ITS Executive Steering Committee (ITESC)

Agenda and Materials – October 09, 2014

Technology@Loyola
INFORMATION TECHNOLOGY AND SERVICES | LOYOLA UNIVERSITY CHICAGO

Agenda

- Technology Briefing
  - S. Malisch

- Anytime Anywhere Access Strategy Discussion
  - M. Konda

- Upcoming ITESC Meeting Schedule
  - S. Malisch

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Technology Briefing
2014

Resources …

Gartner
- ✓ IT Key Metrics Data
- ✓ Specialized Analysts and Reports

Educause
- ✓ ECAR Study of Undergraduate Students and IT
- ✓ Core Data Service
- ✓ Listservs

The Campus Computing Project
- ✓ The Campus Computing Project

The Sloan Consortium
- ✓ Online Education Reports and Research

Association of Jesuit Colleges & Universities
- ✓ AJCU-CITM

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http://www.gartner.com/technology/home.jsp

http://www.educause.edu/

http://www.campuscomputing.net/

http://sloanconsortium.org/

http://www.ajcunet.edu/

Industry Issues & Priorities ...
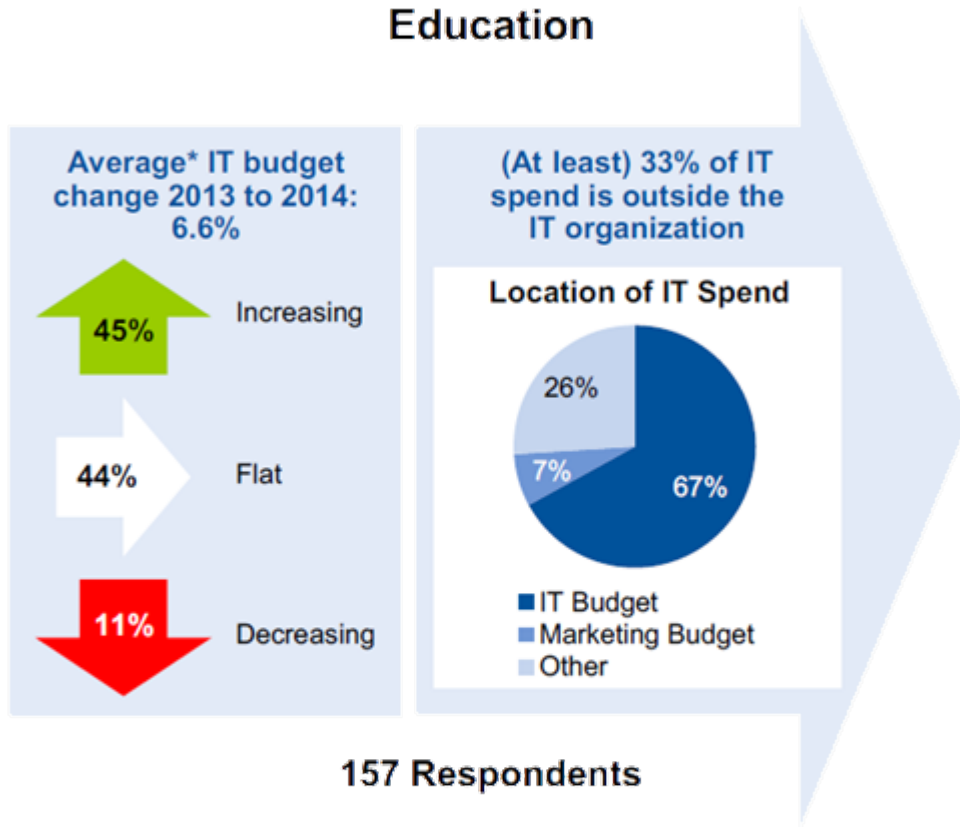
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Industry Issues & Priorities ...

Key Findings

◼ IT spending outside the IT organization's control is considerably higher in education (33%) versus the global average (27%).

◼ Education's top 12 technology spending priorities for 2014 illustrate the tension between a focus on growth, innovation and digitalization of education (analytics, cloud and mobile) and a need to renovate the core (infrastructure, networks and security).

◼ Cloud computing, whether private, public or hybrid, is an increasingly viable option to deliver services. There are often costs savings, although agility is the main reason for going to the cloud.

◼ Education CIOs are being called on to do more explicitly and implicitly to improve the institution's brand operations and to leverage technology trends and innovations.
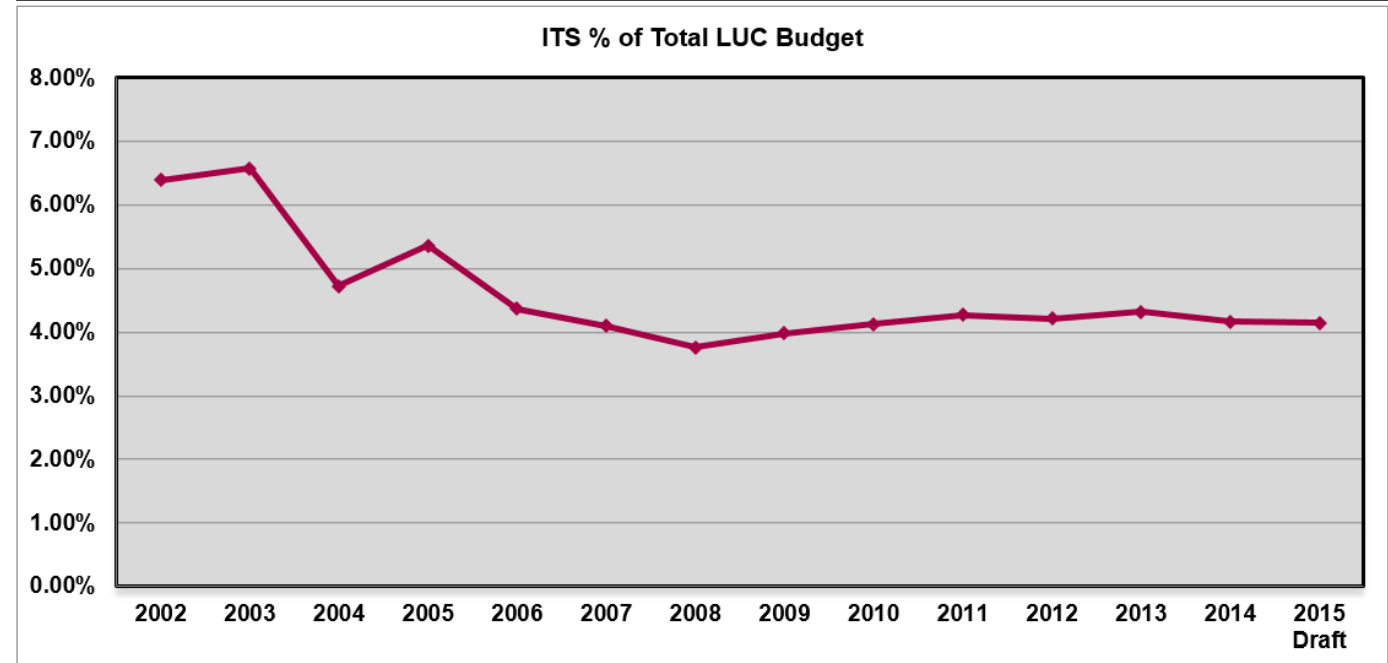
6

Link: http://my.gartner.com/portal/server.pt?gr=dd&ref=shareSummary&resId=2687322

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Industry Issues & Priorities ...

Figure 2. IT Budgets: Education

Education

Average* IT budget change 2013 to 2014: 6.6%

- 45% Increasing
- 44% Flat
- 11% Decreasing

(At least) 33% of IT spend is outside the IT organization

Location of IT Spend
- 67% IT Budget
- 7% Marketing Budget
- 26% Other

157 Respondents

* Weighted by 2013 IT budget size

Numbers may not total 100% due to rounding.

	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015 Draft
LUC Expense Budget	$154.8	$144.5	$142.2	$163.8	$208.0	$249.7	$297.5	$313.8	$327.4	$337.0	$379.5	$386.4	$412.8	$430.7
ITS BUDGET	$9.9	$9.5	$6.7	$8.8	$9.1	$10.2	$11.2	$12.5	$13.5	$14.4	$16.0	$16.7	$17.2	$17.9
ITS as % of LUC	6.40%	6.57%	4.72%	5.36%	4.36%	4.10%	3.76%	3.98%	4.12%	4.27%	4.22%	4.32%	4.17%	4.14%

ITS % of Total LUC Budget

- 2002-2009 ITS Budget Includes ITS Operating Budget
- 2009-2014 ITS Budget Includes ITS and Technology Fee Operating Budget
- 2012-2014 ITS Budget Includes addition of funds for Shared Services to LUMC, Lawson Maintenance, BSI Tax Software and MHC Payroll Software
- 2014-2015 ITS Budget Includes addition of funds due to Centralization of ITS Costs across the University

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Industry Issues & Priorities …

Technology Focus - Gartner Education 2014

1. Infrastructure and Data Center
2. BI/Analytics
3. Cloud
4. ERP
5. Mobile
6. Networking, Voice and Data Communications
7. Security
8. Customer Relationship Management
9. Industry Specific Applications
10. LMS
11. Digitalization/Digital Marketing
12. Desktop

Link: http://my.gartner.com/portal/server.pt?gr=dd&ref=shareSummary&resId=2687322

Technology Focus - Educause 2014

1. Improving Student Outcomes
2. Establishing an Understanding of What IT can Deliver
3. Instructional Integration of Information Technology
4. IT Staffing
5. Using Analytics to Help Drive Critical Institutional Outcomes
6. IT Funding Models
7. Addressing Access Demand and the Wireless and Device Explosion
8. Sourcing Technologies and Services at Scale to Reduce Costs
9. Online Learning and Developing a Strategy for that Role
10. Information Security and Risk Management (tie)
10. Responsive Enterprise IT Architecture (tie)

Link: http://www.educause.edu/research-and-publications/research/top-ten-it-issues

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Industry Issues & Priorities ...

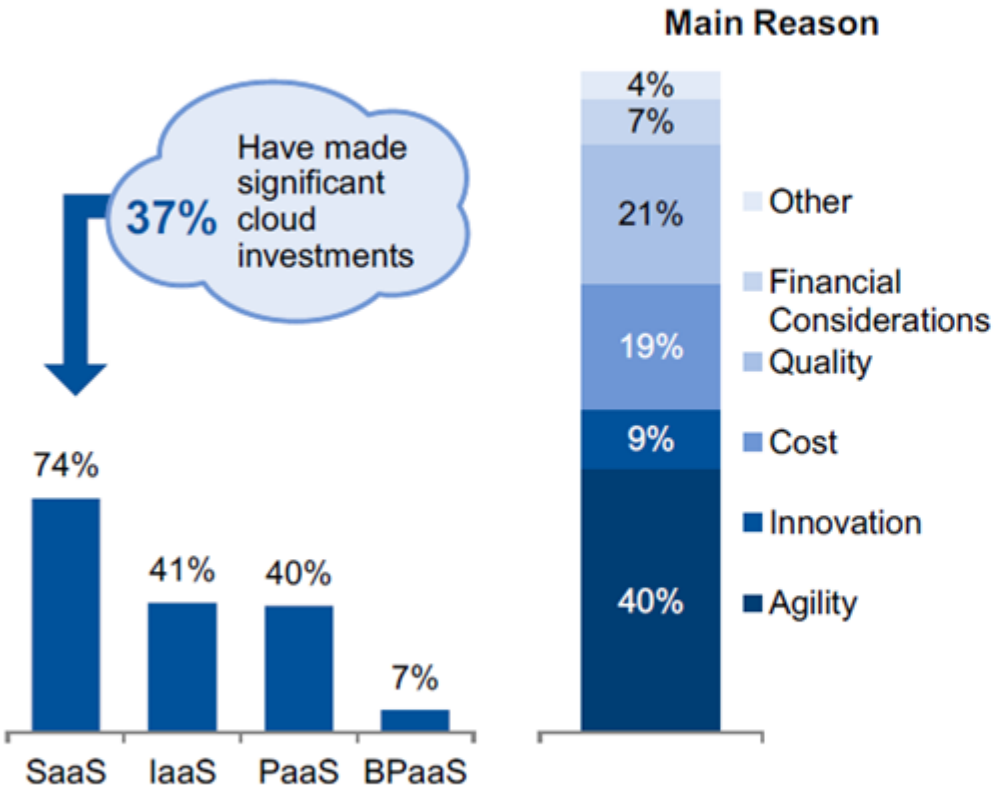| Technology Focus - Gartner Education 2014	Established LUC Projects/Programs	Emerging LUC Programs/Projects
1. Infrastructure and Data Center	WTC Data Center, SAN Upgrade	BCDR, Identity & Access Management
2. BI/Analytics	DW/BI Program	DW/BI Program
3. Cloud	Box, Sakai, Panopto, Atomic Learning	Sharepoint/Private Cloud, Loyola Media (Kaltura)
4. ERP	Campus Solutions/LOCUS, Lawson Migration	Lawson Upgrade
5. Mobile	LUC Mobile APP. Panopto	Highpoint Platform, Additional Functions, Loyola Media (Kaltura)
6. Networking, Voice & Data Communications	NAC, VPN, Robust Wireless	NAC & VPN Replacements, 2GB Circuit, Eduroam
7. Security	Firewalls, IPS, PII & PCI Compliance	Password Mgmt, SIEM, Web App Firewall, DLP
8. Customer Relationship Management	AIM	Further customizations to LOCUS
9. Industry-Specific Applications	LOCUS SIS, CBORD, DOCFINITY, SLATE, AWA	25 Live, Custom Dashboards
10. Learning Management Systems	Sakai Migration, Atomic Learning	Classroom Response Initiative, Sakai Metrics, Loyola Media (Kaltura)
11. Digitalization/Digital Marketing	TaskStream, ECM	Loyola Media (Kaltura)
12. Desktop	Standard Lakeside Builds	HSD Standardization, Virtual Desktops
Technology Focus - Educause 2014	Established LUC Projects/Programs	Emerging LUC Programs/Projects
1. Improving Student Outcomes	At Risk Student Reporting, Taskstream	Sakai Metrics Specific to Engagement
2. Establishing an Understanding of What IT Can Deliver	ITESC	ITESC
3. Instructional Integration of Information Technology	Training, Videos & Online Support	Loyola Media (Kaltura), Atomic Learning, Sakai Metrics, IDEA
4. IT Staffing	Succession Planning	Focus on Performance, Panel Interviews
5. Using Analytics to Help Drive Critical Institutional Outcomes	DW/BI Program	DW/BI Program, Advancement/Giving
6. IT Funding Models	Technology Roadmap & Budget Management	Technology Roadmap & Budget Management
7. Addressing Access Demand and the Wireless and Device Explosion	NAC, VPN, Robust Wireless	NAC & VPN Replacements, 2GB Circuit, Eduroam
8. Sourcing Technologies and Services at Scale to Reduce Costs	Technology Assessment Committees	Technology Assessment Committees
9. Online Learning and Developing a Strategy for that Role	Adobe Connect, Panopto	Lecture Capture (Panopto), Loyola Media (Kaltura)
10. Information Security and Risk Management (tie)	Firewalls, IPS, PII & PCI Compliance	Password Mgmt, SIEM, Web App Firewall, DLP
10. Responsive Enterprise IT Architecture (tie)	ARB	Identity & Access Management, iServer

Link: http://my.gartner.com/portal/server.pt?gr=dd&ref=shareSummary&resId=2687322

Link: http://www.educause.edu/research-and-publications/research/top-ten-it-issues

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Industry Issues & Priorities ...

Figure 5. Attitudes Toward Public Cloud: Education

Education

Have made significant cloud investments 37%

Main Reason

- 4% Other
- 7%
- 21% Financial Considerations
- 19% Quality
- 9% Cost
- 40% Innovation
- Agility

74% SaaS
41% IaaS
40% PaaS
7% BPaaS

Numbers may not total 100% due to rounding.

