will increase next year: 2012-13, \$248,748; 2013-14, DPI Planning Allotments,\$444,582; Actual Allotment, \$216,934.

(5) Capital Fund Balance (\$815,160) approved 10/24/14.

\*\*These amounts are included in the budgeted expenses for the district.

Network**	\$ 45,000	\$ 45,000	\$ 45,000	\$45,000	\$155,000	\$ 45,000	\$ 45,000	\$ 335,000
Digital resources (Textbook funds)**	\$ 120,000	\$ 120,000	\$ 120,000	\$106,607	\$106,607	\$ 120,000	\$ 120,000	\$ 586,607

\*\*\*This total used the amounts in the "Budget Amendment Requested 2/24/14" column (\$1,800,257) for the 2013-2014 school year amount to add to the grand Total Funding Sources and Total Implementation Cost.

**Note:** The \$360,555 from Technology Funds CIP in the 2013-2014 Original Plan are being requested to be repurposed: \$179,000, 3rd Grade elementary laptops; \$110,000, Phase I infrastructure/network upgrade; \$71,555, allotments to schools.



## Business Case

**Initiative:**  
**Infrastructure/Network Upgrade—Phase I**

### Implementation Timeline and Budget Needed

2013-2014	Amount	Notes
Upgrade older routers at Orange and Cedar Ridge High Schools and add a district router to maximize bandwidth and increase efficiencies in security and redundancy.	\$110,000 from 2013-2014 Technology CIP	This expense is Phase I of a complete upgrade of the network--design and hardware. The complete network upgrade budgetary total provided by Cisco Systems, Inc. is \$889,714. The network upgrade will prepare the district for a future VOIP upgrade or a hosted VOIP system.

### Expected Results

Maximize bandwidth and increase efficiencies in security, redundancy and stability of the network.

### Evidence or Reasoning for this Recommendation

The end of life of the current Cisco switches/routers used in the district was 2011. These switches were more than adequate to do the routing for the 3000+ devices and the 1100 phones the system had in 2005 but a severe strain has been put on the switches due to the growth of devices on the network to the current level of 9,200+ computers/laptops and 1200 phones.

Under normal operating conditions the current switching hardware central processing unit (CPU) is consistently being utilized at 90-100% on a daily basis. When the hardware is consistently performing at these rates it will further decrease the life of the hardware as well as continually degrade network performance.





## Business Case

### Initiative:

**Provide all Grade 3 students with refurbished laptops (5 year warranty)**

### Implementation Timeline and Budget Needed

2013-2014	Amount	Notes
Provide laptops for all students in Grade 3 in OCS schools.	\$179,000 from 2013-2014 Technology CIP	This expense is non-recurring.

### Expected Results

Windows 7 laptops for all Grade 3 students with a 5 year warranty. This would put all student laptops on a refresh schedule: Secondary, 2017-1018; Elementary Grades 4 & 5, 2018-2019; Grade 3, 2019-2020.

### Evidence or Reasoning for this Recommendation

In 2011 when the original Funding Plan for the Digital Conversion was created it was thought an appropriate use for the current laptops at the secondary schools (which still had warranty time on them) would be for Grade 3 students and the district would purchase new batteries for them in the 2013-2014 school year. During the 2012-2013 school year, the laptops were moved to the elementary schools and used by all students in Grades 3-5. In December 2013, they were moved into 3<sup>rd</sup> grade classrooms.

New information made available in the past year by Microsoft stated: "After April 8, 2014, Microsoft will no longer provide security updates or technical support for Windows XP. Security updates patch vulnerabilities that may be exploited by malware and help keep users and their data safer. PCs running Windows XP after April 8, 2014, should not be considered to be protected..." With XP no longer supported by Microsoft, security becomes more of a concern and the possibility of malware on laptops would increase repair time by the technology staff.

The cost of purchasing new batteries for the laptops is budgeted at \$36,000. The cost of the refurbished laptop is \$299 each, \$179,000 total cost.