

Technology Presentation

April 11, 2012

- History of Technology
- Why did we choose Apple?
- Where are the current laptops?
- How is the technology being used?
- Pricing options.

History of Technology

Presented in 2007

Digital Native Learners

(From 2007 presentation)

Multi Tasking

Social Networking

Creativity & Innovation

Global Connections

Team Collaboration

24/7 Access

Producers of Information



Rationale

(From 2007 presentation)

- ◆ **Replace 540 Windows '98 computers**
 - ◆ 170 are teacher's primary computer
 - ◆ Replace classroom PC's with carts to share for 1:1 computing within the classroom
- ◆ **Provide each teacher with a laptop in order to:**
 - ◆ Improve 21st century learning / teaching technology skills
 - ◆ Improve technology integration in classroom
 - ◆ Anytime / anywhere computing

A Conservative Plan:

(From 2007 presentation)

- ◆ Expand total classroom computers on carts to 560 (replacing 540 WIN '98 desktops)
- ◆ Currently, most teachers use one of the (3) classroom computers as their work station, this plan provides a laptop for each teacher, thus expanding total computer count for student use.

Recommendation

(From 2007 presentation)

■ Plan A

- 240 Teacher laptops
- 560 student laptops on 21 mobile carts to bring student/laptop ratios to:

Ratios / Enrollment	LB - 516	LM - 293	HW - 542	MS - 743	HS - 1024
Current	1 / 3.44	1 / 2.17	1 / 3.39	1 / 12.4	1 / 7.5
With Proposal	1 / 2.07	1 / 2.07	1 / 2.09	1 / 2.75	1 / 3.10

Why Laptops – not Desktops

(From 2007 presentation)

- ◆ Mobility / wireless
- ◆ Better use of facilities –classroom anywhere
- ◆ Whole class instruction
- ◆ Maximize use of technology (schedule and share carts)

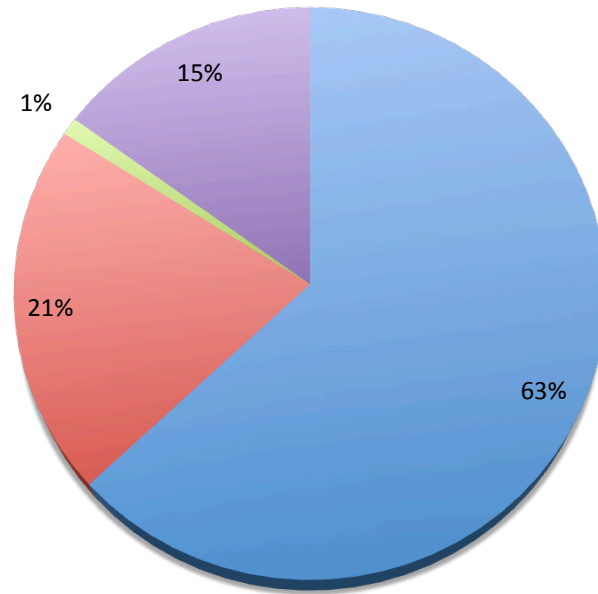
Why Apple?

(From 2007 presentation)

- ◆ Integration of creative tools through iLife
 - ◆ iPhoto; iMovie; iTunes; Garage Band; etc.
- ◆ Total Package Approach
 - ◆ Professional Development
 - ◆ Imaging, Installation, Asset tagging, Trash Removal, Service and Support
- ◆ Intel chip allows for Windows OS if needed
- ◆ MS Office for MAC included- total compatibility