Source: Gartner (March 2014)

LUC System in the Cloud

Loyola Enterprise Application Data Relationships – 07/23/2014

Link: http://my.gartner.com/portal/server.pt?gr=dd&ref=shareSummary&resId=2687322

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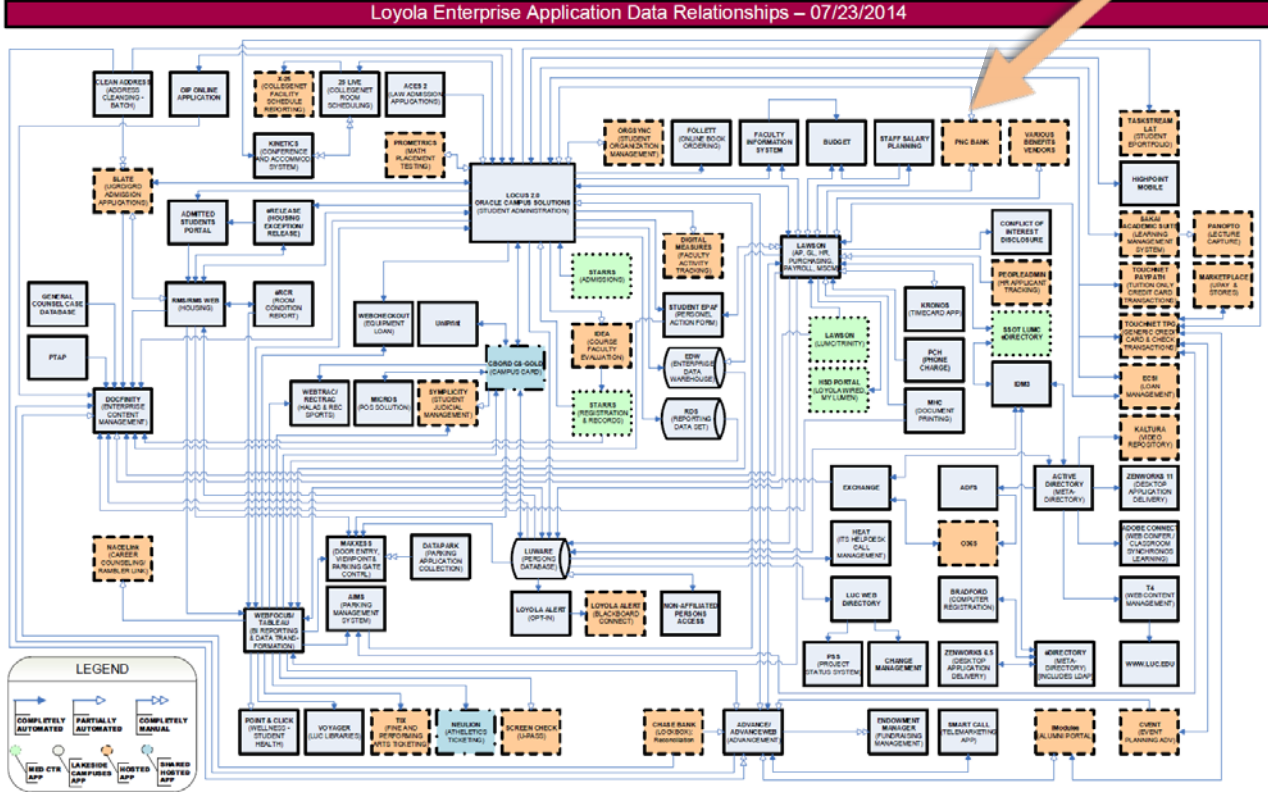
The Cloud

Slow Migration to Cloud Computing

percentages, fall 2011 - 2013

Still little move-
ment to the Cloud
for the really big,
high-value tasks:

- **Risk**

- **Limited Options
  from Providers**

- **Trust**

- **Control**

Loyola Applications
in the Cloud
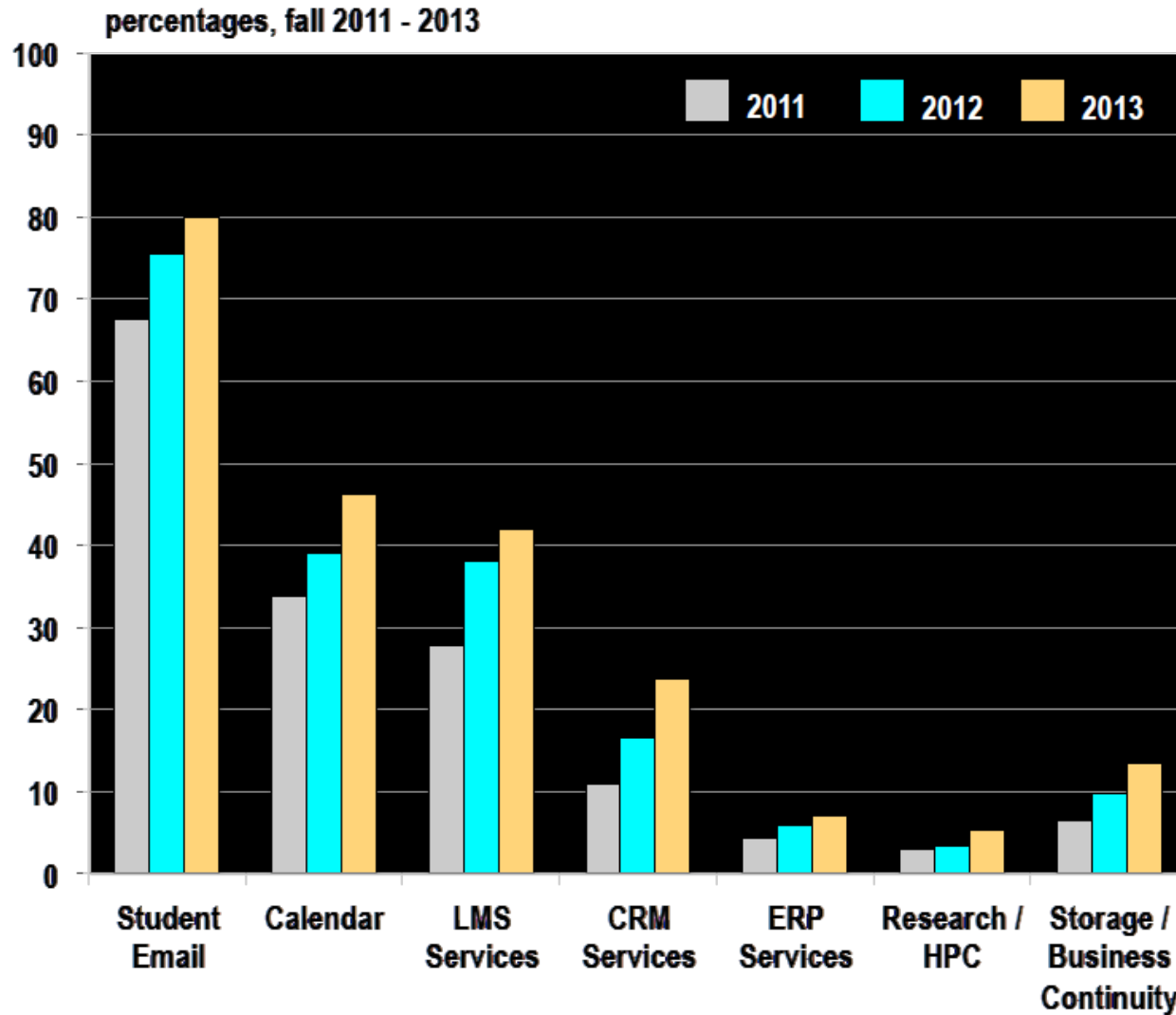
Source: Kenneth C. Green, *The 20122 Campus Computing Survey*
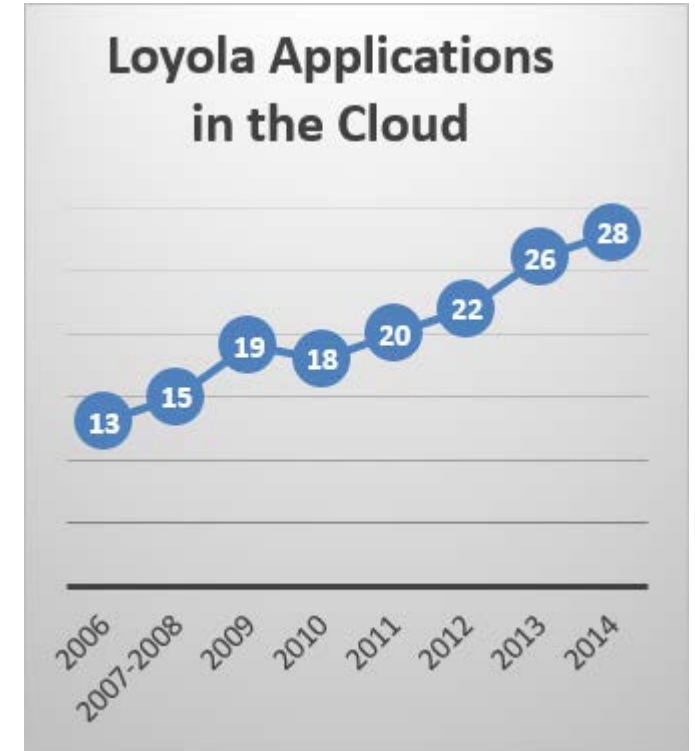
Lecture Capture, Fall 2013

percentages,

Legend: audio (tan), video (blue)

Categories: All Instituitons, Public Universities, Private Universities, Public 4-Yr. Colleges, Private 4-Yr. Colleges, Community Colleges
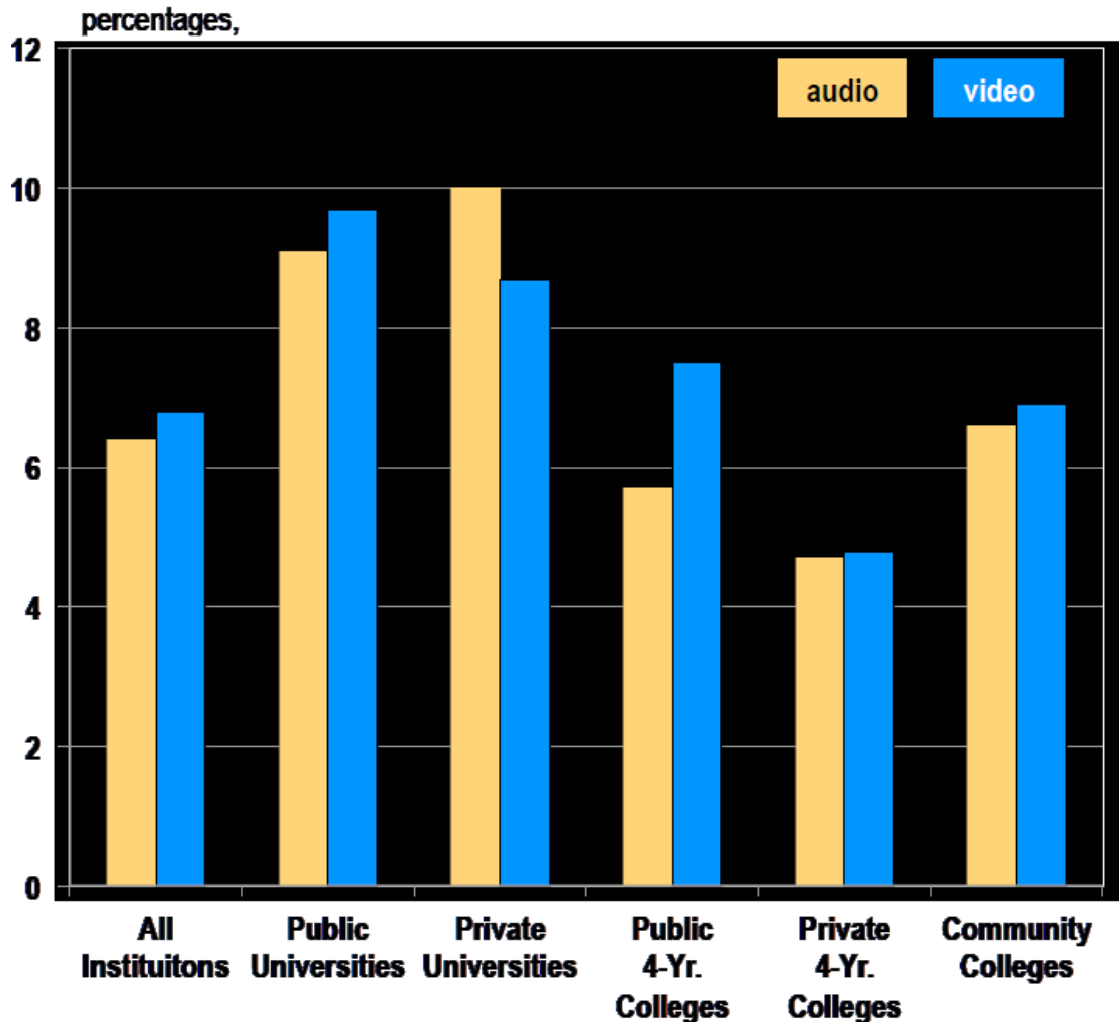
- Percentages understate real numbers as much of the activity is in large, lower-division undergraduate classes.

- Video increasingly important for hybrid, flipped, and online courses

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campuscomputing.net

LUC … July 2014

Capture (Panopto):

- Over 500 Recordings in the System

- 30 Recordings Made Each Week

- 35 Courses Used System in Spring 2014

- 20 Courses Using System in Summer 2014

- Estimate 10-15% Increase in Fall

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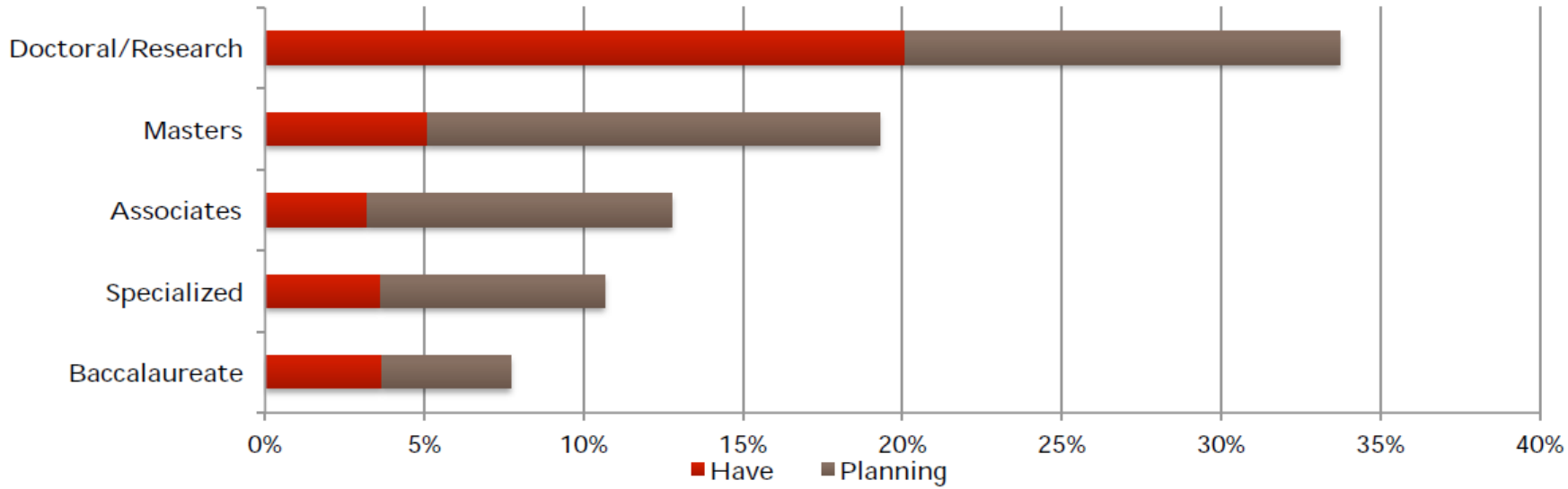accessLUC

What Do We Know About MOOCS?

Big numbers dominate much of the discussion, but:

- Open enrollment: no pre-reqs, no commitment & no "skin in the game"

- No course fees (no revenue!)

