ITS Executive Steering Committee (ITESC)

Agenda and Materials – October 13, 2016

Technology@Loyola
INFORMATION TECHNOLOGY AND SERVICES
LOYOLA UNIVERSITY CHICAGO

Agenda

HIPAA Compliance – New Topics

- J. Sibenaller

Software Licensing Related to Alumni Access

- D. Vonder Heide

Internet Bandwidth Planning

- D. Vonder Heide

Technology Briefing

- S. Malisch

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HIPAA Compliance – Current State

HIPAA Compliance Review Conducted

- Mid FY16 Baker Tilly performed – "*HIPAA IT Security Governance and Compliance Assessment*"
- 7 findings published Jan 2016

High	Oversight
	Policies, Standards, and Procedures
	Monitoring and Audit
Medium	Training and Awareness
Low	Open Communications for Reporting Suspicions of Privacy or Security Violations
	Enforcement and Discipline
	Response and Prevention

Actions to Date

- HIPAA Privacy and Security Compliance Council formed (subcommittee to ISAC)
- Initial meeting held, future meetings being planned
- Findings under review
  - Some information security policies already updated

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HIPAA Compliance – New Topics

Video Capture for Community & Family Services Clinic

- Zoom has HIPAA compliant capabilities
- Requires signing a BAA, covered entity status concern
- Need a solution to enable Clinic services

Secure Email – LUC & Trinity

- Electronic Private Health Information (ePHI) transmitted in emails
- Short term – awareness and work around solution
- Long term – Secure email solution/process

LOCUS Medical Information

- Illinois' Personal Information Protection Act ("PIPA") changes
- Now includes medical information
- Revisit storage/purge requirements

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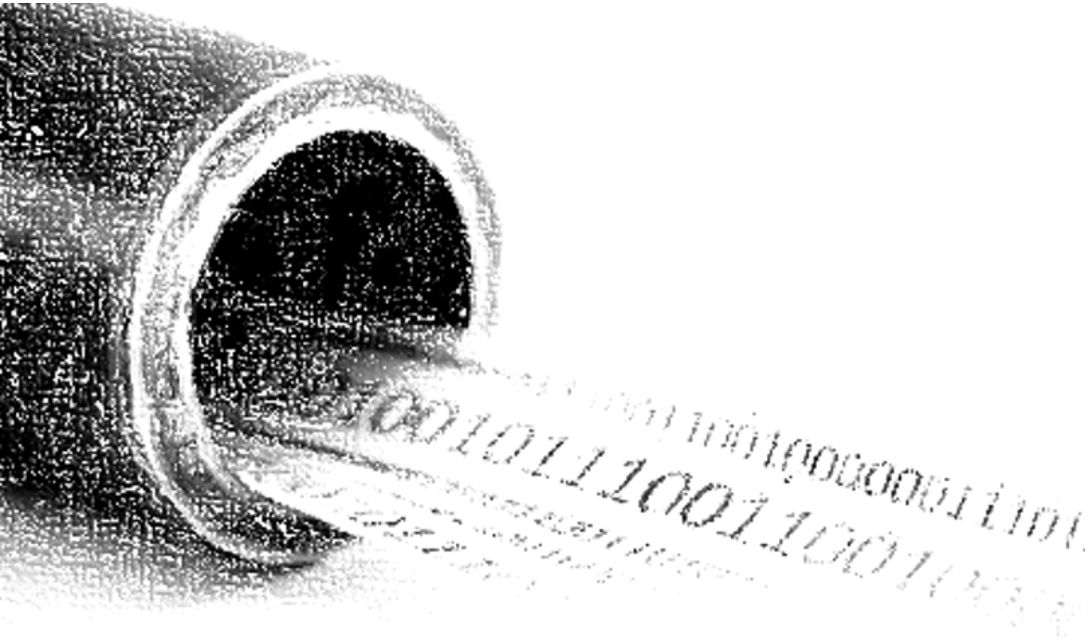
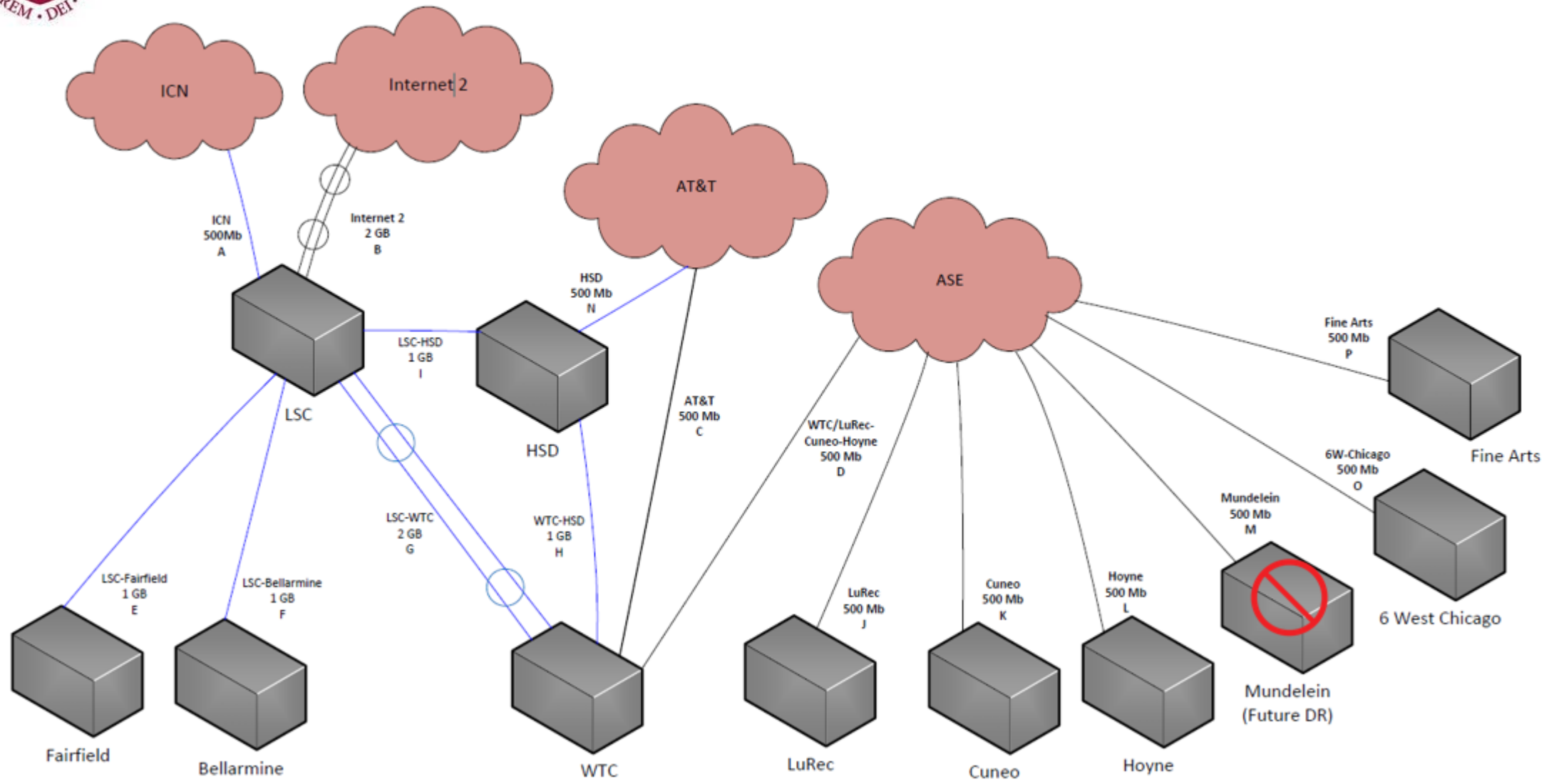
Internet Bandwidth Planning

October, 2016



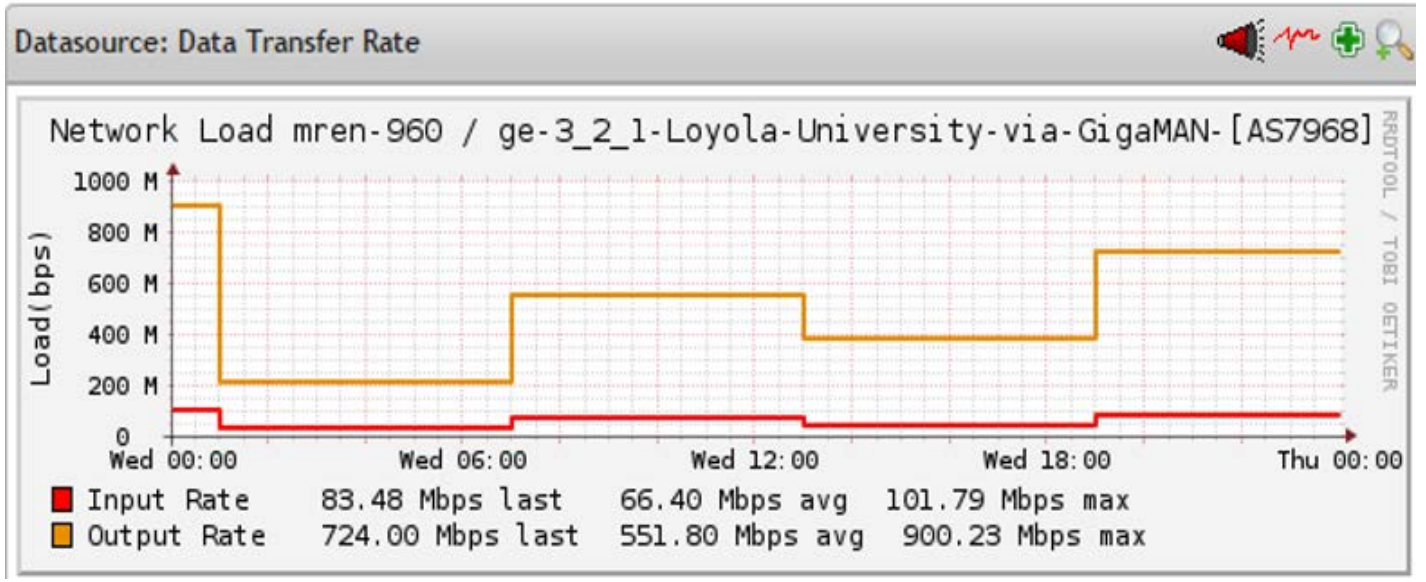
Current Internet Connectivity



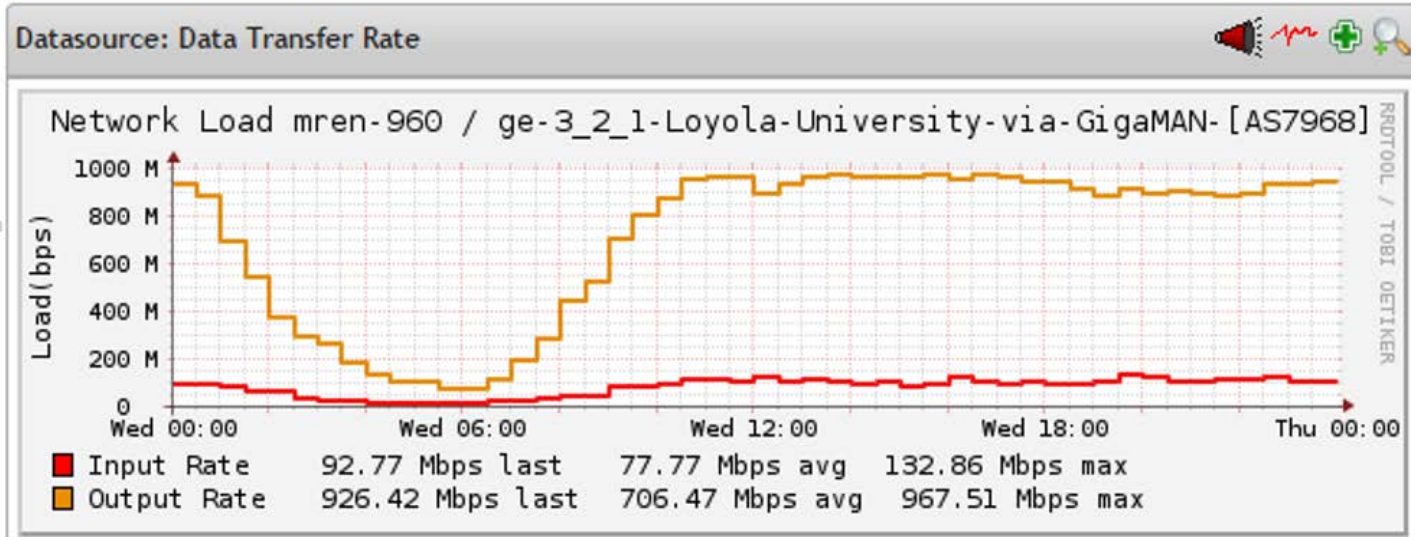
Usage

- Avg. Utilization 550/700MB
- Earlier peak time
- Consistent throughout the day
- More use of streaming services