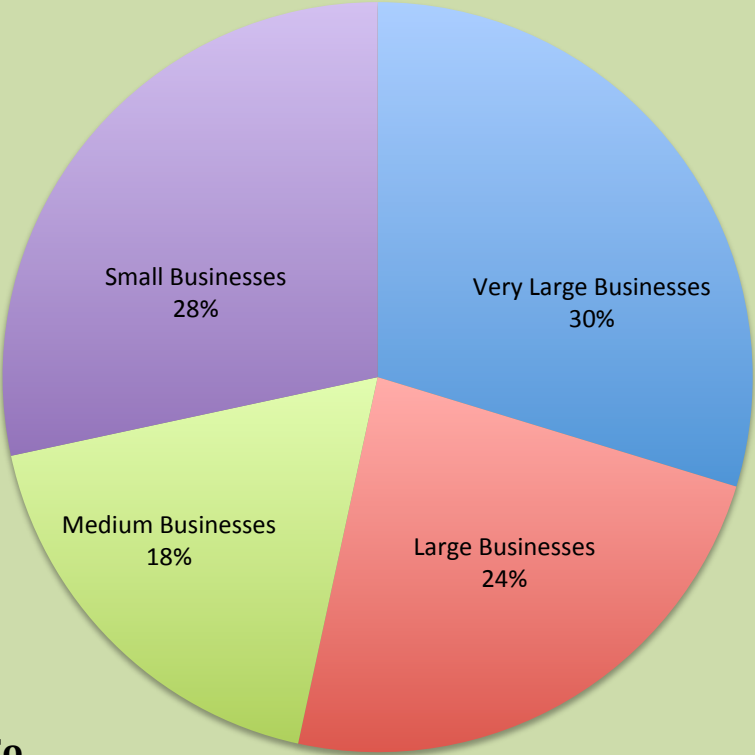
Mac Sale By Segment Dec 2011

■ Home ■ Business ■ Government ■ Education



Source: Gartner

Growth in Mac Shipment



Source: Needham & Co

Macs in the workplace

- About one in five (21 percent) employees use at least one Apple product for work.
- This year, 55 percent of IT decision makers will support the iPhone, up from 37 percent last year.
- Last year, 46 percent of enterprises issued Macs to employees, up more than 50 percent in two years.

Sales of Mac

- Mac has outgrown the industry for 22 quarters in a row.
- Two Research groups looked at Mac shipments in 2011:
 - Gartner has Mac shipments in the U.S. growing faster than the market by a factor of nearly 20 to 1.
 - According to IDC, the ratio is more like 80 to 1.

Management of Macs

- Enterprise Desktop Alliance:
 - Survey of 260 IT professionals
- Macs were cheaper in the following computer management categories:
 - Troubleshooting
 - Help desk calls
 - System configuration
 - User training
 - Supporting infrastructure

Management of Macs

- 65 percent of respondents said it costs less to troubleshoot Macs than PCs.
- a majority of the respondents said Macs were more than 20 percent cheaper to manage than PCs.
- Noted research analyst Gartner found Macs are up to 36 percent more cost-effective than competing PC products.

Our Current Fleet

Number of Units	Estimated Purchase Date
528	6/25/06
96	8/12/06
320	7/28/07
480	5/24/08
76	9/21/09

Disbursement of New Machines

Building	Number of Computers
High School	1024
Middle School	261
JPL	365
Hopewell	130
Liberty Bell	140
Lower Milford	80

Professional Development Specific to Technology

- 275 Professional Development opportunities
 - District in service days
 - Academies
- 20% were Mac specific
- Shift in Professional Development

Macbooks

- 2 productivity suites
 - Microsoft Office (Word, Excel, PowerPoint, Outlook)
 - iWorks (Pages, Numbers, Keynote)
- Creative suite
 - iLife (Garageband, iMovie, iPhoto, iDVD, iWeb)
- Antitheft software
- Unit price \$1099.00

Toshiba

- Toshiba \$1157.00
- 1 productivity suite
 - Microsoft office
 - Unit cost \$83.65
- Creative suite
 - Unit cost \$300.00
- Anti Theft software
 - Unit cost \$30.00
- Virus software
 - Unit cost \$10.00
- Unit Cost \$1580.65

Dell

- Dell Latitude E5420 \$832.00
- 1 productivity suite
 - Microsoft office
 - Unit cost \$83.65
- Creative suite
 - Unit cost \$ 300.00
- Anti Theft software
 - Unit cost \$30.00
- Virus software
 - Unit cost \$10.00
- Unit Cost \$1255.65

Additional Considerations

- Windows software for teacher machines:
 - \$14,500
- End of lease value:
 - 3 years into CFF
 - Mac trade in was \$240.00
 - PC (lenovo) was \$20.00

Evolution of the worker

Conceptual Age
Concept Workers

21st Century

Information Age
Knowledge Workers

20th Century

Industrial Age
Factory Workers

19th Century

Agricultural Age
Farmers

18th Century

Conceptual Worker

- A description of the *Conceptual Worker* – a person who not only possesses the skills to accomplish a task, but understands the relevance of that task to the larger vision of the enterprise.
- We have moved from *Information Workers* (skillset) to *Conceptual Workers* (mindset)

21st Century Education

- Creativity is important to the future workplace.
 - Writing was singled out as critical
- Technology must be used comprehensively and purposefully to support students in mastering the full range of ***what*** they need to learn—core subjects, 21st century themes and 21st century skills.