- Big enrollment drops in the first weeks: content, schedule, preparation, student support

- *Ad hoc* student support infrastructure

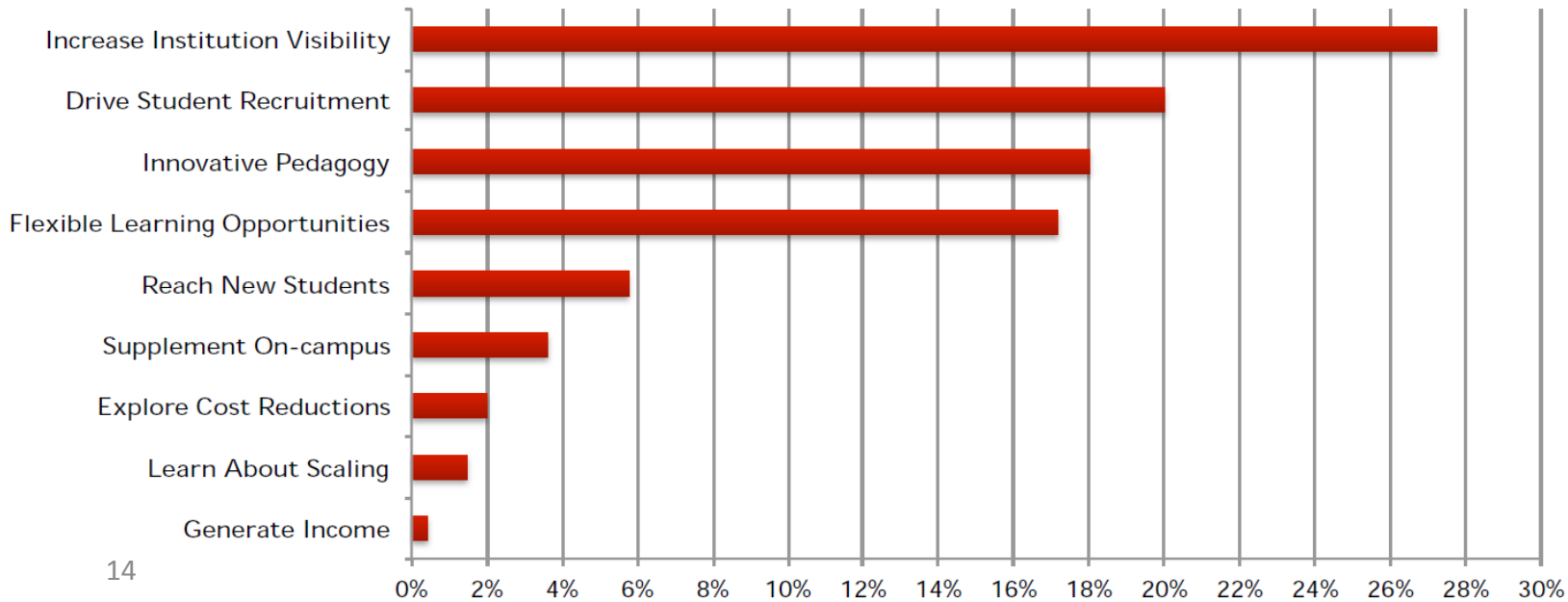- Cost accounting for course development and instructional support?

Mission, MOOCs, & Money
BY KENNETH C. GREEN

7.5 pct.

Mean completion rate, as reported by 103 MOOC instructors

March 2013 *Chronicle of Higher Education* Survey of 103 MOOC Instructors

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MOOC Status by Carnegie Classification - 2013

Link: http://sloanconsortium.org/

Primary Objective for Your Institution's MOOC: 2013

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IT Security

IT Security Incidents, A/Y 2006 – 2013

percentages ■ 2006 ■ 2007 ■ 2008 ■ 2009 ■ 2010 ■ 2011 ■ 2012 ■ 2013

Categories (x-axis): Device Theft w/ Confidential Data, Attack on the Campus Network, Identity Management, Computer Virus, Spyware, Social Networking Incident

Loyola Security Incidents, 2010-2014

Categories (x-axis): Theft, Phish, Infection

■ 2010 ■ 2011 ■ 2012 ■ 2013 ■ 2014
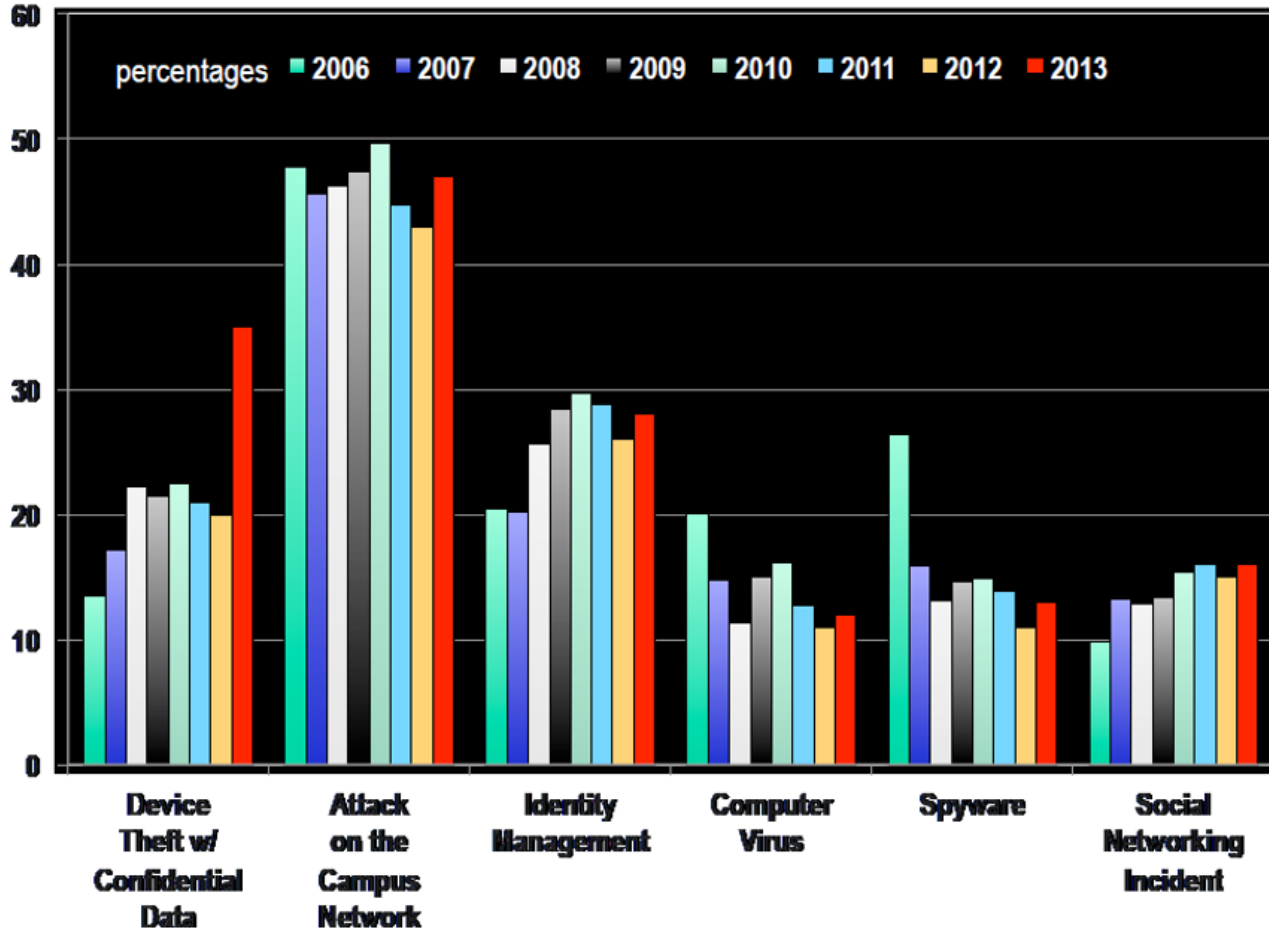
- **Device theft rising (Computer, phone, USB drive)**
- **Other issues "stable"**

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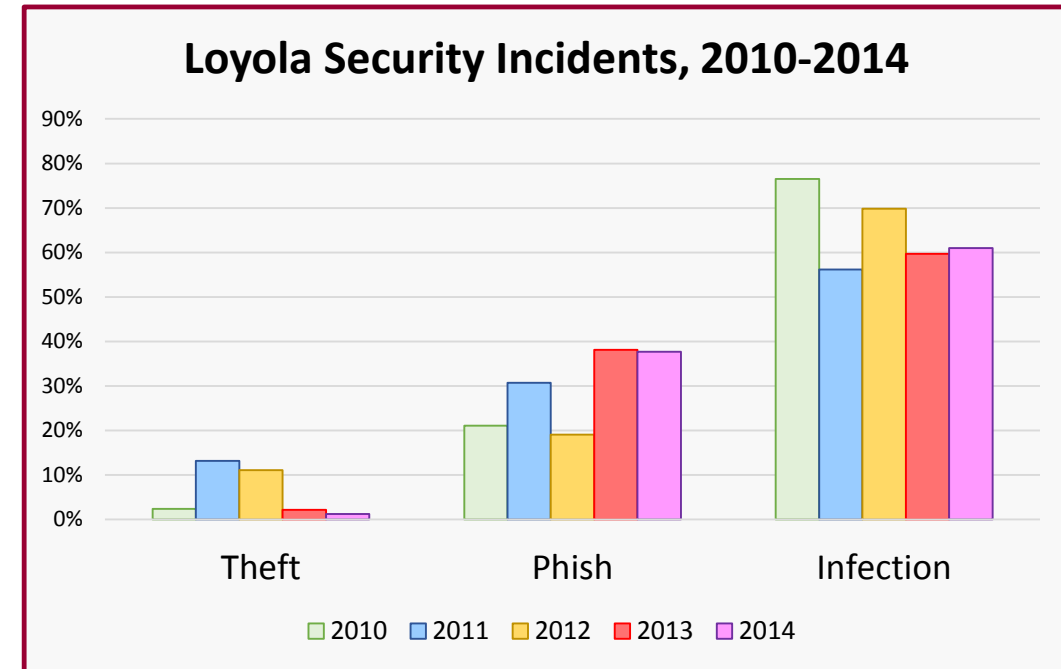
Updating Campus Disaster Plans…

Last Update for IT Disaster Recovery

percentages, fall 2013

Legend:
- past 13-24 months
- past 12 months

Categories (x-axis): Public Universities, Private Universities, Public 4-Yr. Colleges, Private 4-Yr. Colleges, Community Colleges
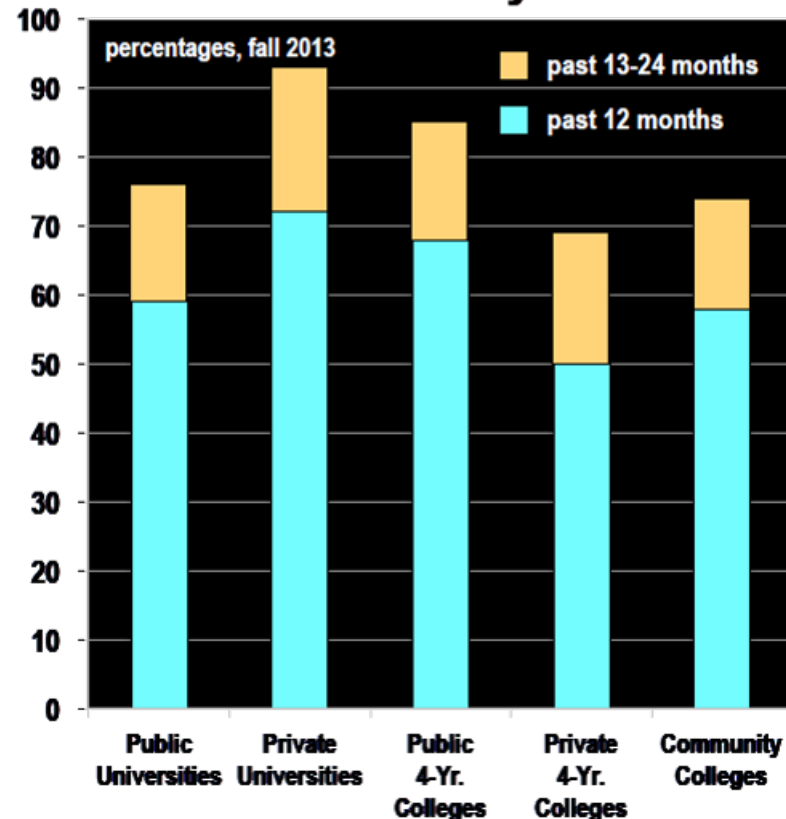
33 pct… DO NOT have a strategic plan for IT disaster recovery (vs 39% in 2012)

LUC Disaster Recovery Scope

1.1 – Update and Confirm RPO's & RTO's
1.2 – Assess BC process in IT outage
2.0 – Failover data center at WTC
3.0 – Select and implement tracking tool
4.0 – Disaster recovery plan
5.0 – Disaster recovery test
6.0 – Email recovery
7.0 – luc.edu redundancy and recovery
8.0 – Lawson recovery
9.0 – Network and Internet redundancy

Bold = Board of Trustee Initiated

Link: http://www.campuscomputing.net/sites/www.campuscomputing.net/files/CampusComputing2013_1.pdf

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Student, Academic & Classroom Technology…

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FIGURE 5. Average Number of Internet-Capable Devices Accessing Institutional Networks
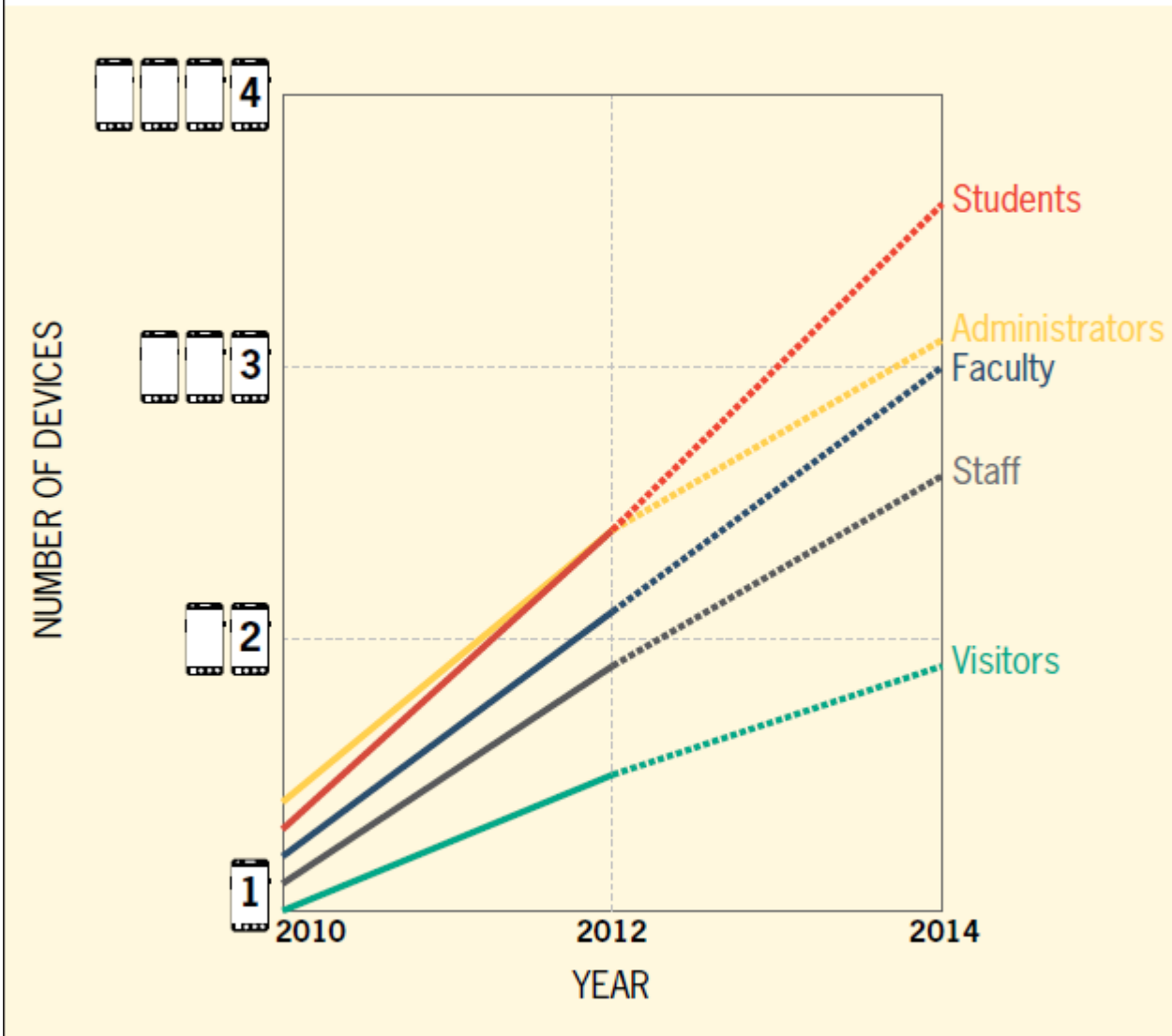
Source: Eden Dahlstrom and Stephen diFilipo, *The Consumerization of Technology and the Bring-Your-Own-Everything (BYOE) Era of Higher Education,* ECAR Research Report (March 2013)