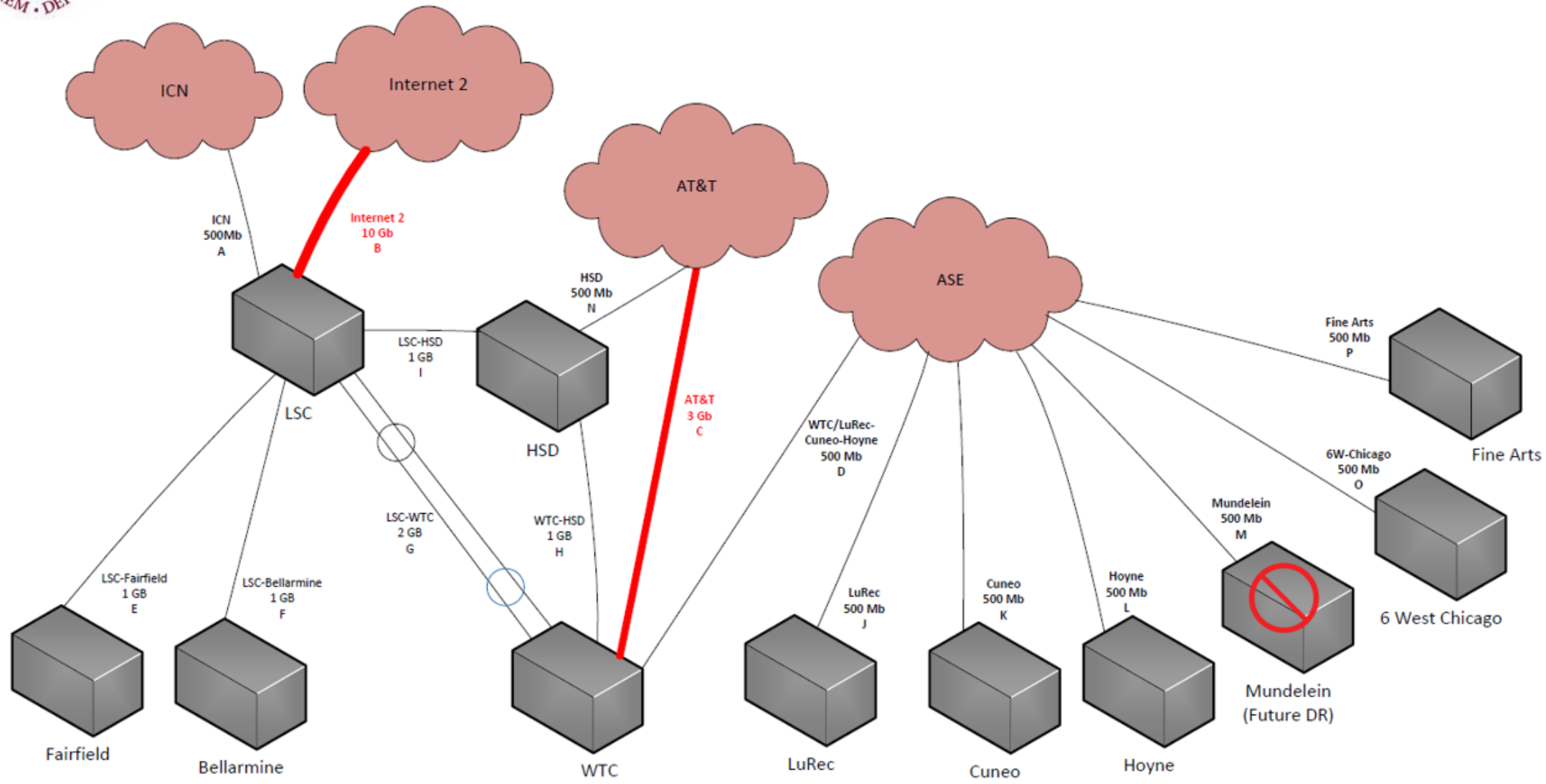
Custom time range 23.09.15 0:00 - 24.09.15 0:00



Custom time range 21.09.16 0:00 - 22.09.16 0:00



Proposed Internet Connectivity



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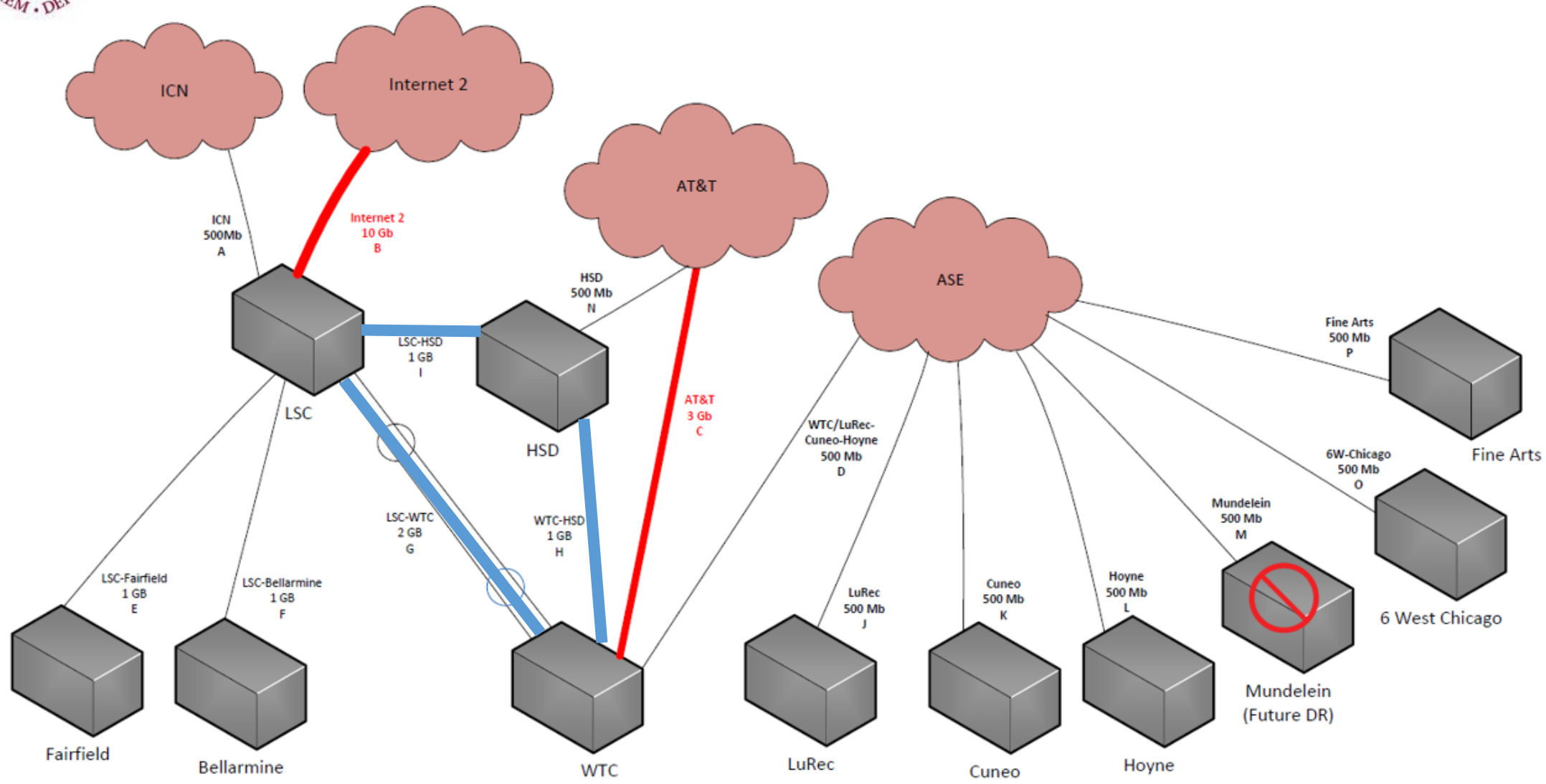


Costs

Current Cost

LSC		Operating
	Router	$8,900
	IPS	$50,000
	Circuit	$83,200
	Sub-Total	**$142,100**
WTC		
	Router	$9,000
	Firewall	$11,000
	IPS	$21,000
	Circuit	$53,900
	Sub-Total	**$94,900**
	Total	**$237,000**

NOTE: Configuration and quotes are work in progress at this time and subject to further revision