Ubiquitous Computing

- Ubiquitous computing in education can be defined as teachers and students having access to technology (computing devices, the Internet, services) whenever and wherever they need it. In a world of ubiquitous computing, the technology is always accessible and is **not** the focus of learning.
- Technology can help engage students in learning, create compelling learning environments and energize classroom teaching. In this sense, technology is a **learning tool** for more student-centric, relevant, rigorous learning.

Ubiquitous Computing

- Technology plays three important roles
 - Learning tool
 - Data tool
 - Enabling force

What research is saying

- Jeroski, 2003
- eMINTS National Center
- Silvernail and Lane, 2004
- The Metiri Group
- Light et. al. 2002
- Strother, Martin and Dechaume, 2006
- Andrew A. Zucker, Daniel Light, 2009
- Mouza, 2008
- Silvernail 2004

- Lowther, Ross & Morrison, 2003
- Russell, Bebell, & Higgins, 2004
- Fairman, 2004; Nicol & MacLeod, 2004
- Barrios, 2004
- Rockman, 2003

Teacher Presentation

- Mr. Breisch
- Mr. Collins
- Mr. Haupt
- Mrs. Spritzer

Digital Textbooks

Digital Textbooks

- The U.S. spends more than \$7 billion per year on K-12 textbooks, but too many students are still using books that are 7-10 years old, with outdated material.

States moving toward Digital text

- **West Virginia**
 - implemented a suggested two-year suspension on social studies textbook purchases, and plans to invest the savings in digital textbooks and technology infrastructures.
- **Florida**
 - the first state to mandate adoption of digital learning tools in all public schools. Beginning in the 2015-2016 school year, all instructional materials in grades K-12 in the public school system are required to be provided in electronic or digital format. Florida is not requiring a specific brand or form of digital textbook, nor is it requiring distribution of devices or other supplies.
- **California**
 - has launched a free digital textbooks initiative in 2009 that includes free texts for California students in grades 9-12 in geometry, Algebra II, trigonometry, calculus, physics, chemistry, biology/life sciences, and earth sciences, including the investigation and experimentation strand.

Open Content

- OER Commons
 - OER Commons forges alliances between trusted content providers and creative users and re-users of Open Educational Resources (OER).
 - Supported by the [William and Flora Hewlett Foundation](#), [ISKME](#), the Institute for the Study of Knowledge Management in Education created OER Commons as part of the Foundation's worldwide OER initiative.
 - In addition to the growing number of individual authors of open materials, it has 90+ institutions and organizations provide high-quality content and are helping to build the network.

Open Content

- Internet Archive
 - The Internet Archive is a 501(c)(3) non-profit that was founded to build an Internet library.
 - Its purposes include offering permanent access to historical collections that exist in digital format.
 - Internet Archive includes texts, audio, moving images, and software as well as archived web pages in our collections.

Other Open Content

- Wikibooks
- Wikisource
- Sakai

iBook Author

- Students and teachers can now easily create their own textbook.

Initial Plan

	PROJECTED	PROJECTED	PROJECTED	PROJECTED	PROJECTED
CATEGORY	2012-13	2013-2014	2014-2015	2015-2016	2016-2017
XII. TECHNOLOGY PLAN	868,645	903,391	939,527	977,108	996,650

Leasing 2000 Computers

	PROJECTED	PROJECTED	PROJECTED	PROJECTED	PROJECTED
CATEGORY	2012-13	2013-2014	2014-2015	2015-2016	2016-2017
XII. TECHNOLOGY PLAN	626,473	639,002	651,783	664,818	678,115

Leasing 1500 Computers

	PROJECTED	PROJECTED	PROJECTED	PROJECTED	PROJECTED
CATEGORY	2012-13	2013-2014	2014-2015	2015-2016	2016-2017
XII. TECHNOLOGY PLAN	488,627	498,400	508,368	518,535	528,906