LUC …

Mobile Devices Synced to E-Mail

- Over 3,600 faculty/staff devices
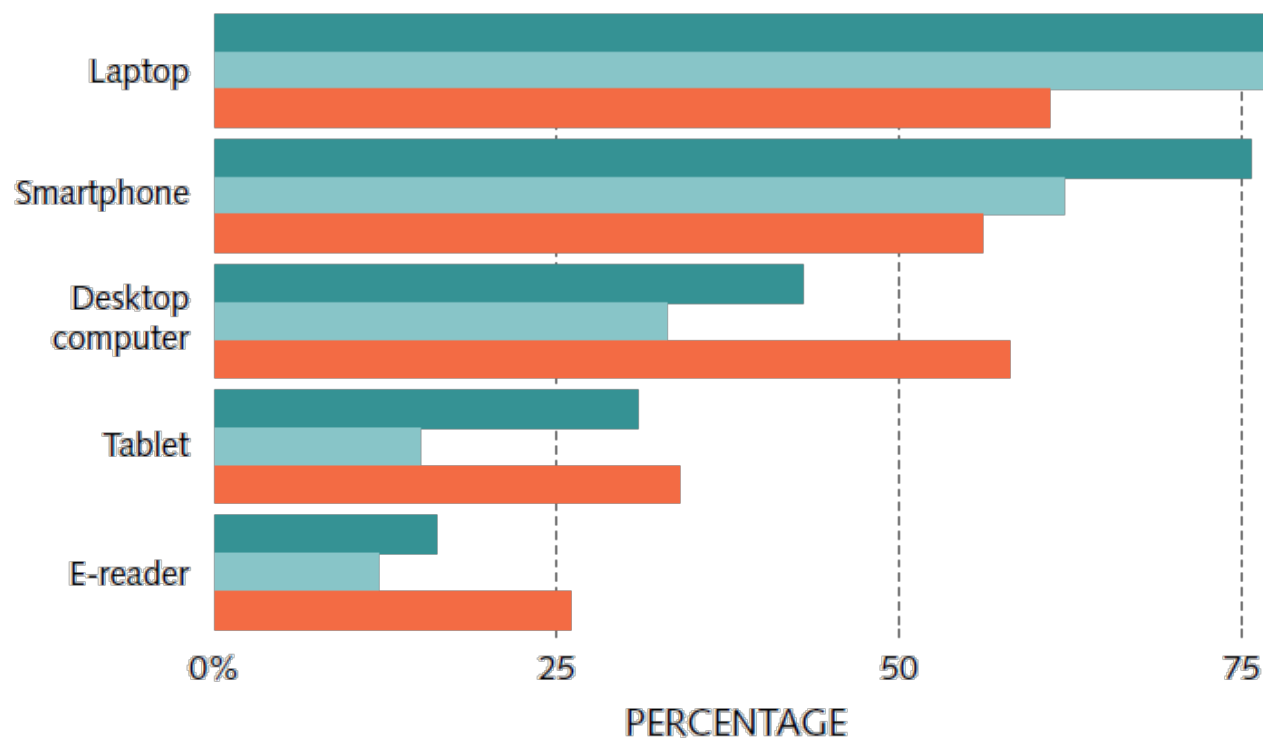- Over 17,000 for students devices

Link: http://www.educause.edu/research-and-publications/research/top-ten-it-issues

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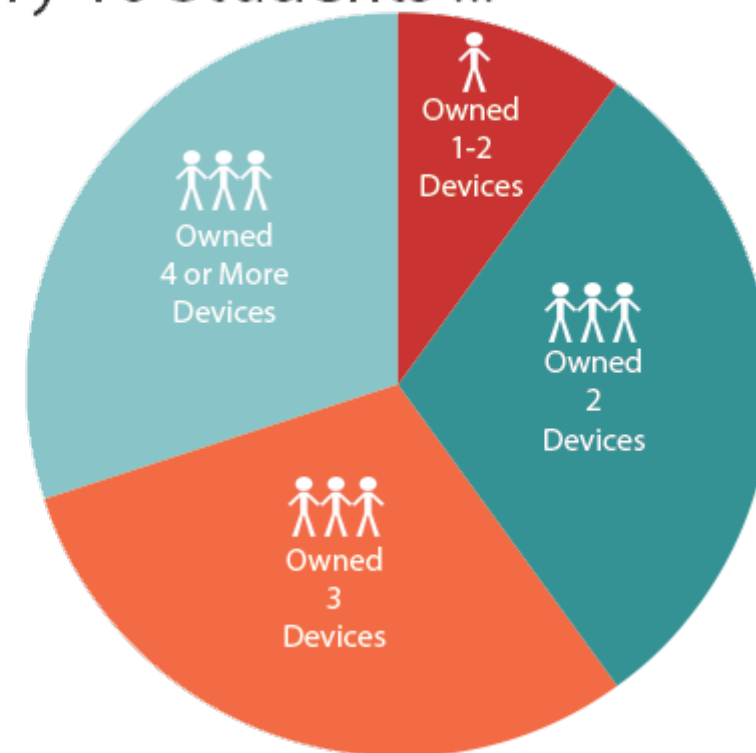
Figure 15. Device Ownership Comparisons, 2012 to 2013

Link: http://www.educause.edu/research-and-publications/research/top-ten-it-issues

Strategic Programs and Investments…

Portfolio Alignment...

Portfolio Strategic Breakdown - History

	Run	Grow	Transform
FY13 Q1-Q2	71%	19%	10%
FY13 Q3-Q4	72%	17%	11%
FY14 Q1-Q2	71%	18%	11%
FY14 Q3-Q4	70%	19%	11%
FY15 Q1-Q2	71%	18%	11%
Best Practice 2013 - HE	75%	14%	11%
Best Practice 2012 - HE	70%	16%	14%
Best Practice 2011 - HE	74%	15%	11%

Best Practice source – Gartner, Dec 2013
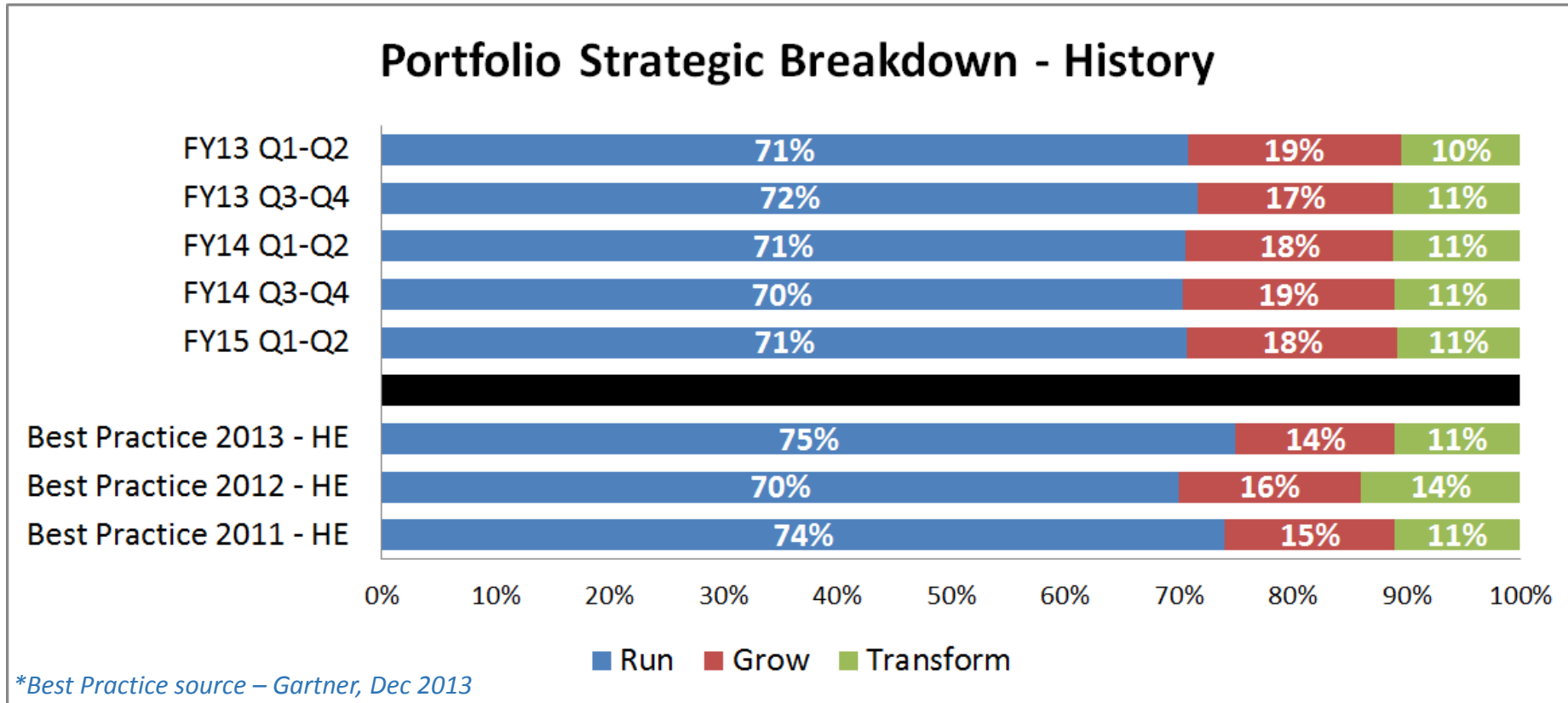
Run – Ongoing operations

Grow – Information systems and services to optimize performance

Transform – New technologies and processes that fundamentally promote change

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Unified Messaging …

Exchange

Messaging (non-real-time)
- **Email**
- **Calendaring**
- **Unified Messaging (voicemail)**

Lync

Communications (real-time)
- **Instant Messaging**
- **Conferencing (Audio, Video, Web)**
- **Presence**
- Telephony

Email
Faculty/Staff Accounts Migrated • HSD – 515 • LUC – 4,624 **Student Accounts Activated** • HSD – 563 • LUC – 56,030

Mobile
•Over 3,600 faculty/staff devices (tablets, phones, PCs) synced to email •Over 17,000 for students.

Unified Messaging
• 3,200 User Accounts Enabled • 57 Auto-Attendants

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Business Intelligence – Enhanced User Experience…

http://www.luc.edu/businessintelligence/

Business Intelligence – Progress...

- EDW is live with PeopleSoft data for Student Records, Campus Community Student Financials, Financial Aid, Admissions, and Faculty Instructional Activities

- BI Enhanced User Experience Website operational

- Additional BI created for
  - Discount Rate
  - Education Investment Portfolio (Student Indebtedness) (example follows)
  - Mid-Term Grade Alerts (example follows)
  - Analytics and 12 Reports for Advancement
  - Automation of Cohort logic
  - Additional Self Service (academic year) for Faculty Instructional Activities

- Enhancements to RMS include:
  - Enhancements to the Executive and Operational Dashboards
  - Technical redesign and update

- Migration to WebFocus 8.0 for RMS, Student Financials, Advance, FIA, and Ad Hoc

- "In Flight Projects" for:
  - Introduction of Tableau for analytics, including Tableau server
  - Consolidation and migration of RDS WebFocus reports to current version (8.0)
  - Prospect Management data mart for Advancement

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Mid-Term Grade Alerts – Example…

Alerts Summary by Academic Year

ACADEMIC YEAR	TERM	ENROLLED STUDENTS	TOTAL STUDENTS W/ALERTS	PERCENT ENROLLED STUDENTS W/ALERTS	TOTAL ALERTS	AVERAGE ALERTS
2009	1096	9,876	2,006	20.31	2,709	1.35
	1102	9,455	1,666	17.62	2,205	1.32
Total for: 2009		19,331	3,672	19.00	4,914	1.34
2010	1106	9,690	1,916	19.77	2,543	1.33
	1112	9,366	1,751	18.70	2,269	1.30
Total for: 2010		19,056	3,667	19.24	4,812	1.31
2011	1116	9,783	2,004	20.48	2,656	1.33
	1122	9,334	1,844	19.76	2,468	1.34
Total for: 2011		19,117	3,848	20.13	5,124	1.33
2012	1126	9,667	1,981	20.49	2,657	1.34
	1132	9,237	1,674	18.12	2,251	1.34
Total for: 2012		18,904	3,655	19.33	4,908	1.34
2013	1136	10,122	1,989	19.65	2,675	1.34
	1142	9,724	1,952	20.07	2,680	1.37
Total for: 2013		19,846	3,941	19.86	5,355	1.36

Mid Term Grade/Alerts*

INSTRUCTORS ENTERING NO MIDTERMS
INSTRUCTORS ENTERING ANY MIDTERM (W/O ONLY ALERTS)
INSTRUCTORS ENTERING ONLY ALERTS
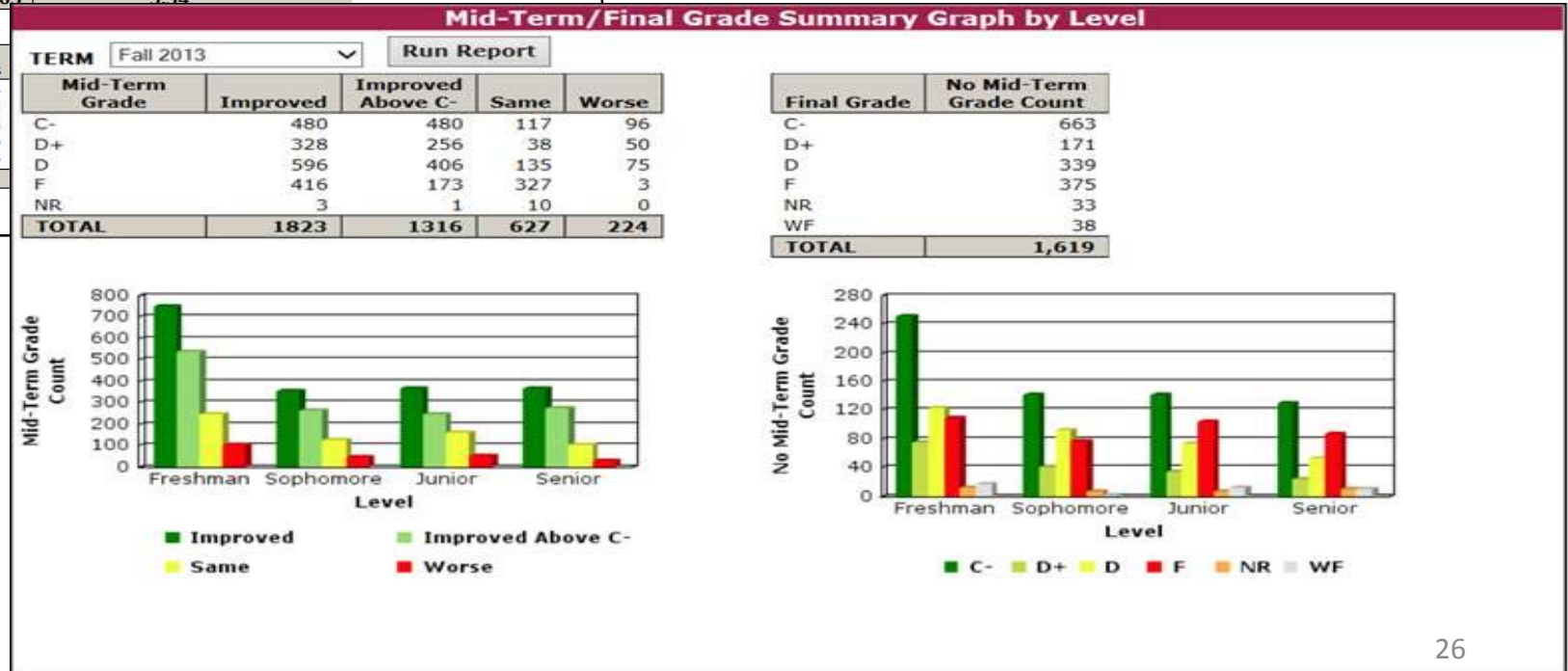
*Alerts = C- or Below