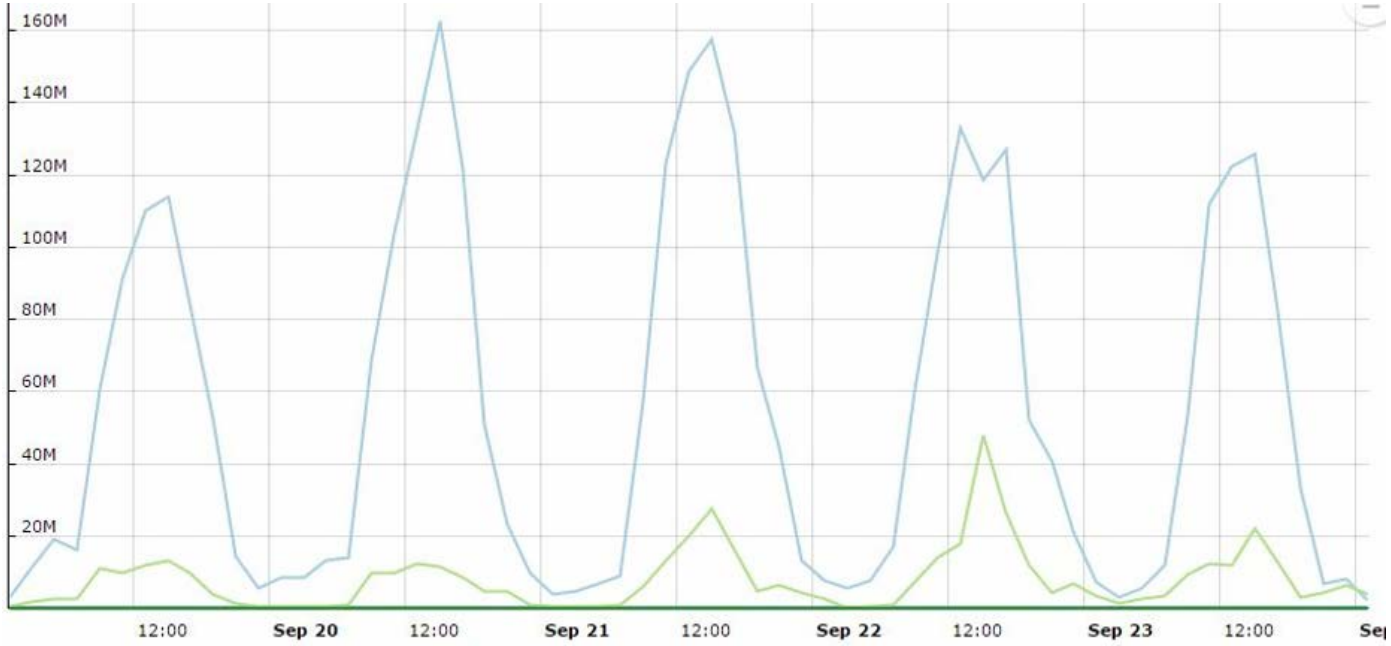
FY17 CAPITAL PROJECTS		FUTURE MAINTENANCE	
Item Description	Capital/ One Time FY17 COSTS	Estimated Operating/ Ongoing Costs FY18	Notes
Upgrade Internet Connectivity to 10GB	$350,000	$63,000	This request will provide the infrastructure that connects the university to the internet from its current 2 gig connection up to speeds of 10 Gig. The requests includes upgrading the firewall, the router and the IPS security device The cost for the network equipment is ($150,000.00) and the Security IPS is ($200,000.00)
Upgrade Cross Campus Connectivity	$75,000	$13,500	As the growth for access to LUC and internet resources between campuses and the increase in the amount of data that LUC backs up between them the need arises to have the campus connectivity to be increased. This would also position the university to start migrating the voice communication between campuses across these links. The current 1 Gig circuits would be increased to 10G. The costs includes the first annual increase in the circuit costs.

Future FY17 Project

This request will provide the infrastructure that connects the university to the internet from its current 2 gig connection up to speeds of 10 Gig. The requests includes upgrading the firewall, the router and the IPS security device The cost for the network equipment is ($150,000.00) and the Security IPS is ($200,000.00)

Stopgap

- Reroute LSC traffic to utilize HSD bandwidth
  - Mertz
  - Santa Clara
  - Spring Hill



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Technology Briefing

2016

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Resources

1. Educause Review (January/February 2016)
2. Educause Center for Analysis and Research (ECAR) (January 2016)
3. The Campus Computing Project 2015
4. Gartner: IT Key Metrics Data 2016 (December 2015)
5. ECAR Study of Students and Information Technology (December 2015)
6. ECAR Study of Faculty and Information Technology (October 2015)
7. Educause Core Data Service Trends Almanac (February 2016)

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Industry Issues and Priorities

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Top 10 IT Issues, 2016

1. ***Information Security:*** Developing a holistic, agile approach to information security to create a secure network, develop security policies, and reduce institutional exposure to information security threats

2. ***Optimizing Educational Technology:*** Collaborating with faculty and academic leadership to understand and support innovations and changes in education and to optimize the use of technology in teaching and learning, including understanding the appropriate level of technology to use

3. ***Student Success Technologies:*** Improving student outcomes through an institutional approach that strategically leverages technology

4. ***IT Workforce Hiring and Retention:*** Ensuring adequate staffing capacity and staff retention as budgets shrink or remain flat and as external competition grows

5. ***Institutional Data Management:*** Improving the management of institutional data through data standards, integration, protection, and governance

6. ***IT Funding Models:*** Developing IT funding models that sustain core services, support innovation, and facilitate growth

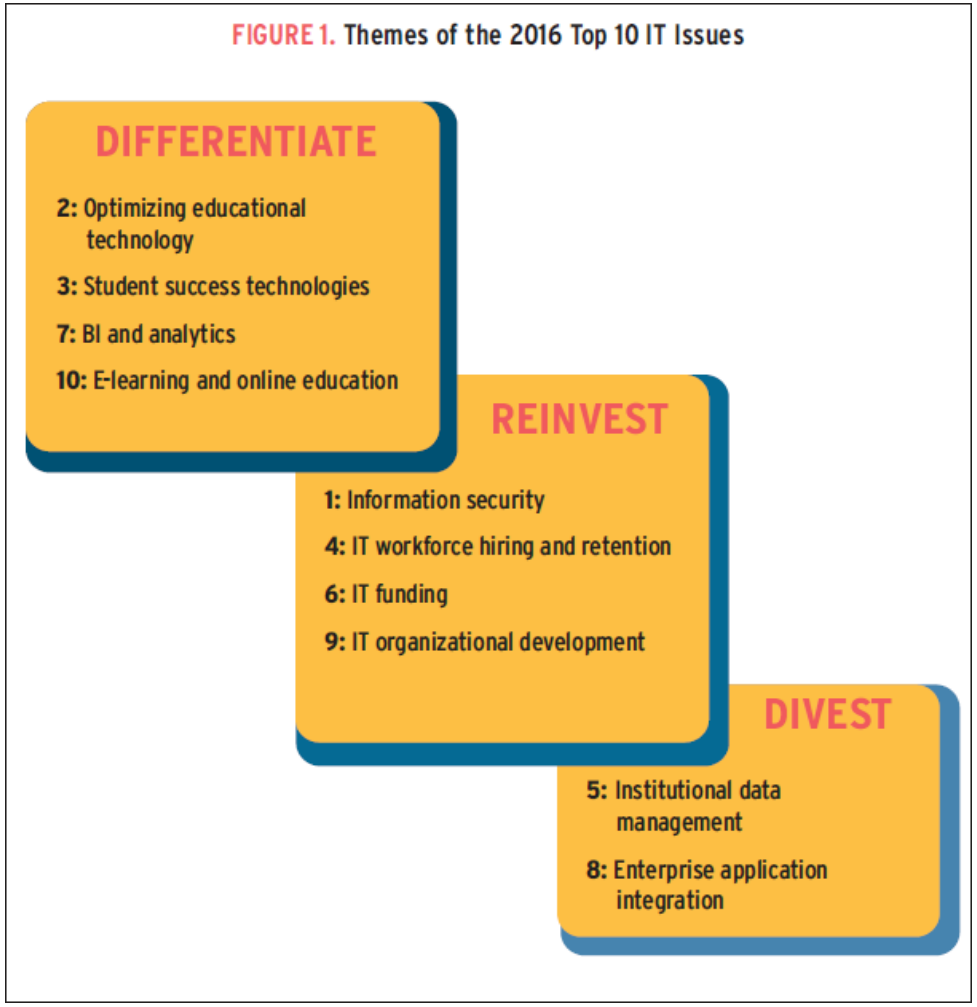
7. ***BI and Analytics:*** Developing effective methods for business intelligence, reporting, and analytics to ensure they are relevant to institutional priorities and decision making and can be easily accessed and used by administrators, faculty, and students

8. ***Enterprise Application Integrations:*** Integrating enterprise applications and services to deliver systems, services, processes, and analytics that are scalable and constituent centered

9. ***IT Organizational Development:*** Creating IT organizational structures, staff roles, and staff development strategies that are flexible enough to support innovation and accommodate ongoing changes in higher education, IT service delivery, technology, and analytics

10. ***E-Learning and Online Education:*** Providing scalable and well-resourced e-learning services, facilities, and staff to support increased access to and expansion of online education

FIGURE 1. Themes of the 2016 Top 10 IT Issues



Educause Review
http://www.educause.edu
January/February 2016

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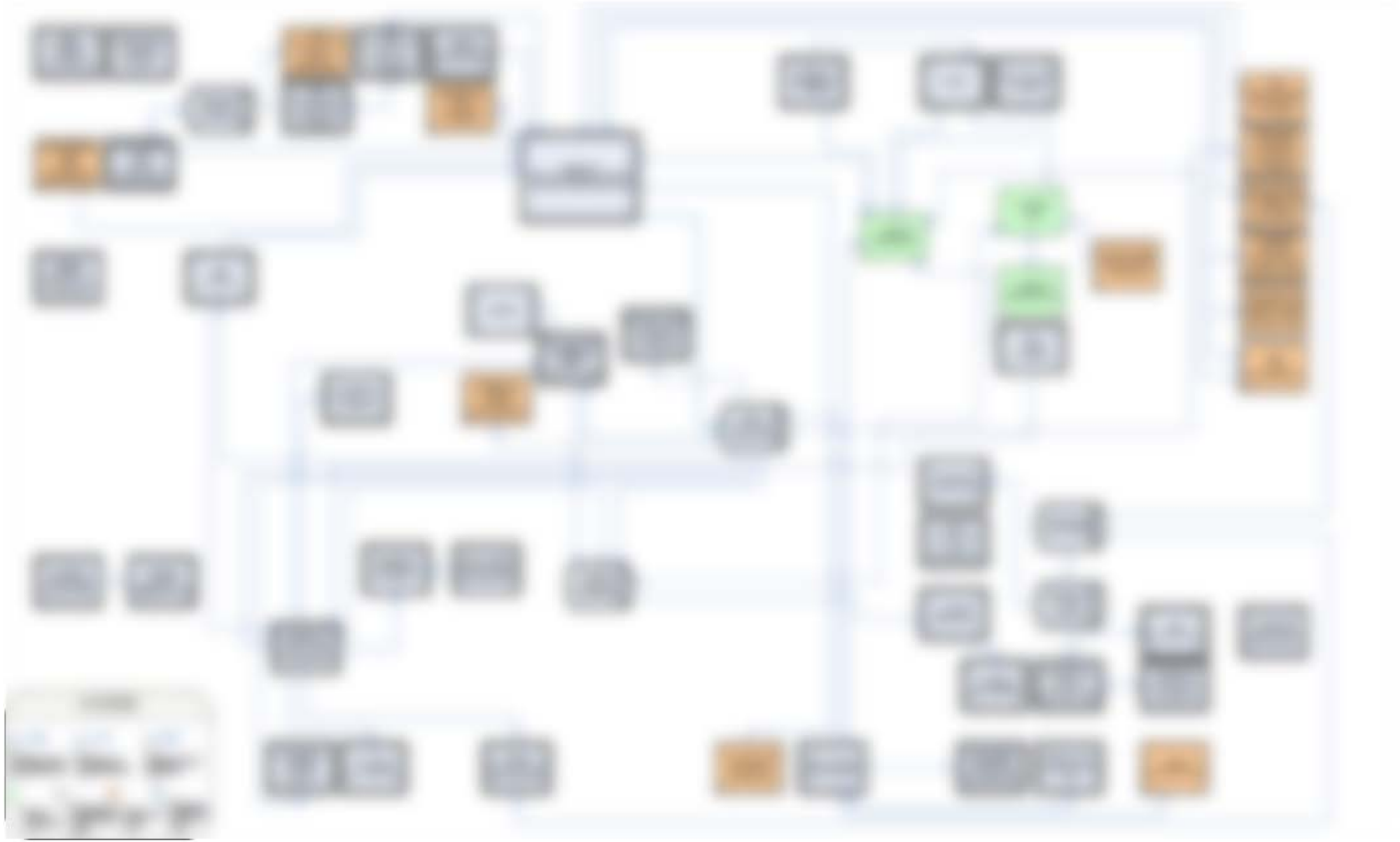
Loyola University Chicago Confidential Materials – Do not Distribute