25
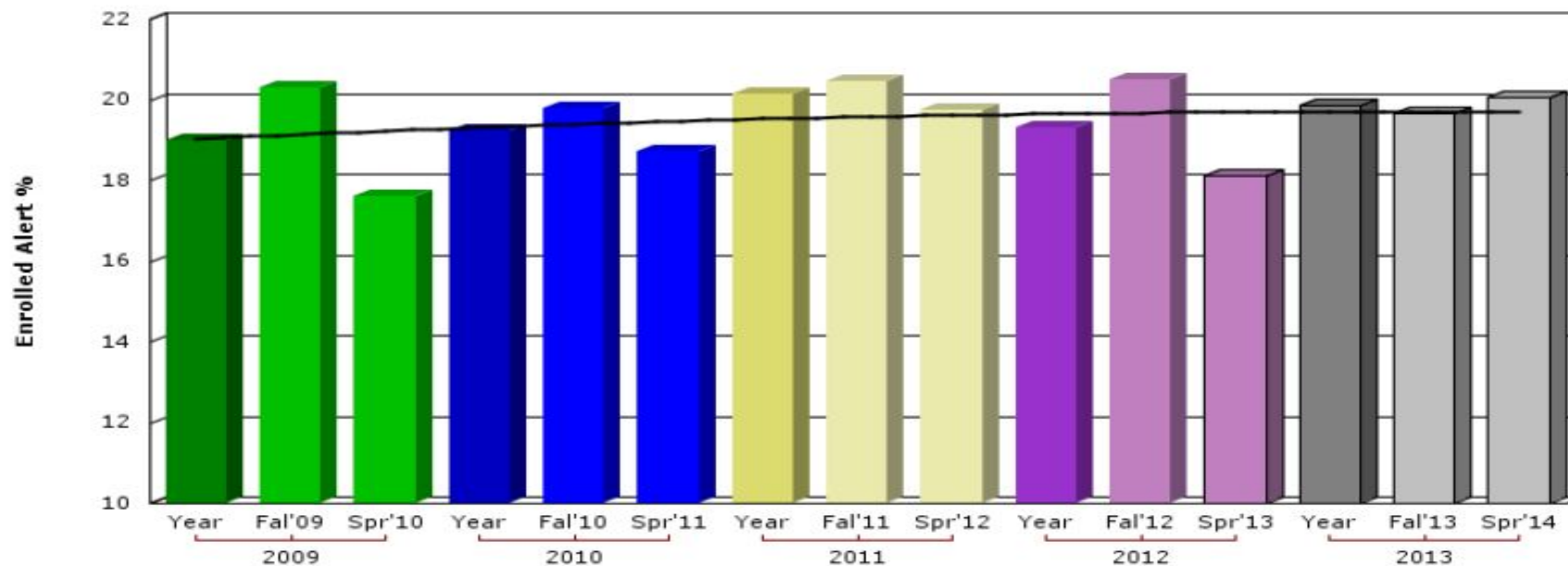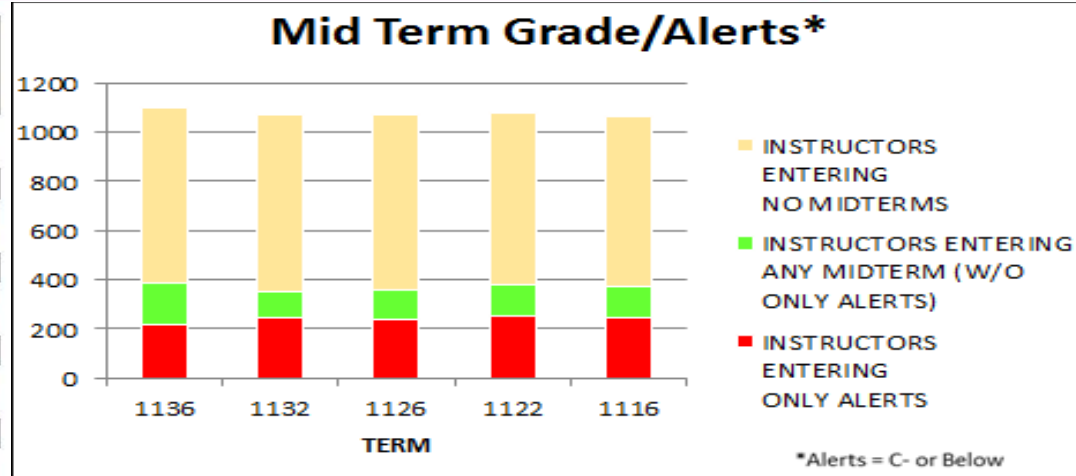
Mid-Term Grade Alerts – Example…

Mid-Term/Final Grades Alerts Summary

Term: Fall 2013   Run Report   Term: 1136   Total Enrollment: 10122   Level: ALL   Subject: ALL   Catalog: ALL   Section: ALL   Grade: ALL

Level	1 Alert	2 Alerts	3 Alerts	4+ Alerts	Total Alerts	Students	Avg # Alerts	% of Enrolled		Students Enrolled
Freshman	527	183	53	9	1,089	772	1.41	24.61		3,137
Sophomore	305	69	20	6	527	400	1.32	18.17		2,201
Junior	322	86	21	3	570	432	1.32	19.59		2,205
Senior	302	66	14	3	489	385	1.27	14.93		2,579
TOTAL	1,456	404	108	21	2,675	1,989	1.34	19.65		10,122

Subject	Total Alerts	Students With Alerts	Students In Subject	Avg # Alerts	% of Total Alerts	% of Student Alerts	
ACCT	29	28	900	1.04	3.22	3.11	
ANTH	42	40	871	1.05	4.82	4.59	
BIET	1	1	27	1.00	3.70	3.70	
BIOL	549	471	4,316	1.17	12.72	10.91	
		4	328	1.00	1.22	1.22	
		253	3,397	1.06	7.86	7.45	
		23	551	1.04	4.36	4.17	
CLST	35	34	627	1.03	5.58	5.42	
CMAN	6	6	416	1.00	1.44	1.44	
COMM	49	48	2,091	1.02	2.34	2.30	
TOTAL	2,675	2,528	47,306	1.06	5.65	5.34	

Show All Subjects For All Levels
Show Only This Subject For All Levels

Grade	1 Alert	2 Alerts	3 Alerts	4+ Alerts	Total Alerts	Students	Avg # Alerts	% of Alerts
C-	629	31	1	0	694	661	1.05	25.94
D+	386	15	0	0	416	401	1.04	15.55
D	679	59	3	0	806	741	1.09	30.13
F	494	91	18	4	746	607	1.23	27.89
NR	7	3	0	0	13	10	1.30	.49
TOTAL	2,195	199	22	4	2,675	2,420	1.11	

Mid-Term/Final Grade Summary Graph by Level

TERM: Fall 2013   Run Report

Mid-Term Grade	Improved	Improved Above C-	Same	Worse
C-	480	480	117	96
D+	328	256	38	50
D	596	406	135	75
F	416	173	327	3
NR	3	1	10	0
TOTAL	1823	1316	627	224

Final Grade	No Mid-Term Grade Count
C-	663
D+	171
D	339
F	375
NR	33
WF	38
TOTAL	1,619

Student Financials: Education Investment Portfolio - Example

Student Financials: Education Investment Portfolio - Example

LOYOLA UNIVERSITY CHICAGO | **OFFICE OF STUDENT FINANCIAL ASSISTANCE**

Loan Summary

Loan Summary Legend
- Total Interest Paid
- Total Principal + Total Int..
- Total Principal Amt Borro..

Loan Detail

LOAN_PROG..	FA_ITEM_TYPE_DESCR	Est Interest Rt	$ Disbursed	Loan Fees	Disb+ Fees	Projected Monthly Payment	Loan Term	Total Interest Paid	Total Principal + Total Inter..
FFELP	Subsidized Fed Stafford Loan	5.60%	$3,483	$18	$3,500	$50	85	$748	$4,248
	Unsubsidized Fed Stafford Lo..	6.80%	$1,990	$10	$2,000	$50	45	$274	$2,274
	Total	6.20%	$5,473	$28	$5,500	$63	120	$2,095	$7,595
Direct Lending	Direct Subsidized Staffrd Loan	3.77%	$14,402	$142	$14,544	$151	120	$3,544	$18,088
	Direct Unsubsidzd Staffrd Loan	6.80%	$3,970	$40	$4,010	$50	107	$1,352	$5,362
	Total	4.98%	$18,372	$182	$18,554	$214	120	$7,068	$25,622
Grand Total		5.33%	$23,845	$210	$24,054	$277	120	$9,164	$33,218

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Disaster Recovery…

Emergency Response | **Business Continuity** | **Disaster Recovery**

DR Project	Current DR Stage					Funded	Date
DNS (network access)	●	●	○	○	○	FY14	8/14
SQL (database)	●	●	○	●	○	FY14	8/14
LOCUS (student system)	●	●	●	◑	○	FY14	8/14
Adobe (course delivery)	●	●	○	○	○	FY14	8/14
luc.edu (website)	●	●	●	○	○	FY14	8/14
Email (communications)	●	●	●	○	○	FY13	8/14
Lawson (HR, Finance)	●	●	○	○	○	FY15	8/15
Kronos (timekeeping)	●	●	○	○	○	FY15	8/15
Network	●	●	●	○	○	FY15, 16	8/16
Oracle (database)	○	○	○	○	○	FY15, 16	8/16
Sakai (course delivery)	●	◑	○	○	○	TBD	TBD

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Stage (Legend)

- 🔵 Document Current State / Inspection
- ◑ (red) Identify Gaps, Develop Specific Strategy
- 🔴 Funding
- ⚪ (gray) Initial Failover Test
- ◑ (green) Create DR Plan
- 🟢 Run Tabletop Exercise
- 🟠 Full Failover Test
- ⚪ No Activity

Recent Progress

- RTO's & RPO's selected and approved by ITESC
- Tracking tool acquired and implemented
- 3-year budget for high-priority tasks developed
- Linkages between DR and BC established
- Initial Lawson/Kronos separation w/ limited failover
- In progress include DNS, LOCUS, SQL (planned 8/14)

Disaster Recovery Scope

1.1 – Update and Confirm RPO's & RTO's
1.2 – Assess BC process in IT outage
2.0 – Failover data center at WTC
3.0 – Select and implement tracking tool
4.0 – Disaster recovery plan
5.0 – Disaster recovery test
6.0 – Email recovery
7.0 – luc.edu redundancy and recovery
8.0 – Lawson recovery
9.0 – Network and Internet redundancy
Bold = Board of Trustee Initiated

Classroom Capture, Atomic Learning, Loyola Media (Kaltura) …

Capture (Panopto):

- **Over 650 Recordings in the System**

- **30 Recordings Made Each Week**

- **35 Courses Used System in Spring 2014**

- **20 Courses Using System in Summer 2014**

- **71 Courses Using System in Fall 2014**

On Demand Training (Atomic Learning):

- **Over 60,000 Videos in the System**

- **10-20 People Using Each Week**

Loyola Media (Kaltura):

- **GoLive – Fall 2014**

- **Over 4,500 Videos from Ignation**

Lawson & Kronos Migration…

- Converting the system was a 15 month project involving a core project team of approximately 20 people in LUC ITS, LUMC IT, LUC Finance, HR, and Payroll.

- Complexities of the project included a Unix → Windows platform conversion, handling ~100 interfaces in and out of system, and setting up a University-operated Receiving & Delivery function at HSD.
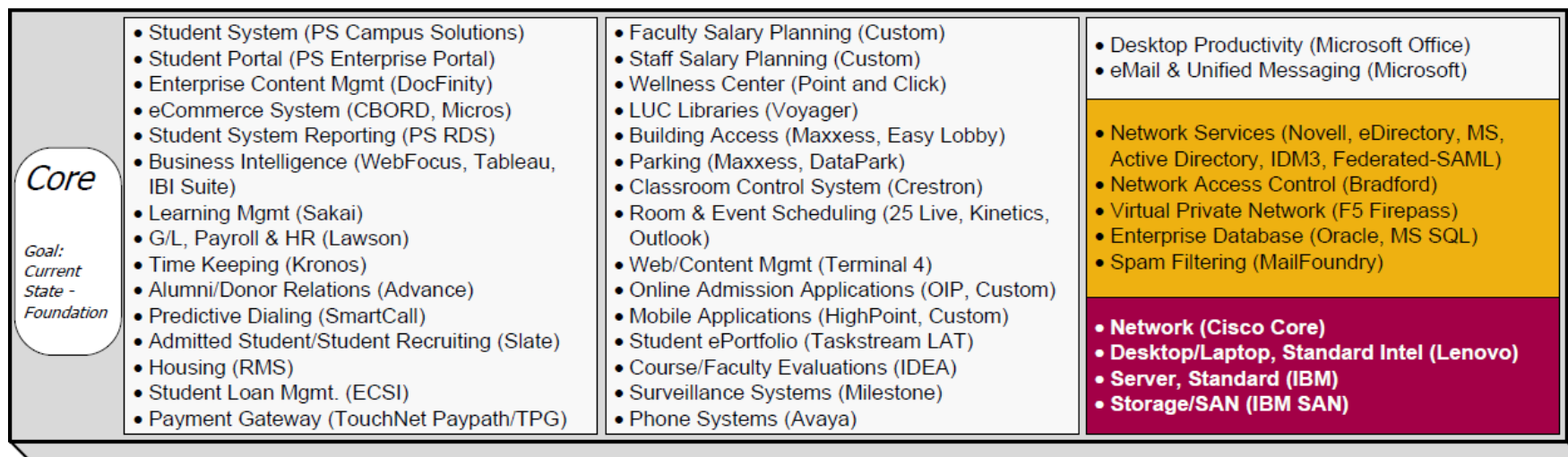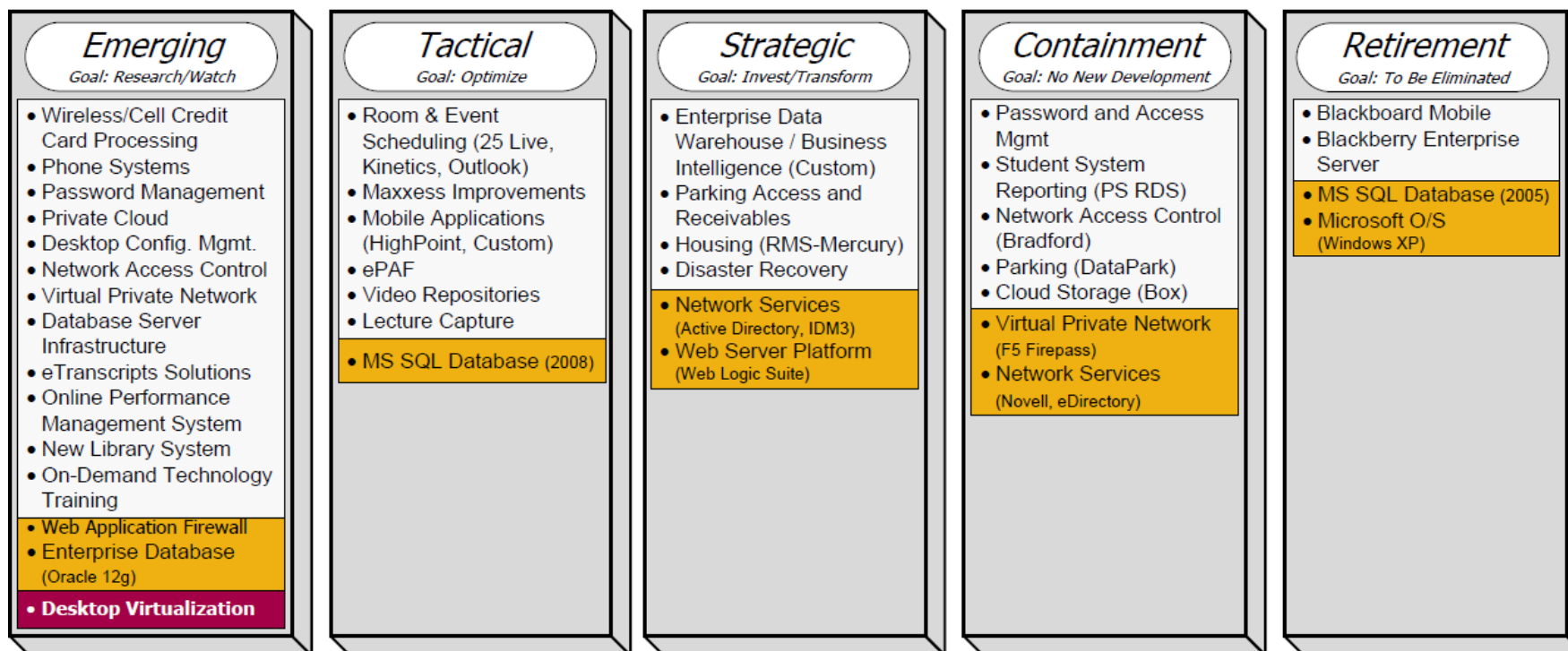
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next steps

- **Upgrading Lawson tax software (BSI)**
- **Electronic W-2's,**
- **Improving efficiency of various interfaces**
- **Upgrading entire system to Lawson v10 (x-large effort).**

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LUC Technology Strategy - A Roadmap for Change

Emerging
Goal: Research/Watch

- Wireless/Cell Credit Card Processing
- Phone Systems
- Password Management
- Private Cloud
- Desktop Config. Mgmt.
- Network Access Control
- Virtual Private Network
- Database Server Infrastructure
- eTranscripts Solutions
- Online Performance Management System
- New Library System
- On-Demand Technology Training
- Web Application Firewall
- Enterprise Database (Oracle 12g)
- **Desktop Virtualization**

Tactical
Goal: Optimize

- Room & Event Scheduling (25 Live, Kinetics, Outlook)
- Maxxess Improvements
- Mobile Applications (HighPoint, Custom)
- ePAF
- Video Repositories
- Lecture Capture
- MS SQL Database (2008)

Strategic
Goal: Invest/Transform

- Enterprise Data Warehouse / Business Intelligence (Custom)
- Parking Access and Receivables
- Housing (RMS-Mercury)
- Disaster Recovery
- Network Services (Active Directory, IDM3)
- Web Server Platform (Web Logic Suite)

Containment
Goal: No New Development

- Password and Access Mgmt
- Student System Reporting (PS RDS)
- Network Access Control (Bradford)
- Parking (DataPark)
- Cloud Storage (Box)
- Virtual Private Network (F5 Firepass)
- Network Services (Novell, eDirectory)

Retirement
Goal: To Be Eliminated

- Blackboard Mobile
- Blackberry Enterprise Server
- MS SQL Database (2005)
- Microsoft O/S (Windows XP)

Core
Goal: Current State - Foundation

- Student System (PS Campus Solutions)
- Student Portal (PS Enterprise Portal)
- Enterprise Content Mgmt (DocFinity)
- eCommerce System (CBORD, Micros)
- Student System Reporting (PS RDS)
- Business Intelligence (WebFocus, Tableau, IBI Suite)
- Learning Mgmt (Sakai)
- G/L, Payroll & HR (Lawson)
- Time Keeping (Kronos)
- Alumni/Donor Relations (Advance)
- Predictive Dialing (SmartCall)
- Admitted Student/Student Recruiting (Slate)
- Housing (RMS)
- Student Loan Mgmt. (ECSI)
- Payment Gateway (TouchNet Paypath/TPG)

- Faculty Salary Planning (Custom)
- Staff Salary Planning (Custom)
- Wellness Center (Point and Click)
- LUC Libraries (Voyager)
- Building Access (Maxxess, Easy Lobby)
- Parking (Maxxess, DataPark)
- Classroom Control System (Crestron)
- Room & Event Scheduling (25 Live, Kinetics, Outlook)
- Web/Content Mgmt (Terminal 4)
- Online Admission Applications (OIP, Custom)
- Mobile Applications (HighPoint, Custom)
- Student ePortfolio (Taskstream LAT)
- Course/Faculty Evaluations (IDEA)
- Surveillance Systems (Milestone)
- Phone Systems (Avaya)

- Desktop Productivity (Microsoft Office)
- eMail & Unified Messaging (Microsoft)
- Network Services (Novell, eDirectory, MS, Active Directory, IDM3, Federated-SAML)
- Network Access Control (Bradford)
- Virtual Private Network (F5 Firepass)
- Enterprise Database (Oracle, MS SQL)
- Spam Filtering (MailFoundry)
- **Network (Cisco Core)**
- **Desktop/Laptop, Standard Intel (Lenovo)**
- **Server, Standard (IBM)**
- **Storage/SAN (IBM SAN)**

Legend: Solution | Software | Hardware

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Application Integration…

- **Applications that share data have increased 58% since 2006, from 57 to 90 in 2014**
- **Top Level Interfaces have become more automated**
  - **In 2014 76% are fully automated compared to 61% in 2006**
- **31% of Loyola's applications that share data are hosted in the cloud**
  - **28 total in 2014 compared to just 13 in 2006, 115% change**

Budget & Funding…

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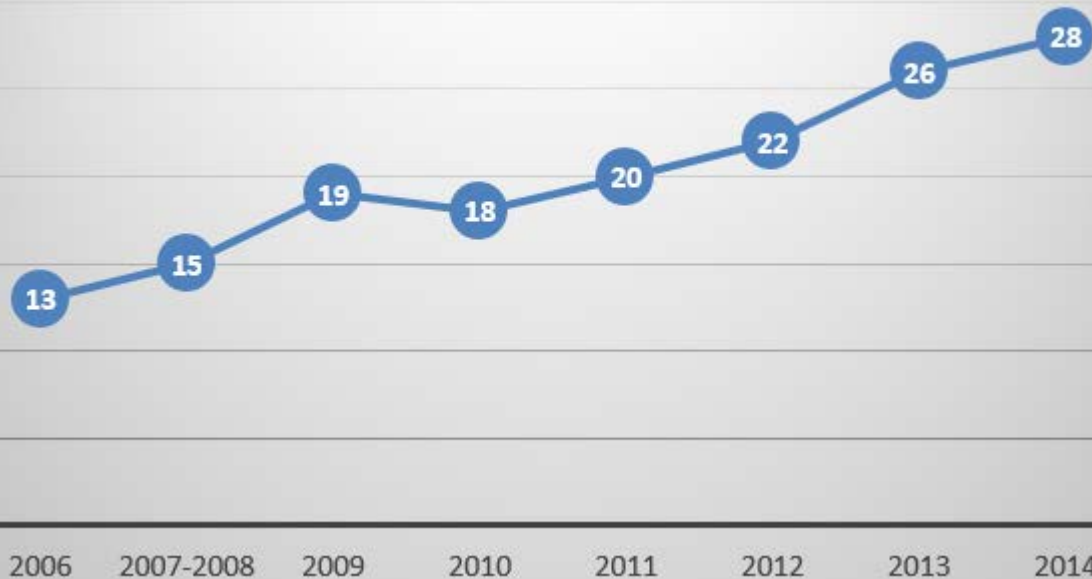
Higher Ed IT Spend as a Percent of Revenue ...

Figure 3. Education: IT Spending as a Percent of Revenue

= Range   = Average   = Middle Quartiles

4.7%
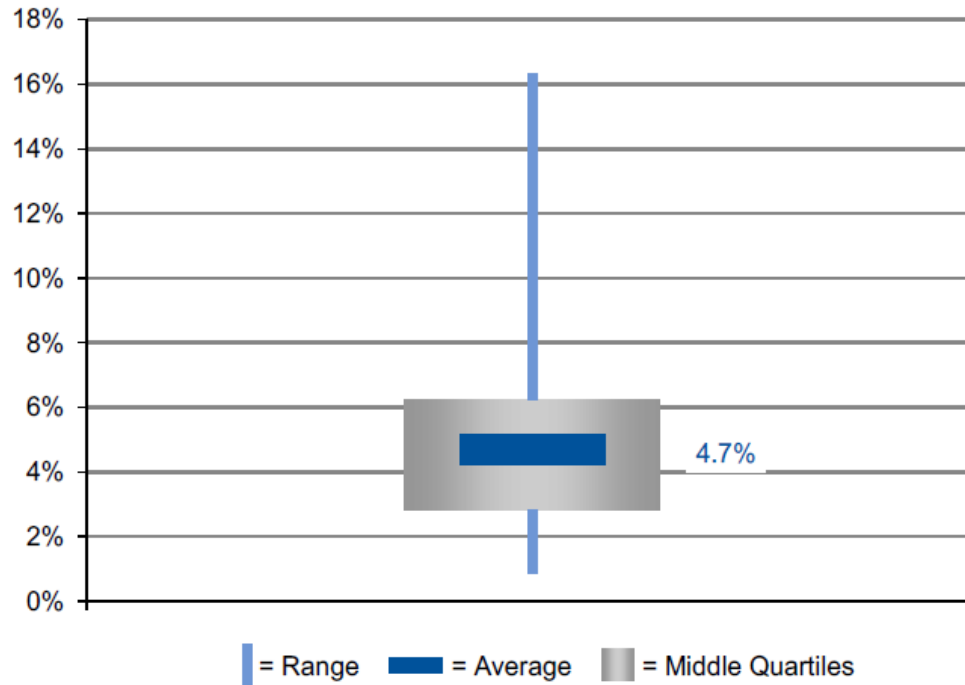
Source: Gartner IT Key Metrics Data (December 2013)

Table 3. Education: IT Spending as a Percent of Revenue: by Revenue Scale

<$250M in Revenue	$250M- $500M in Revenue	$500M- $1B in Revenue	$1B- $10B in Revenue	$10B+ in Revenue
5.1%	4.2%	4.6%	4.7%	N/A

Source: Gartner IT Key Metrics Data (December 2013)

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ITS Operating Budget Benchmark...

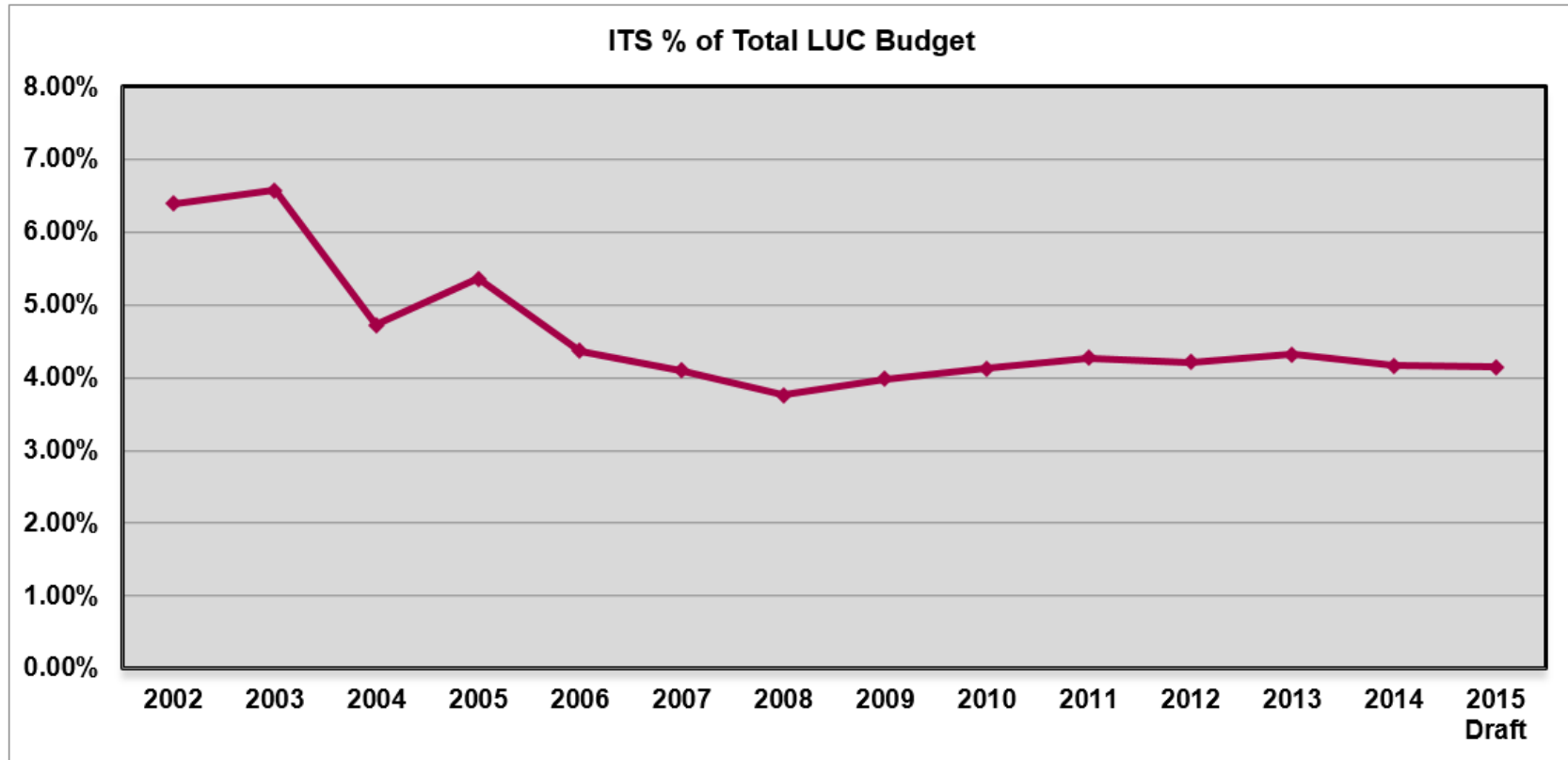|	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015 Draft
LUC Expense Budget	$154.8	$144.5	$142.2	$163.8	$208.0	$249.7	$297.5	$313.8	$327.4	$337.0	$379.5	$386.4	$412.8	$430.7
ITS BUDGET	$9.9	$9.5	$6.7	$8.8	$9.1	$10.2	$11.2	$12.5	$13.5	$14.4	$16.0	$16.7	$17.2	$17.9
ITS as % of LUC	6.40%	6.57%	4.72%	5.36%	4.36%	4.10%	3.76%	3.98%	4.12%	4.27%	4.22%	4.32%	4.17%	4.14%