Loyola Enterprise Application Data Relationships – 08/23/2006



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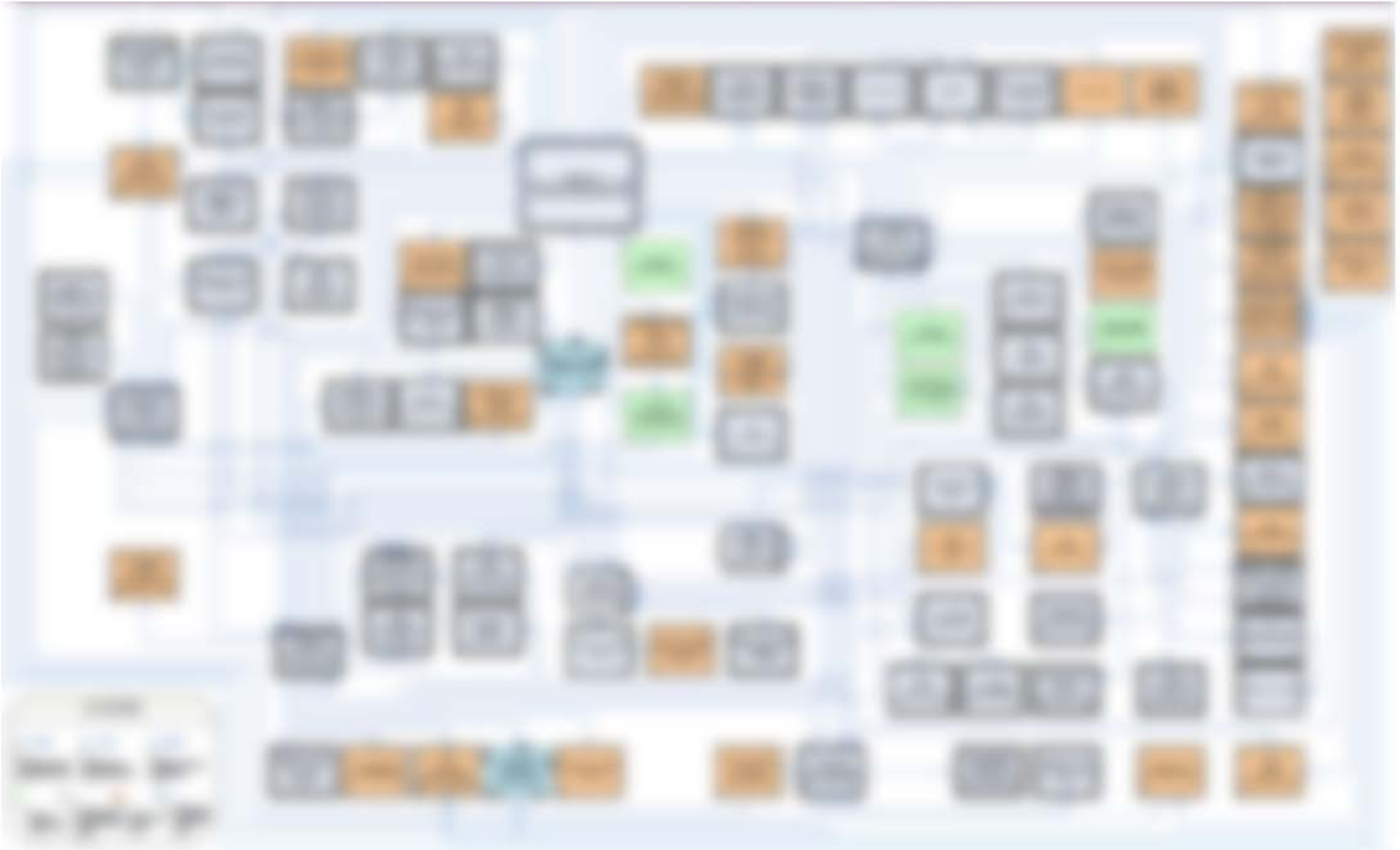
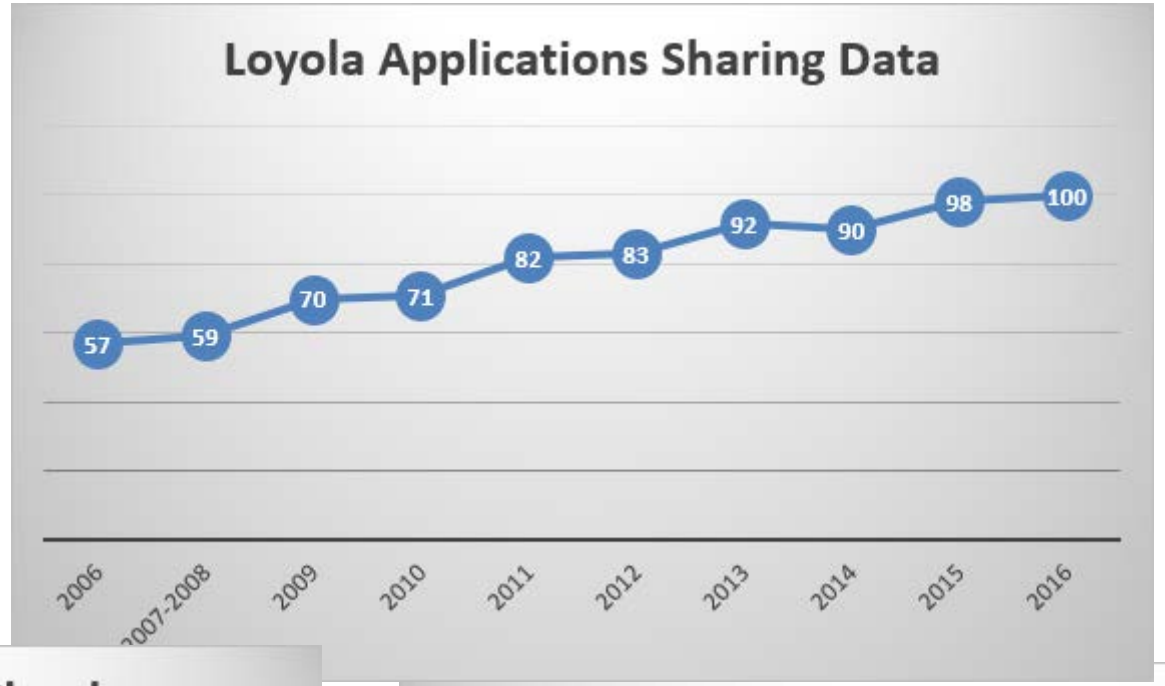
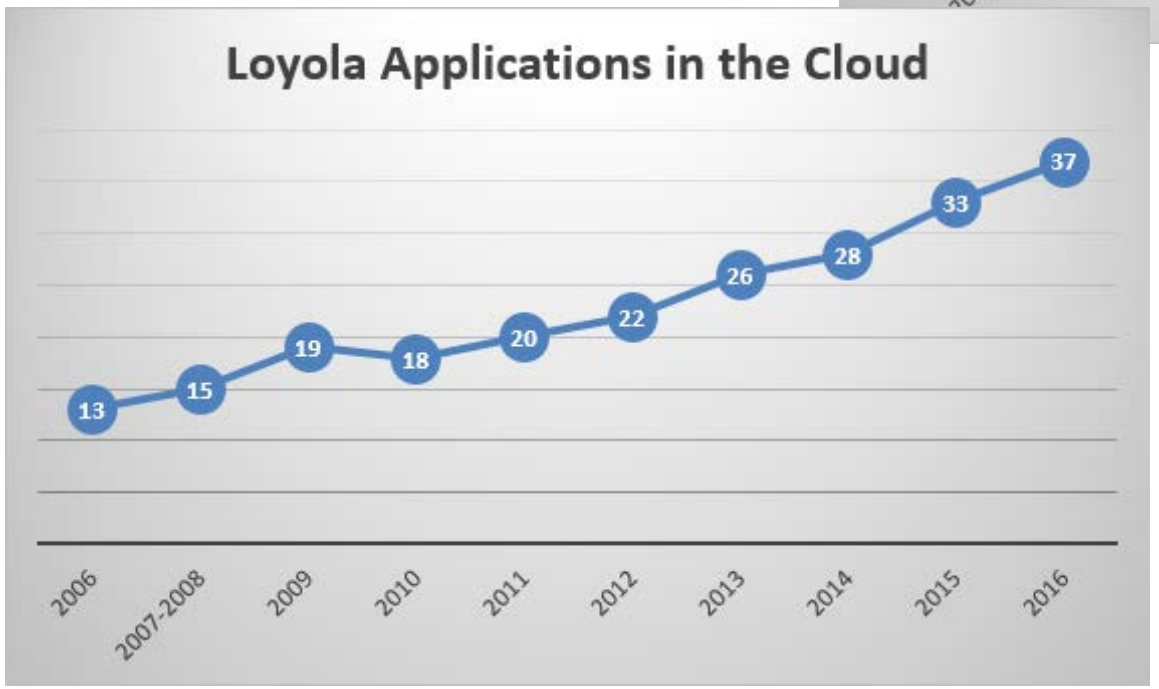
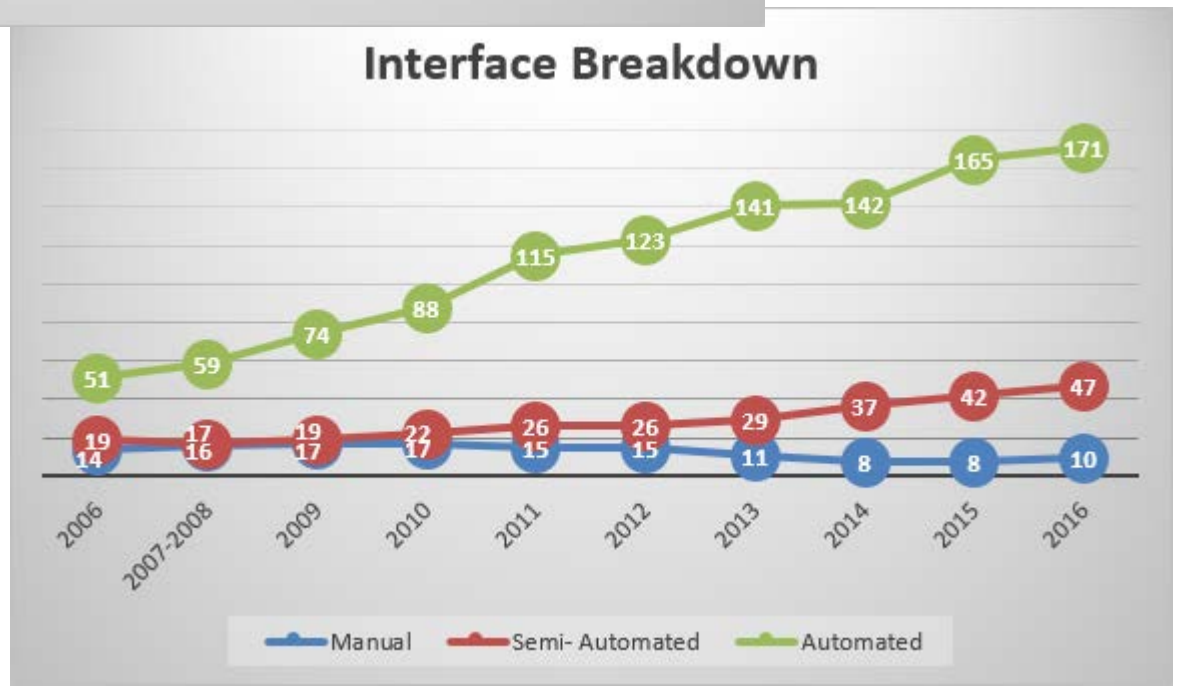
Loyola Enterprise Application Data Relationships – 06/27/2016