ITS % of Total LUC Budget

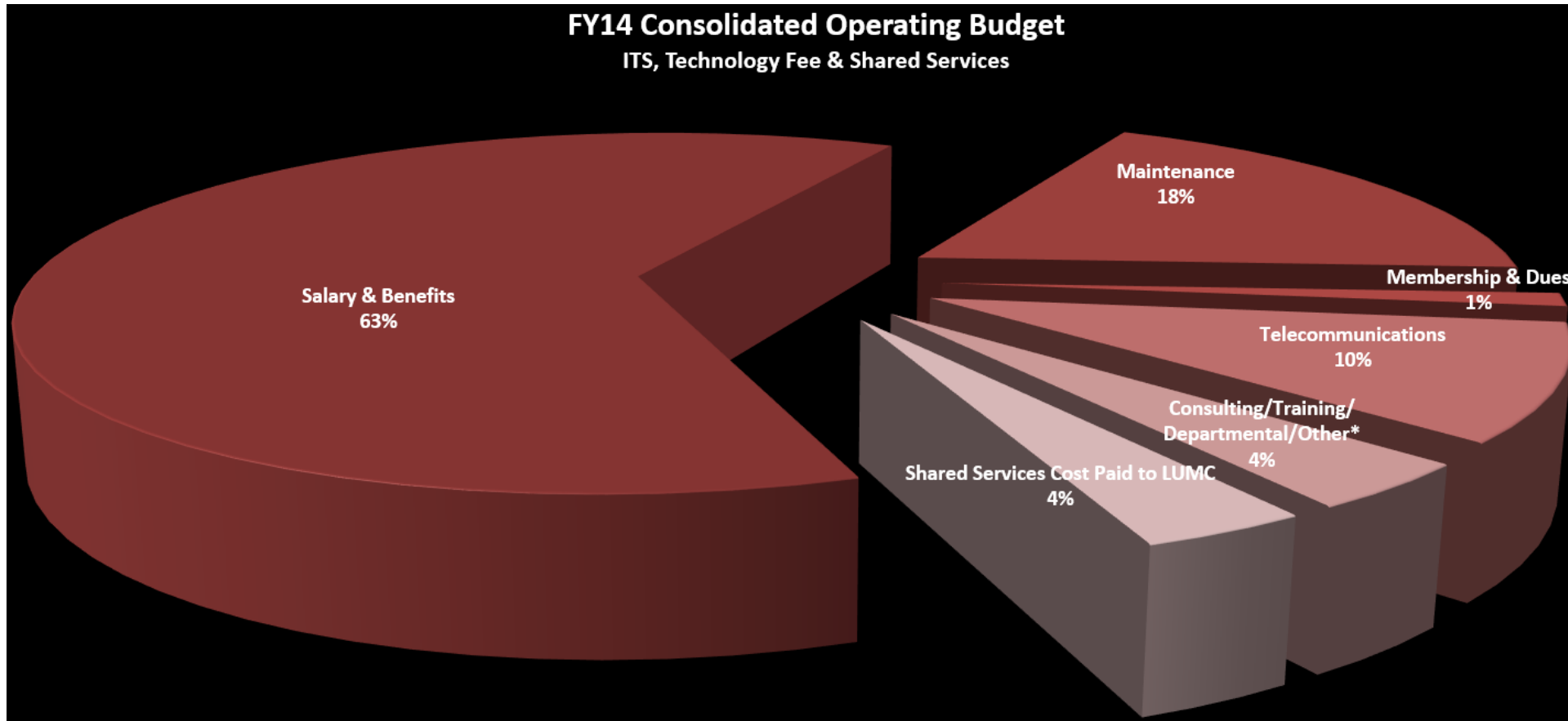2002-2009 ITS Budget Includes ITS Operating Budget
2009-2014 ITS Budget Includes ITS and Technology Fee Operating Budget
2012-2014 ITS Budget Includes addition of funds for Shared Services to LUMC, Lawson Maintenance, BSI Tax Software and MHC Payroll Software
2014-2015 ITS Budget Includes addition of funds due to Centralization of ITS Costs across the University

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FY14 Projected Technology Fee Breakdown…

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FY14 Projected Revenue	$2,850,000	100%
FY14 Allocations	Amount	% of Total
ResNet Lab Support	$370,000	13%
Telecomm/Internet	$300,000	11%
Membership & Dues	$90,000	3%
Software Maintenance	$1,050,000	37%
Student Technology Refresh Programs	$1,025,000	36%
Planned Capital Projects	$0	0%
Tech. Fee Carry Over/Overage	$15,000	1%

FY14 Technology Fee Breakdown

38

Central IT Operating…

FY14 Consolidated Operating Budget
ITS, Technology Fee & Shared Services

Salary & Benefits 63%
Maintenance 18%
Membership & Dues 1%
Telecommunications 10%
Consulting/Training/Departmental/Other* 4%
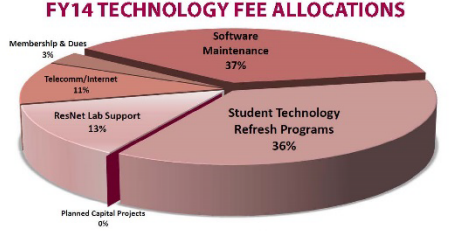Shared Services Cost Paid to LUMC 4%

Current State…

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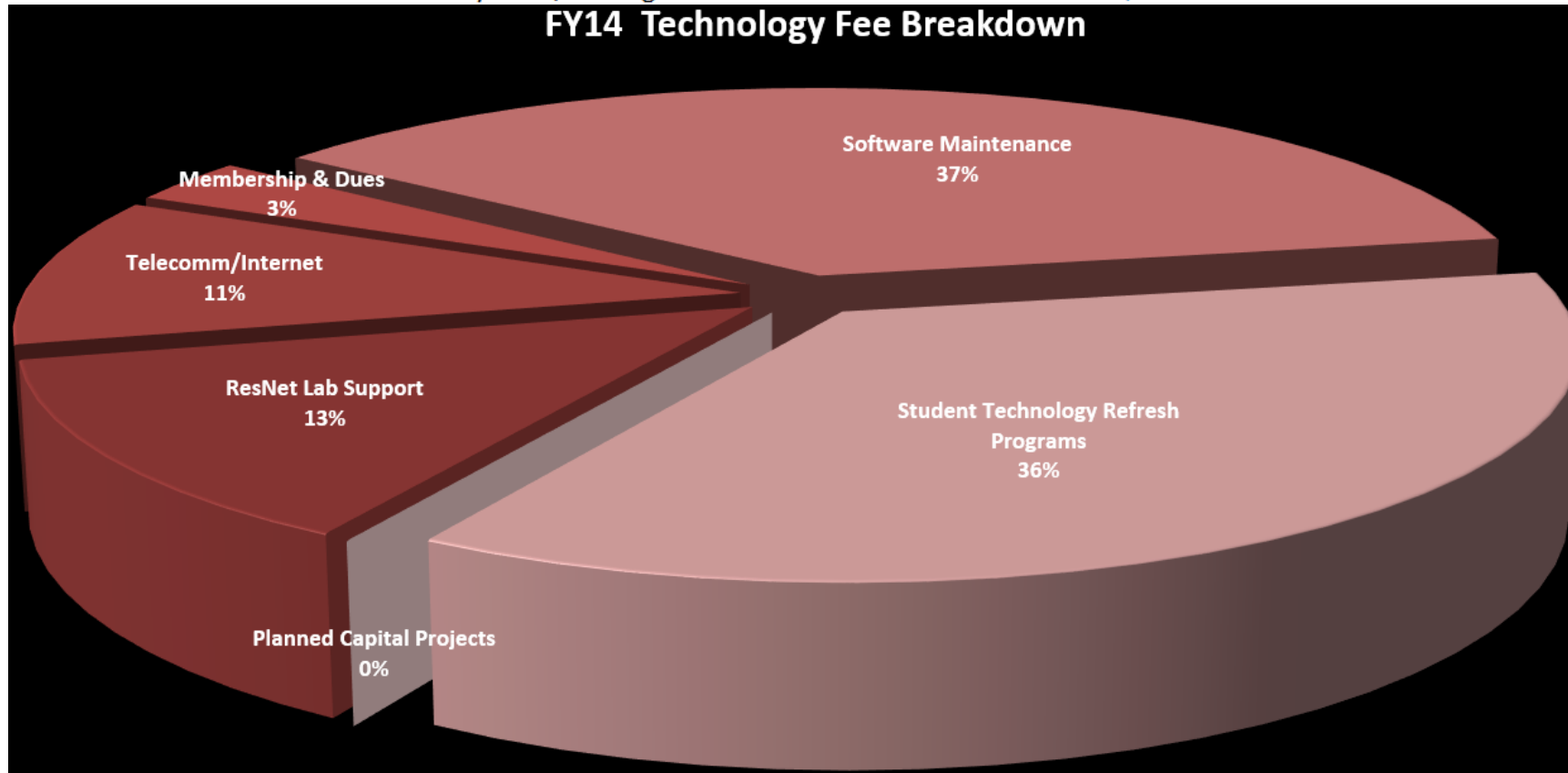
ITS FY14 Annual Summary

FY14 FACTS

Data Centers & Networks

Loyola's two data centers house nearly 730 devices including servers, appliances, and equipment:
► Over 550 Terabytes of online storage (10% increase over FY12)
► 180 physical enterprise class servers and over 374 virtual servers
► 2,100 wireless access points covering 95% of Loyola's buildings
► 17,000 devices registered on the wireless network
► 1,350 Gig connection for internet bandwidth
► 18,515 Student Devices Connecting to Sync to E-Mail
► 28 Terabytes of Security Surveillance Storage

Other Facts

► 35 presentations were delivered by ITS staff members at leading technology and higher education venues
► 2 Staff Members awarded the LUC Commitment to Excellence Award
► ITS actively participated in LUC & Me Mentors and the AJCU Mentor Program
► 3.9 million documents stored in docfinity
► 20 deployments of ECM technologies were completed, 9 of which were in new departments. These included Capital Planning, UMC, Student Development, Facilities, Conference Services, Parking & Transportation, Office of the CIO, General Counsel and the School of Social Work.

FY14 TECHNOLOGY FEE ALLOCATIONS

Pie chart:
- Software Maintenance 37%
- Student Technology Refresh Programs 36%
- ResNet Lab Support 13%
- Telecom/Internet 11%
- Membership & Dues 3%
- Planned Capital Projects 0%

TECHNOLOGY SCORECARDS

An annual technology assessment based on the Rings of Excellence categories is conducted each November. Subjective health ratings are assigned against a pre-defined healthy state to identify strengths and weaknesses as technology requirements evolve on our campus.
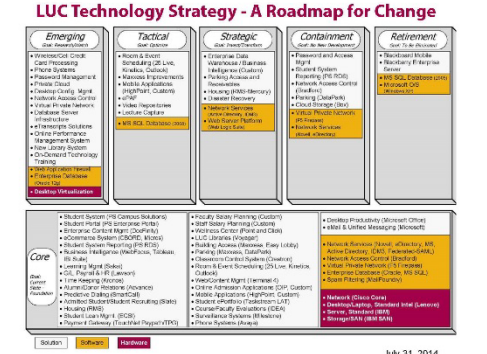
ITS Scorecard Summary	Health Index					FY13-14 Change	Total Change (since FY09)
	FY10	FY11	FY12	FY13	FY14		
Academic & Faculty Support Scorecard	3.8	3.9	3.9	3.8	3.8	0%	22%
Administrative Technology Scorecard	3.9	4.1	4.1	3.9	3.9	0%	11%
Student Technology Scorecard	4.4	4.4	4.3	4.4	4.7	7%	20%
Infrastructure Scorecard	3.6	3.5	3.6	3.6	3.7	2%	19%
Continuous Service Improvement Scorecard	3.7	3.8	3.9	3.9	3.8	-2%	40%
Governance & Funding Scorecard	3.9	3.9	4.0	3.9	3.9	1%	31%
Average Annual Score	3.9	4.0	4.0	3.9	4.0	1%	23%
Year to Year Improvement	8%	2%	0%	-1%	1%		

FY15 & BEYOND
MAJOR INITIATIVES - FY15 Q1-Q2

Academic and Faculty Support
- Locus Enhancements (5)
- Maxxess (5)
- Electronic Outbound Transcript Feasibility

Administrative Initiatives
- Database for Key and Lock Info
- RMS Mercury Upgrade
- Online Performance Management System
- 25Live Decentralized Scheduling for Multi-Purpose Rooms
- Website to Self Identify a Disability and Protected Veteran Status
- Prospect Management Data Mart with Self Select
- Lawson - Retirement Vendor Switch

Infrastructure
- Campus Construction Initiatives (12)
- Information Security Program (5)
- LUHS/LUC/HSD Technology Program (4)
- IT Disaster Recovery (14)

Student Technology Support
- On Demand Technology & Skills Training
- Locus to Outlook Interface for Course Schedules
- Alumni Email Accounts for Life

Continuous Service Development
- Business Intelligence/Data Warehouse (2)
- Enterprise Content Management (5)
- Parking Permit Management and Enforcement
- Parking Access and Receivables Control System - Replacement
- Motor Vehicle Records Check Authorization

Initiatives under development include:
► Expand Anytime Anywhere Access capabilities
► Continue Disaster Recovery provisions for Tier 1 services
► Expand support for online course/degree offerings including lecture capture and video repository solutions
► Create Prospect Data Mart with self-service capability for Advancement team
► Select and install security architecture improvements including new solutions for VPN, web application firewall, password management and data loss prevention
► Provide electronic outbound transcripts
► Deploy SharePoint platform for file access and collaboration

LUC Technology Strategy - A Roadmap for Change

Columns: Emerging (Goal: Ready/Detect), Tactical (Goal: Optimize), Strategic (Goal: Transform), Containment (Goal: No New Development), Retirement (Goal: To Be Decided)

July 31, 2014

For more information visit: luc.edu/its/gov_home.shtml
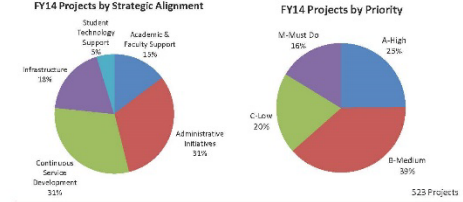
Information Technology Services

Run ...ongoing operations

Sample Service Volumes

Daily
► 600,000 E-Mails Received
► 3,100 mobile devices sync to e-mail
► 11,600 logins to LOCUS
► 5480 total printed pages (-23%)
► 36,500 total visits to LUC.edu

Monthly
► 27,700 computer lab logins
► 2,100 online group study room reservations
► 830 software downloads from TechConnect
► 295,000 visits to LUC.edu from mobile devices

Weekly
► 975 support calls generated (+16%)
► 100 checkouts of a laptop from the Information Commons
► 585 classroom support calls
► 560 VPN sessions

Annually
► 1.8 million logins to LMS
► 39,540 support calls processed (+16%)
► 945 special events supported
► 92 million network attacks blocked

Infrastructure Highlights
► 6,200 workstations with approximately 29% available for student use
► 300 technology-equipped classrooms and 50 conference spaces
► 575 digital surveillance cameras deployed campus-wide

Portfolio Summary
The Information Technology Executive Steering Committee (ITESC) has provided ITS governance and project oversight since November 2006. The ITS project portfolio has averaged over 515 projects annually for the past five years. The ITS project portfolio size (effort of projects) has grown 24% since FY12.

FY14 Projects by Strategic Alignment (pie chart):
- Student Technology Support 5%
- Academic & Faculty Support 15%
- Infrastructure 18%
- Administrative Initiatives 31%
- Continuous Service Development 31%

FY14 Projects by Priority (pie chart):
- M-Must Do 16%
- A-High 25%
- C-Low 20%
- B-Medium 39%

523 Projects

Strategic Category	FY14 Q1-Q2 Completed Projects	FY14 Q3-Q4 Completed Projects	FY14 Total Projects	FY14 Percent of Total
Academic & Faculty Support	10	11	21	14%
Administrative Initiatives	21	26	47	32%
Continuous Service Development	24	12	36	24%
Infrastructure	25	14	39	27%
Student Technology Support	2	2	4	3%
	82	65	147	100%

Grow ... information systems and services to optimize performance

On-Demand Technology Training, Atomic Learning
Atomic Learning, an on-demand, just in time technology training solution rolled out. This hosted system provides short, packaged videos about multiple technologies and soft skills for individuals to consume in a curriculum or ad-hoc format and allows students, faculty, and staff the ability to learn many technologies such as the Microsoft Office or Adobe Creative suites. The system provides tracking for the individuals so that they can track and measure their progress. The system:
► Easy to use and accessible anywhere, anytime, from any web-capable device.
► Provides access to over 65,000 technical topics.
► Fully-integrated with Loyola's Learning Management System (Sakai).
► Provides students, faculty, staff, with full-control of what technologies they want to learn.
► Atomic learning can be accessed at: atomiclearning.com/login/luc

Student System Mobile Access
The Loyola University Chicago mobile application available in the Apple and Android app stores underwent a major update in June. Newer features for faculty include viewing their teaching schedule, class rosters, student lookups and viewing their advisees. Students can view their schedule, grades, to-do lists, holds, financials, aid awards and campus maps. One popular new feature is that students can agree to share their individual schedules with each other.

Other Highlights
Created an electronic Performance Action Form (ePAF) process to simplify and streamline student worker applications. HR processes over 1,200 PAFs at the start and end of terms for students. ePAF processing for staff will be added in the future.