Application Integration…







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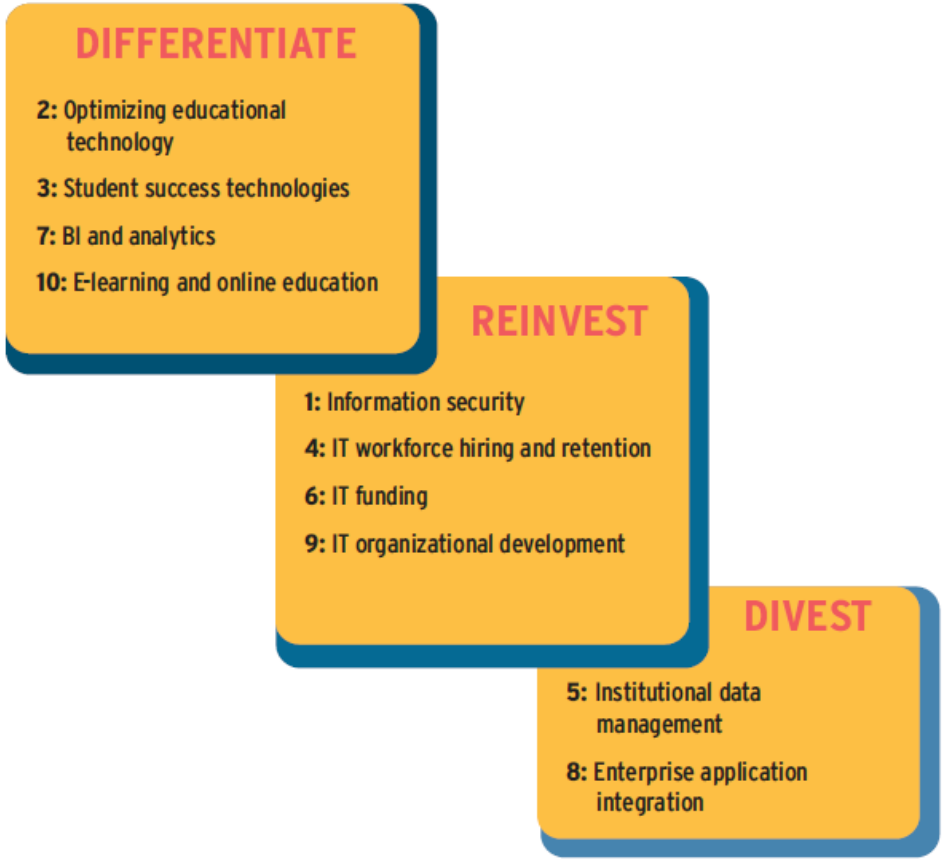

Educause Review
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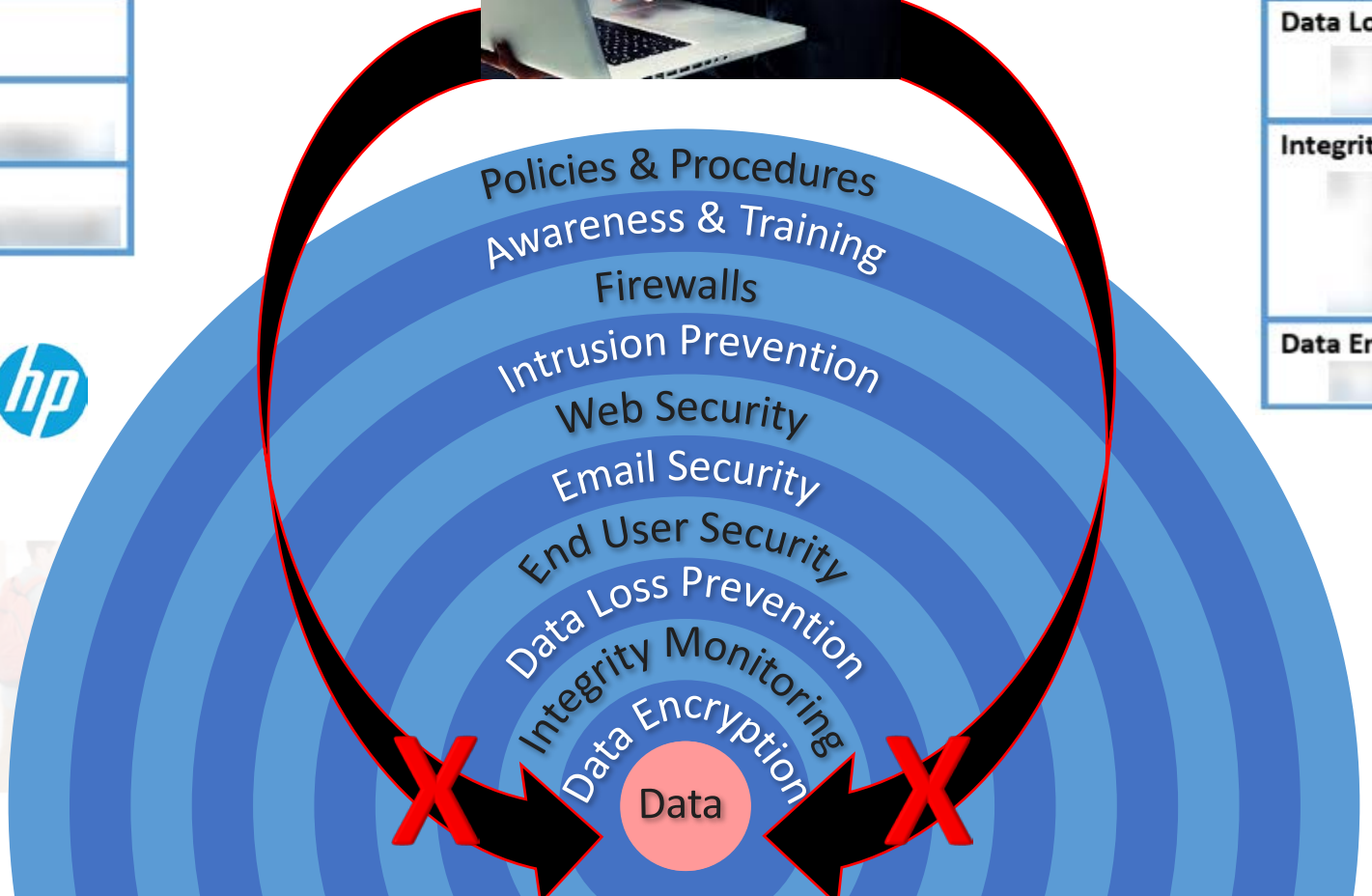
Information Security Program Components

- Governance
- Cyber Threat Protection
- Awareness, Education & Training
- Data Identification, Analysis & Forensics
- Policies, Procedures & Guidelines
- Vulnerability Assessments
- Audit, Compliance & Regulations
- Secure Access
- Incident Response
- Risk Assessment Program
- Security Operations Center
- ERP Security Services

Information Security – A Layered Approach

Layered Security - Levels 1-5
Policy & Procedures
Awareness & Training
Firewalls
Intrusion Prevention
Web Security



Layered Security - Levels 6-10
Email Security
End User Security
Data Loss Prevention
Integrity Monitoring
Data Encryption

Case study

Loyola University Chicago prevents harmful network intrusion with HP TippingPoint

Oct 2014

HP publishes case study on LUC's use of location filtering to block cyber attacks and internet threats.

Supporting organizations:

- Educause
- Internet2
- REN-ISAC

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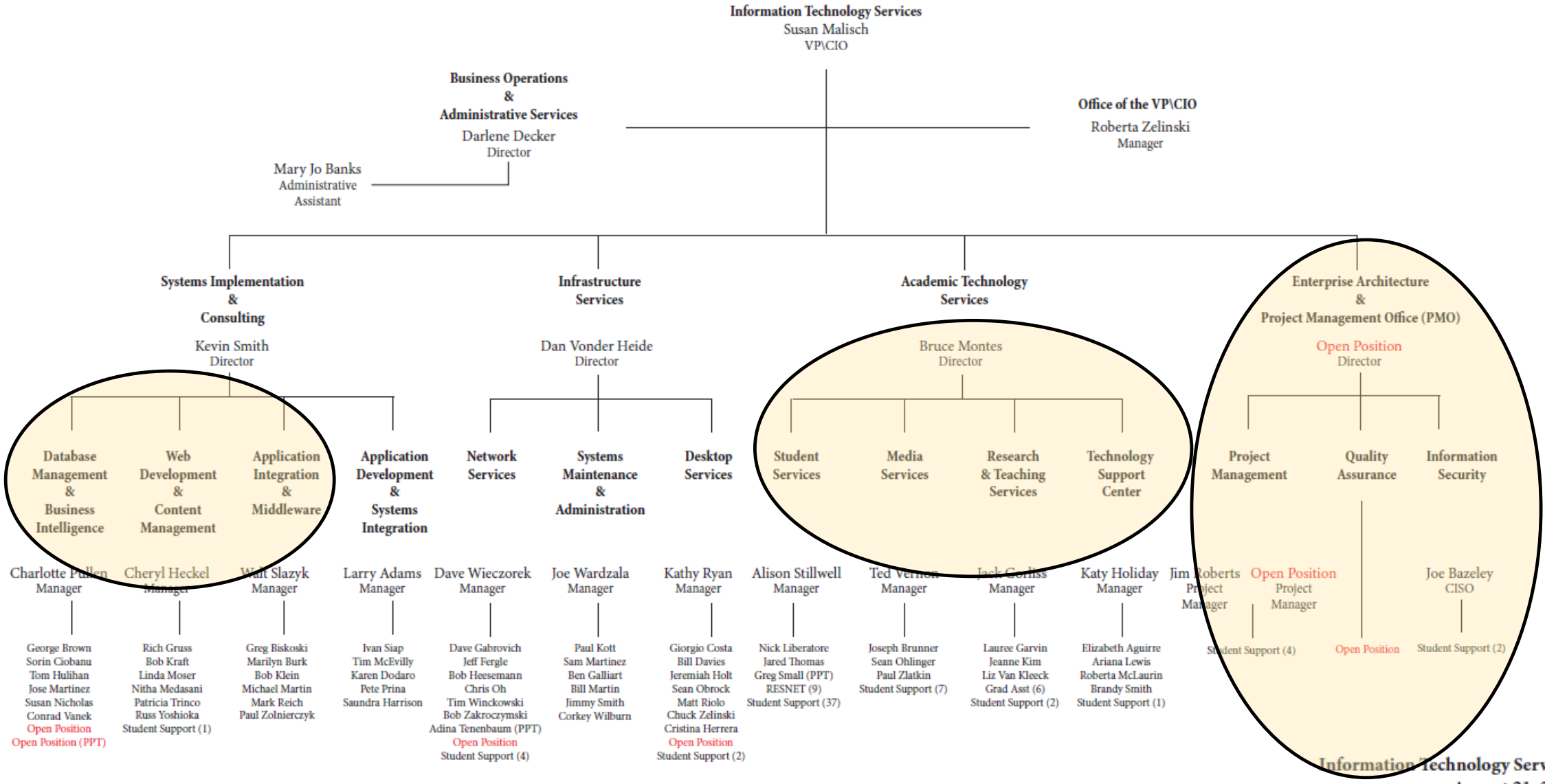
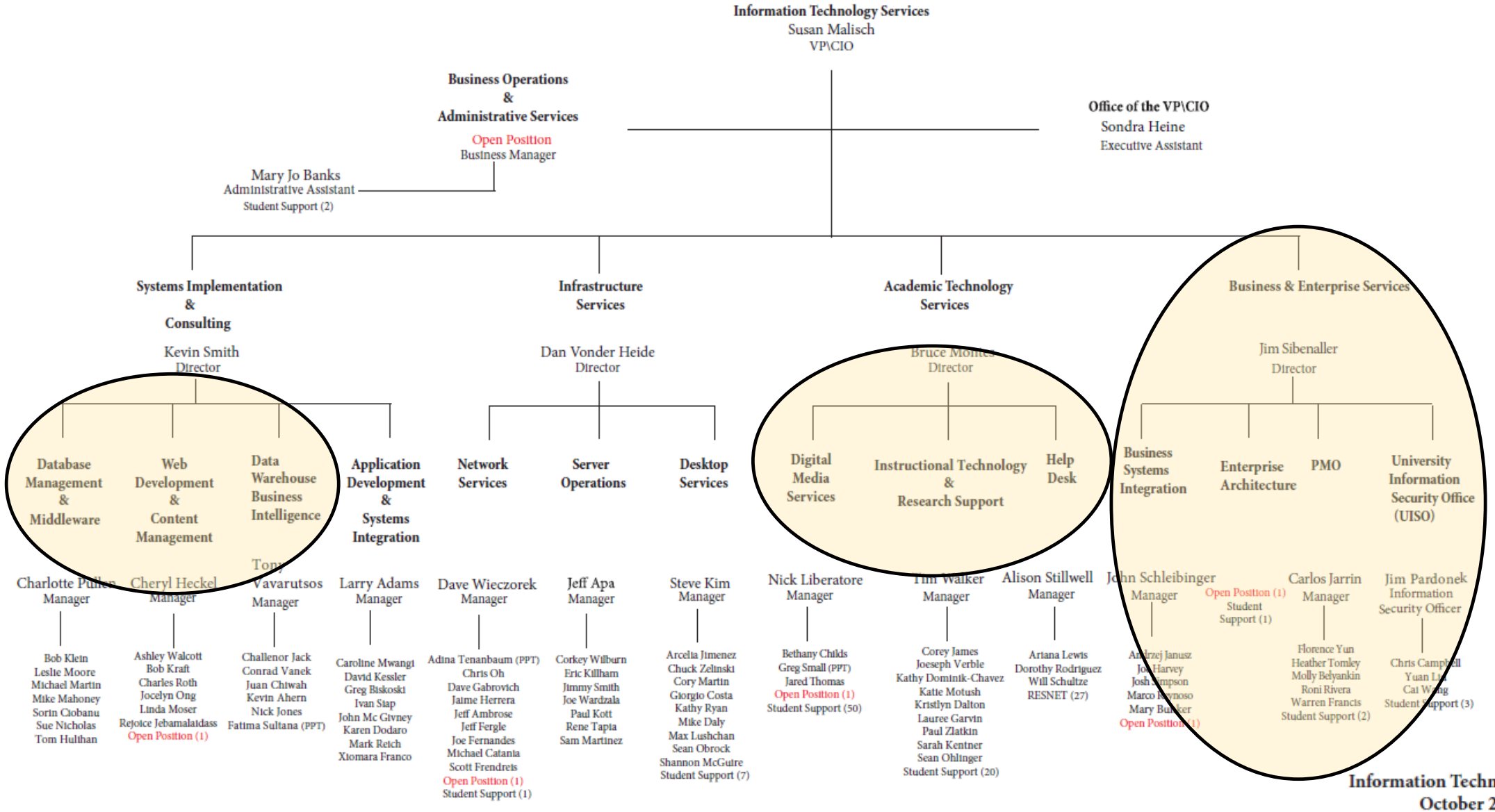
Preparing people to lead extraordinary lives

Loyola University Chicago
Division of Information Technology Services



Information Technology Services
August 21, 2006

Loyola University Chicago
Division of Information Technology Services



Information Technology Services
October 2016

Issue #4: IT Workforce Hiring and Retention

Ensuring adequate staffing capacity and staff retention as budgets shrink or remain flat and as external competition grows

Educause Review
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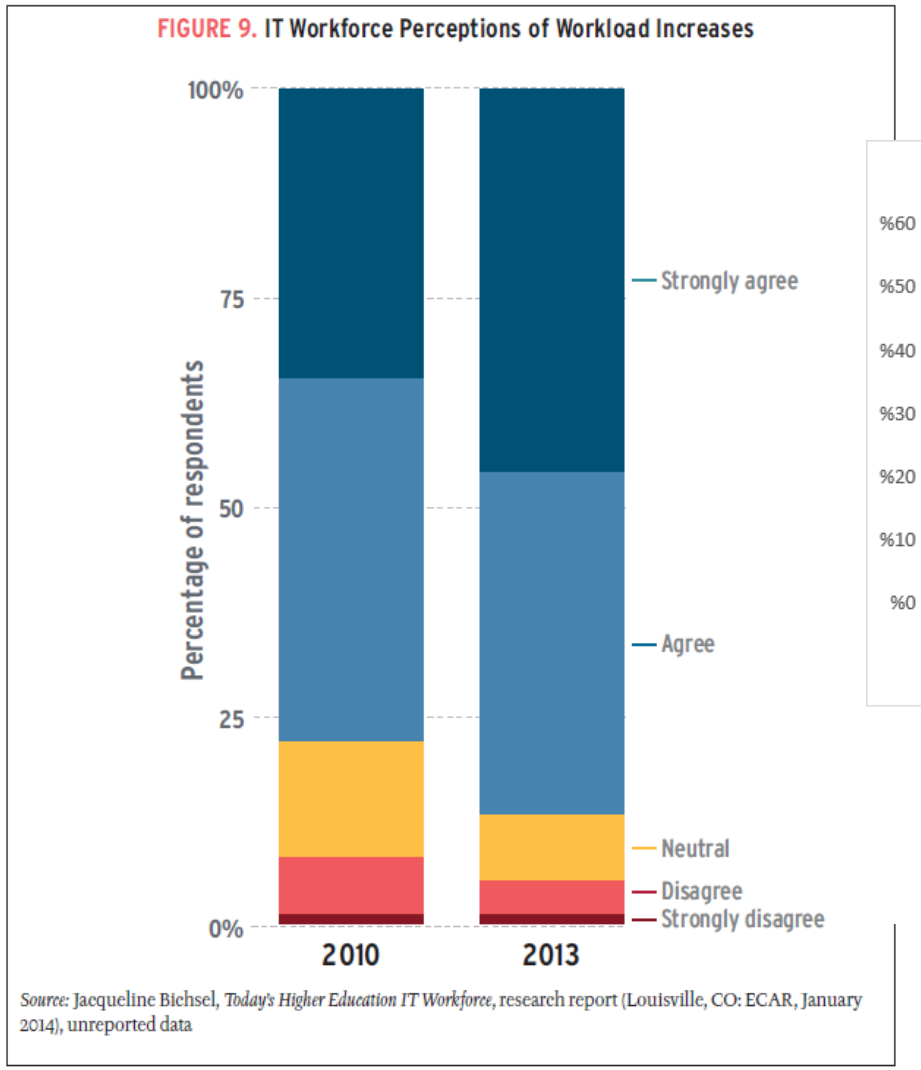
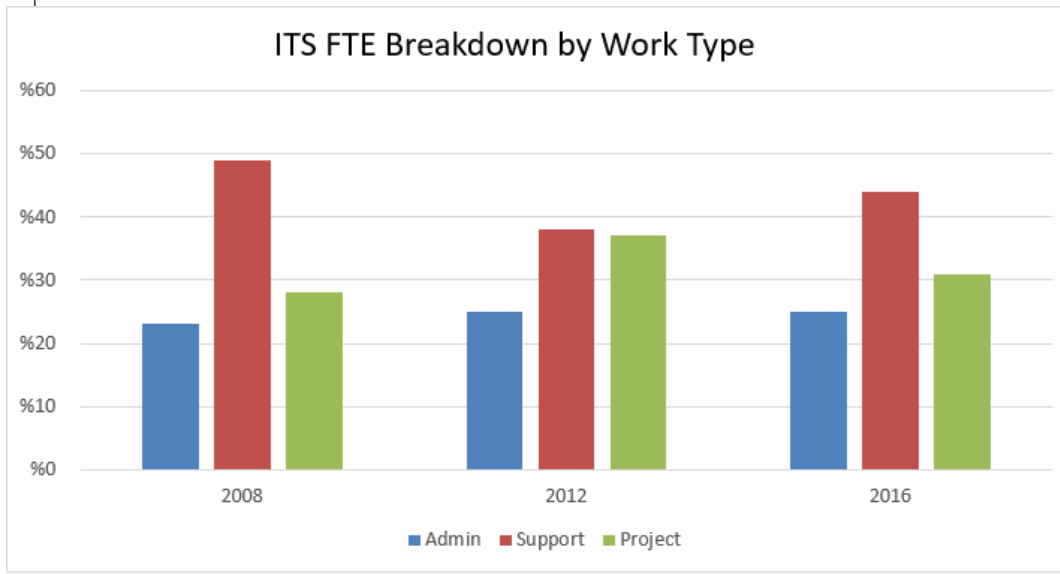
January/February 2016





	2008	2012	2016
Admin	%23	%25	%25
Support	%49	%38	%44
Project	%28	%37	%31

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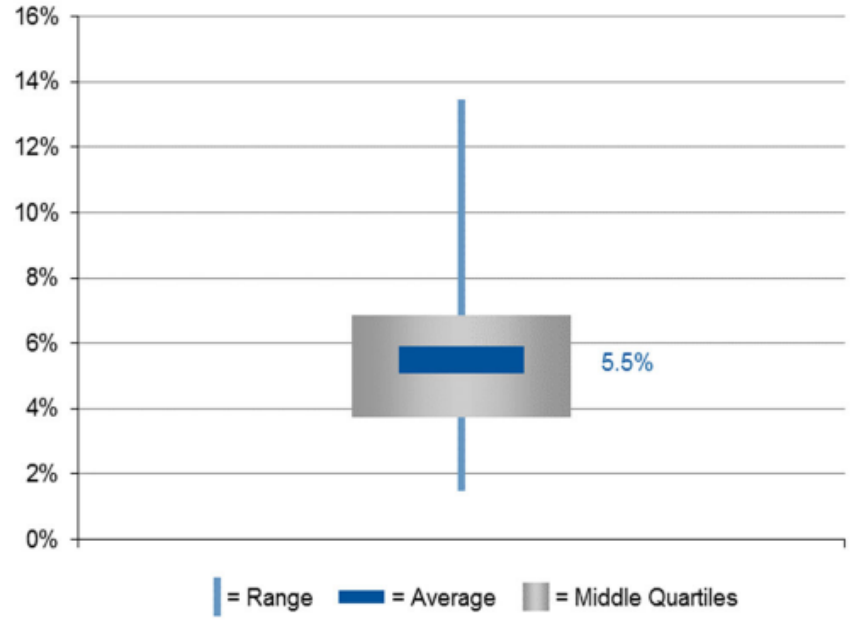
Higher Ed IT Spend as a Percent of Revenue …