Health Sciences Division email moved from Novell GroupWise to the University's Microsoft Exchange platform. Calendaring and Address Book functionality was integrated between LUC, LUHS and Trinity Health.

Microsoft's Unified Messaging platform replaced our existing Audix voicemail solution.
► Lakeside users can now receive and listen to voice mail messages directly from their email mailbox
► A conference calling solution has been added that serves up to 20 prticipants and includes both on-campus dialing and an 800 number to lower participant's costs.
► Increases the ease of video and conference calling
► Over 3,000 voice mail boxes were migrated

The Lawson and Kronos applications were successfully migrated from a LUMC/Trinity supported infrastructure to a University supported environment. The cutovers were executed as planned with no serious post go-live issues.

Transform ... new technologies and processes that fundamentally promote change

Video Repository, Loyola Media
A new video repository cloud-based solution was been implemented. The new system named "Loyola Media," replaced the Ignation system. Powered by Kaltura Media Solutions, Loyola Media provides students, faculty, and staff with a fully-accessible repository for storing and sharing video. The system is integrated with the learning management system, Sakai, and fully supports video operations from mobile devices. Loyola Media can be found at: media.luc.edu

As part of the move to the new LoyolaMedia system ITS:
► Migrated over 4,500 videos to the new system, comprising over 3TB of storage.
► Established a "mobile-ready" environment for production and consumption of video.
► Worked with UMC to re-brand Loyola's digital media platform and services for the Loyola community.
► Positioned the technology infrastructure to support anytime, anywhere

Business Intelligence (BI)/Analytics
The EDW (Enterprise Data Warehouse) went live with student data from LOCUS and Faculty Instructional Activity (FIA) information enhancing user accessibility to current and historical data enabling trending and forecast styles of reporting. The BI environment was enhanced with the upgrade of the WebFocus (WF) to version 8 and the addition of Tableau data analysis tools that improve overall self service capabilities. New BI created for FIA, Student Indebtedness, Mid-Term Grade Alerts, Ad Hoc dashboard for Registration & Records, Advancement analytics with 12 reports. Consolidation and migration of old RDS (Reporting Data System) reports in progress with RDS retirement eminent.

Anytime Anywhere Access
The ability for students, faculty and staff to fulfill their relationship with Loyola from wherever they are in a simple and secure way, continues to develop and progress. This multi-year, multi-layer strategy continues to move forward as depicted below:

Completed	Future Direction
Cloud based storage - Box	Eduroam federated network access
Improved mobile presence – Highpoint Mobile	VPN Replacement
Addition of web-based and self-service applications	Password Management Upgrade
Campus wireless expansion – HSD, Gentile	Private cloud based storage - SharePoint
Broader and stronger security controls	Identity & Access Management Strategy
Online Learning – Atomic Learning	Desktop Virtualization
Loyola Media - Koltura	Bring Your Own Devices

In FY15 an in-depth strategy will be developed to complete the integration of the technologies required to fulfill the Anytime Anywhere Access experience for the users of Loyola technology services.

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ITS Major Initiatives - FY15 Q1-Q2

Academic and Faculty Support

- Locus Enhancements (5)
- Maxxess (5)
- Electronic Outbound Transcript Feasibility

Administrative Initiatives

- Database for Key and Lock Info
- RMS Mercury Upgrade
- Online Performance Management System
- 25Live Decentralized Scheduling for Multi-Purpose Rooms
- Website to Self Identify a Disability and Protected Veteran Status
- Prospect Management Data Mart with Self Select
- Lawson - Retirement Vendor Switch

Student Technology Support

- On-Demand Technology & Skills Training
- Locus to Outlook Interface for Course Schedules
- Alumni Email Accounts for Life

Infrastructure

- Campus Construction Initiatives (12)
- Information Security Program (5)
- LUHS/LUC/HSD Technology Program (4)
- IT Disaster Recovery (14)

Continuous Service Development

- Business Intelligence/Data Warehouse (2)
- Enterprise Content Management (5)
- Parking Permit Management and Enforcement
- Parking Access and Receivables Control System – Replacement
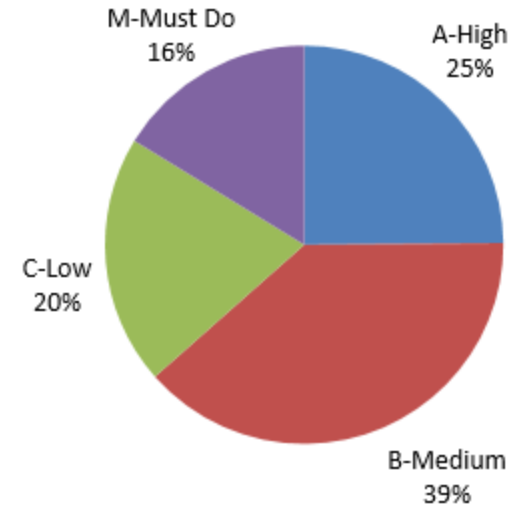- Motor Vehicle Records Check Authorization

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ITS FY14 Portfolio Summary

FY14 Projects by Strategic Alignment
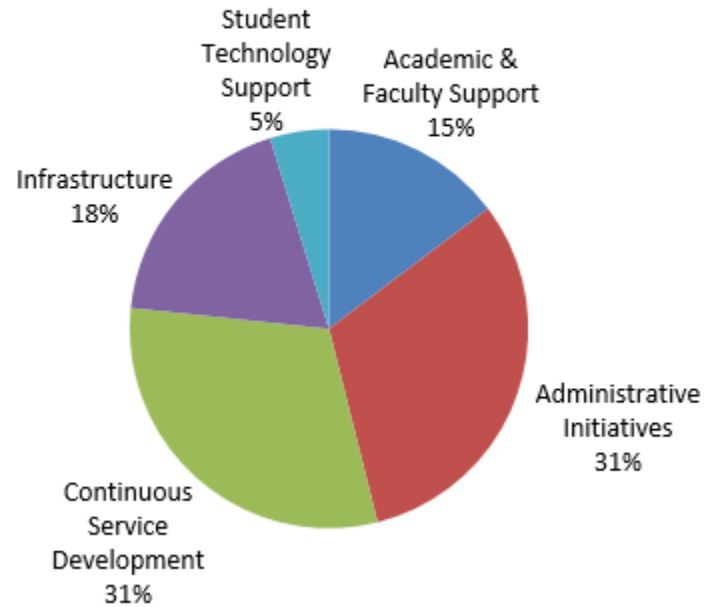
523 Projects

FY14 Projects by Priority

Strategic Category	FY14 Q1-Q2 Completed Projects	FY14 Q3-Q4 Completed Projects	FY14 Total Projects	FY14 % of Total
Academic & Faculty Support	10	11	21	14%
Administrative Initiatives	21	26	47	32%
Continuous Service Development	24	12	36	24%
Infrastructure	25	14	39	27%
Student Technology Support	2	2	4	3%
	82	**65**	**147**	**100%**

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ITS FY14 Scorecard Summary…

ITS Scorecard Summary	Health Index								FY13-14 Change	Total Change (since FY07)
	FY07	FY08	FY09	FY10	FY11	FY12	FY13	FY14		
Academic & Faculty Support Scorecard	🟡 3.0	🟡 3.3	🟢 3.5	🟢 3.8	🟢 3.9	🟢 3.9	🟢 3.8	🟢 3.8	0%	22%
Administrative Technology Scorecard	🟢 3.5	🟢 3.8	🟢 3.5	🟢 3.9	🟢 4.1	🟢 4.1	🟢 3.9	🟢 3.9	0%	11%
Student Technology Scorecard	🟢 3.8	🟢 3.5	🟢 4.0	🟢 4.4	🟢 4.4	🟢 4.3	🟢 4.4	🟢 4.7	7%	20%
Infrastructure Scorecard	🟡 3.0	🟡 3.1	🟡 3.3	🟢 3.6	🟢 3.5	🟢 3.6	🟢 3.6	🟢 3.7	2%	19%
Continuous Service Improvement Scorecard	🟠 2.3	🟡 2.8	🟡 3.4	🟢 3.7	🟢 3.8	🟢 3.9	🟢 3.9	🟢 3.8	-2%	40%
Governance & Funding Scorecard	🟡 2.7	🟡 3.0	🟢 3.6	🟢 3.9	🟢 3.9	🟢 4.0	🟢 3.9	🟢 3.9	1%	31%

	FY07	FY08	FY09	FY10	FY11	FY12	FY13	FY14		
Average Annual Score	🟡 3.0	🟡 3.2	🟢 3.5	🟢 3.9	🟢 4.0	🟢 4.0	🟢 3.9	🟢 4.0	1%	23%
Year to Year Improvement	--	6%	9%	8%	2%	0%	-1%	1%		

As of November 2013

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Anytime Anywhere Access…

- Concepts
  - Faculty/Staff/Student:
    "I can fulfill my relationship with Loyola from wherever I am."
  - Easy to use
  - Web/portal-based
  - Secure
  - Self service
  - University:
    How do we "elegantly give up control?"

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Anytime Anywhere Access...

- Technology Implications
  - Reduce or eliminate constraints of things like VPN, Loyola Software, network drives
  - Portal
  - Virtualization
  - Desktop Management
  - Application streaming
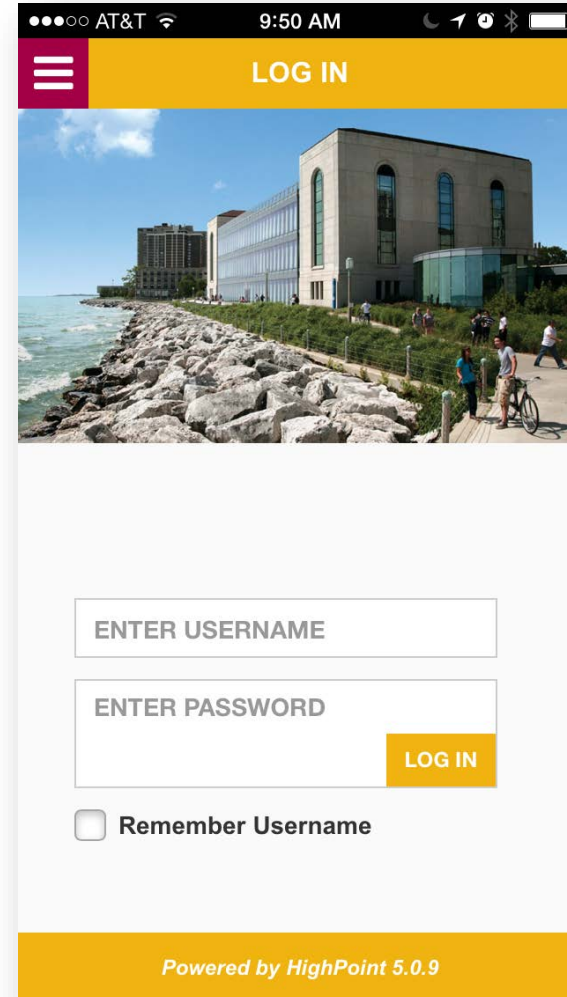 - Cloud-based
  - Bring Your Own Device

BYOD

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Anytime Anywhere Access...

Vision – Student/Faculty/Staff: "I can fulfill my relationship with Loyola from wherever I am."

Progress

- Cloud based storage - *Box*

- Improved mobile presence – *Highpoint Mobile*

- Addition of web-based and self-service applications

- Campus wireless expansion – *HSD, Gentile*

- Eduroam federated network access

- Broader and stronger security controls

- Online Learning – *Atomic Learning*

Future Direction

- VPN Replacement

- Password Management Upgrade

- Private cloud based storage - *SharePoint*

- Identity & Access Management Strategy

- Desktop Virtualization

- Bring Your Own Devices

Identity and Access Management...

Definition/Direction
Ensure the ability to rapidly and securely provision new services by deploying industry standard Identity and Access Management (IAM) infrastructure, including federated identity capabilities.

Scope
- Directory Services (governance & meta data)
- Authentication (who you are)
- Authorization/Roles (what you are allowed to do)
- Federated Identity (global trust)

Loyola's current IAM solution
- 8 years old and significantly out of date
- Environment is complex and fragile, especially in relation to shared use with Trinity Health

Goals of the new IAM solution
- less complex, seamless, highly integrated, agile

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Private Cloud / SharePoint...

SharePoint is platform that provides a secure place to store, organize, share, and access information from anywhere on almost any device using a web browser

Phase 1 - Project Objectives

- Group / Team / Project Collaboration
- File Sharing and Document Management
- Information Sources & Systems Integration

SharePoint at Loyola Today

- 10,737 student accounts have accessed Office 365 SharePoint and/or OneDrive.
- Microsoft will be increasing OneDrive storage for each student from 25 GB to 1 TB later this fall, at no cost to Loyola.

Digital Content Services ...

Service	Solution
Store Videos & Audios for Consumption	Loyola Media (Kaltura)
Store Course Content (non-Video)	Sakai
Capture Classroom Lectures	Panopto
Facilitate Webinars\Synchronous Classes	Adobe Connect
Store Web Content	T4
Consume Featured Loyola Lectures	Loyola Lectures Website
Stream Live Events	Livestream

Benefits to a Suite of Digital Content Services

- Easy to Embed Links to Digital Content in Multiple Services
- Storage\Bandwidth Resources Managed More Efficiently and Cost Effectively
- Client Services Standardized and Easier to Understand
- Will Better Position Loyola to Grown Online Classes\Services
- Loyola Visual Story & Vocabulary is Better Told

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Technology Briefing
2014

Agenda

- Technology Briefing
  - S. Malisch

- Anytime Anywhere Access Strategy Discussion
  - M. Konda

- Upcoming ITESC Meeting Schedule
  - S. Malisch

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Matt Konda - Introduction

Matthew Konda is the founder of Jemurai, LLC, a Chicago based firm focused on coaching and helping teams to enhance secure development and IT practices. Matt has helped organizations to develop cross functional IT policy, kicked off development projects from scratch with business stakeholders and coached teams of IT managers to better identify and manage goals through self- assessment and identifying and tracking metrics.

Prior to starting Jemurai in 2012, Matt was a Director of Engineering at Trustwave (4 years) where he was responsible for both the development and operations of large scale security systems. Matt has 17 years of experience developing software and consulting, including 4 years with SPR. He also has 7+ years in security, including work to develop security policies and standards.

Anytime Anywhere Access

Vision – Students/Faculty/Staff/Friends:

"I can fulfill my relationship with Loyola from wherever I am."

Key Attributes

- Easy to find
- Easy to access/use
- Internet accessible/web based
- Appropriately secured
- Integrated support/Self service oriented
- Device agnostic
- Create an experience that people love

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Anytime Anywhere Access Discussion

1. What is the most important thing you could tell me about the AAA strategy to best position LUC to support students/faculty/staff?

2. Can you provide one specific example of how ITS Anytime Anywhere Access could improve your experience or your area's experience?

3. Building on that, what would be your highest priority "ask" from ITS related to Anytime Anywhere Access?

4. How will we know we're succeeding with Anytime Anywhere Access?

5. Is there anything we should NOT do as part of Anytime Anywhere Access?

6. What would you want the ITS team to think about while they dive deeper and elaborate additional tools, process and strategy?

7. Beyond AAA, are there other priorities you feel LUC should be focused on to elevate what technology is doing to move the institution forward with it's strategic initiatives?

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2014 ITESC Schedule

Jan. 31, 2013 – Friday, 12:00 – 2:00 PM

- Lawson System Update – Michelle/Kevin
- Maxxess System Update – Ashley / Cheryl
- Overview of Unified Communication and Lync Jeff/Dan
- HSD Email Update – Dan

June 11, 2014 - Wednesday, 12:00-2:00 PM

- Private Cloud/SharePoint Direction
- Video Repository Technology Recommendation
- Project Portfolio Prioritization

August 12, 2014 - Tuesday, 1:30-3:30 PM

- eTranscript Technology Assessment Committee Recommendation
- Security Incident
- PII/PCI Program Updates

October 9, 2014 - Thursday, 1:30-3:30 PM

- Technology Briefing
- Anytime Anywhere Access Discussion

December 11, 2014 - Thursday, 1:30-3:30 PM

- Major Projects Status Reviews
- Project Portfolio Prioritization
- Technology Scorecards

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