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



Source: Gartner IT Key Metrics Data (December 2015)

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
5.8%	5.6%	5.4%	4.9%	N/A

Source: Gartner IT Key Metrics Data (December 2015)

Footnote - Gartner historical Average IT Spending as a Percent of Revenue:
2014 Average = 5%
2013 Average = 4.7%

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ITS Operating Budget Benchmark

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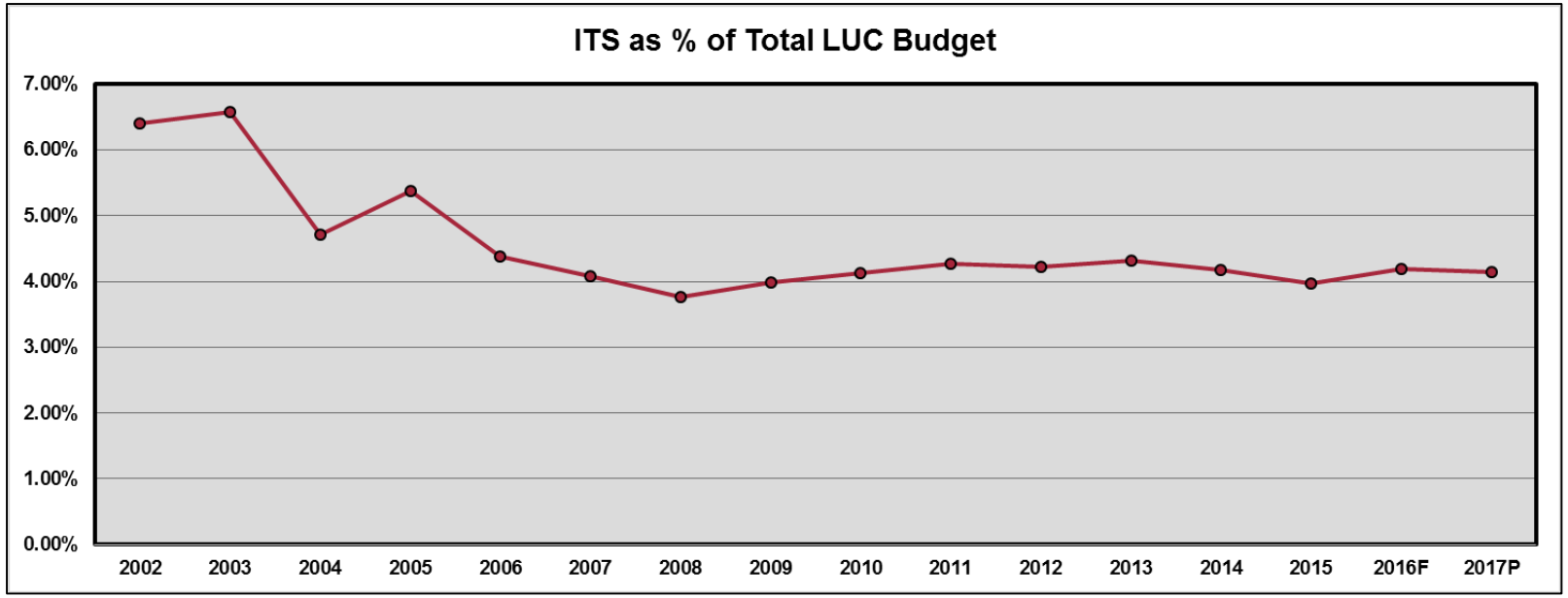
	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016F	2017P
Lakeside Budgeted Revenue																
ITS Budget																
ITS as % of LUC																



2002-2009 ITS Budget includes ITS Operating Budget
2009-2017 ITS Budget includes ITS and Technology Fee Operating Budget
2012-2017 ITS Budget includes addition of funds for Shared Services to LUMC, Lawson Maintenance, BSI Tax Software and MHC Payroll Software
2014-2017 ITS Budget includes addition of funds due to Centralization of ITS Costs across the University
2016-2017 ITS Budget excludes all budget and cost reductions due to enrollment and MAP grant funding shortfall
2015-2017 Revenue excludes the Health Sciences Division

ITS Operating Budget Benchmark

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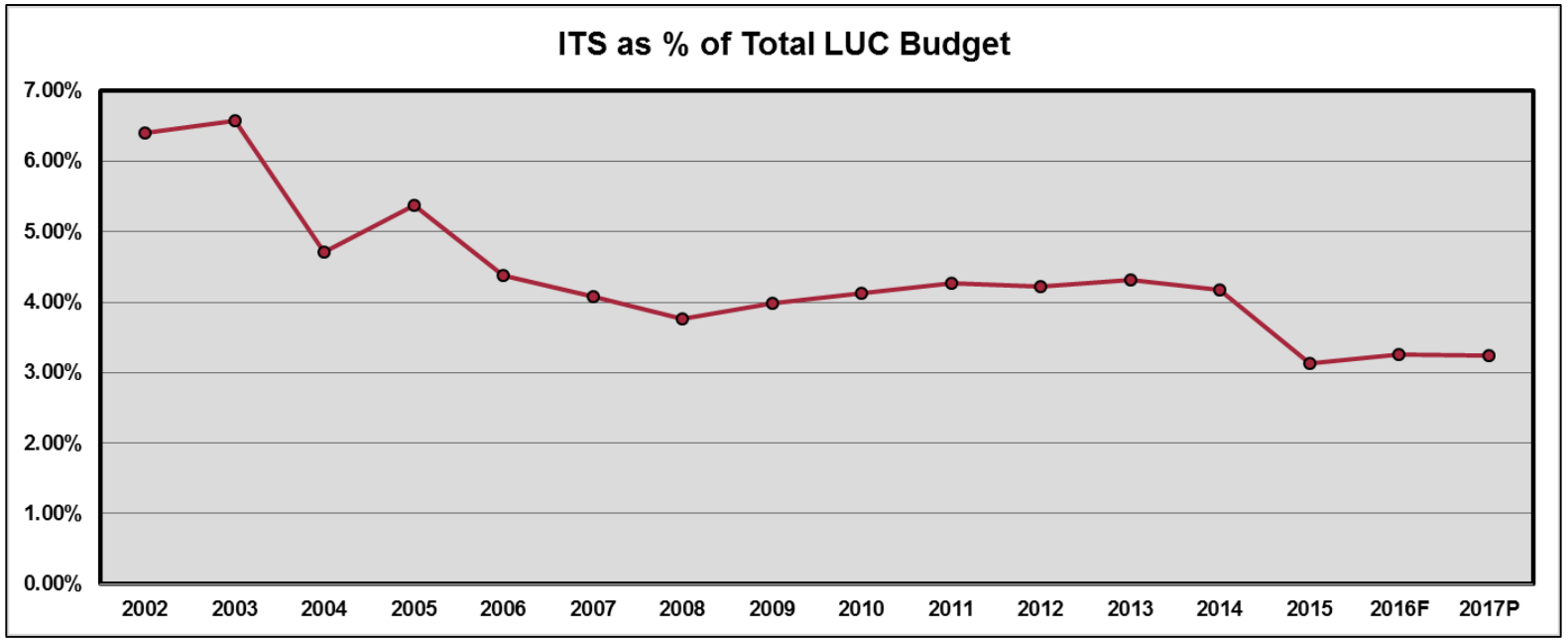
	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016F	2017P
LUC Budgeted Revenue																
ITS Budget																
ITS as % of LUC																



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FY16 Technology Fee Breakdown…

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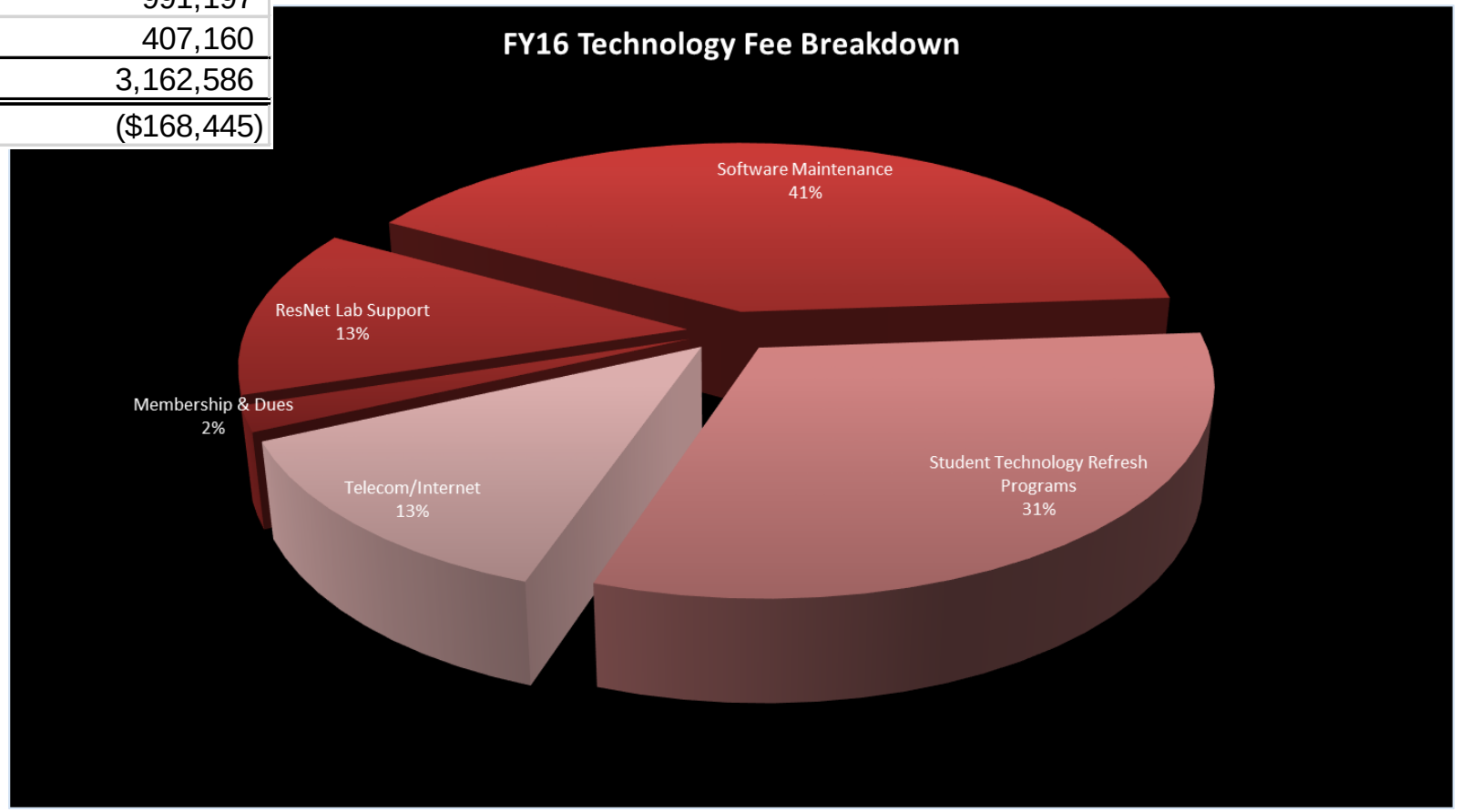
FY16 Revenue		$2,994,141
Tech Fee Category		**Actual Amount Expended**
Membership & Dues	$	62,109
ResNet Lab Support	$	415,338
Software Maintenance	$	1,286,783
Student Technology Refresh Programs	$	991,197
Telecom/Internet	$	407,160
Grand Total	$	3,162,586
Deficit		($168,445)



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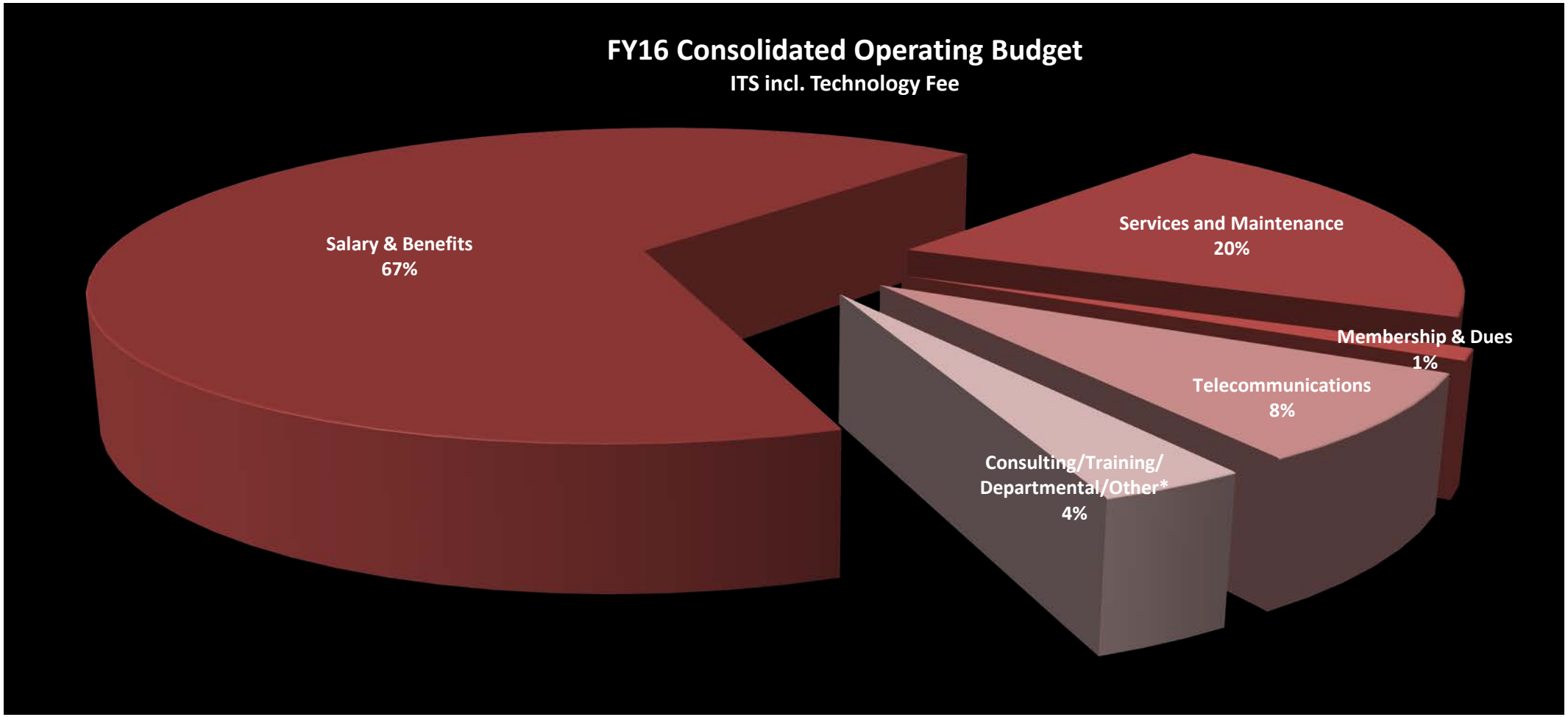
Central IT Operating…



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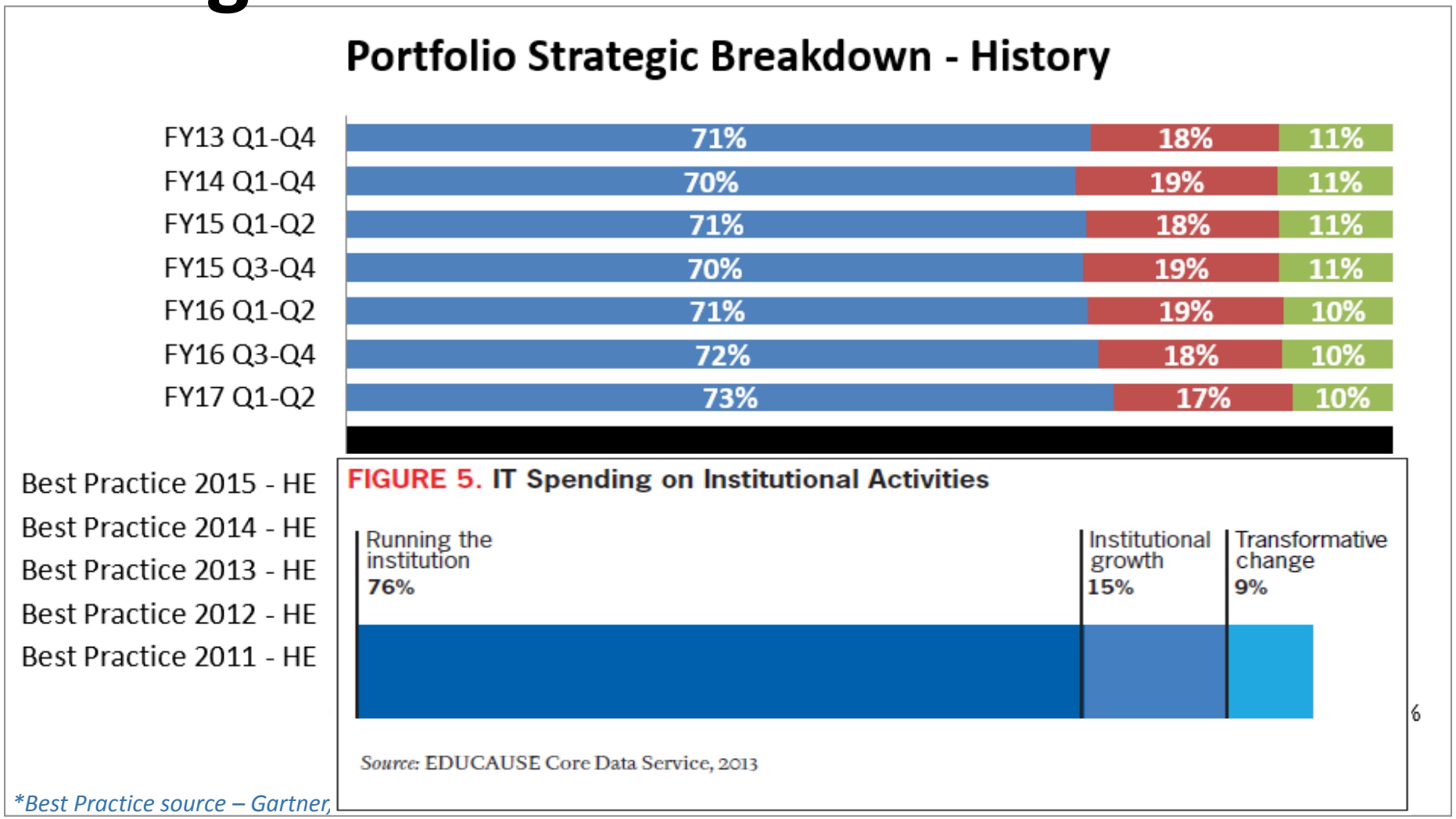
Portfolio Alignment…



Run – Ongoing operations

Grow – Information systems and services to optimize performance

Transform – New technologies and processes that fundamentally promote change

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FIGURE 1. Themes of the 2016 Top 10 IT Issues

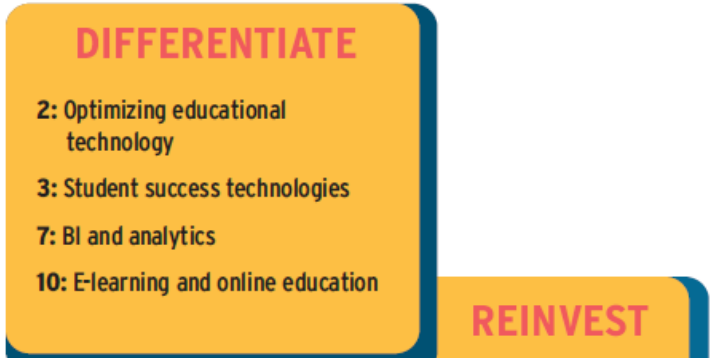

FIGURE 2. The Purpose Alignment Model

Source: Niel Nickolaisen, "Aligning to Purpose," *EDUCAUSE Review* 49, no. 3 (May/June 2014)

Educause Review
http://www.educause.edu
January/February 2016

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Issue #2: Optimizing Educational Technology

Collaborating with faculty and academic leadership to understand and support innovations and changes in education and to optimize the use of technology in teaching and learning, including understanding the appropriate level of technology to use

Educause Review
http://www.educause.edu
January/February 2016

FIGURE 4. Factors Motivating Faculty to Integrate Technology into Teaching or Curriculum

	AA	BA public	BA private	MA public	MA private	DR public	DR private
Top interest	Clear indication/evidence that students would benefit						
2nd	Confidence that the technology would work the way I planned	Confidence that the technology would work the way I planned	A better understanding of the types of technologies that are relevant to teaching and learning	Release time to design/redesign my courses	A better understanding of the types of technologies that are relevant to teaching and learning	Release time to design/redesign my courses	Confidence that the technology would work the way I planned
3rd	A better understanding of the types of technologies that are relevant to teaching and learning	Release time to design/redesign my courses	Confidence that the technology would work the way I planned	Confidence that the technology would work the way I planned	Confidence that the technology would work the way I planned	Confidence that the technology would work the way I planned	Direct assistance from IT staff to support the technology I choose to implement

Source: D. Christopher Brooks, *ECAR Study of Faculty and Information Technology*, 2015, figure 7

Advice to optimize educational technologies:

- Implement practices that strengthen relationships: faculty to student, student to student, faculty to faculty
- Consider how faculty curate and create relevant content; make it easier for them to curate, create and provide access to that content
- Provide appropriate and effective instructional design support and resources for effective use of technologies
- Promote active involvement by students in and out of the classroom
- Keep students on task/invested/engaged/persisting
- Develop ways for faculty and students to share their experiences
- Partner with other units
- Tap into existing expertise in the faculty ranks

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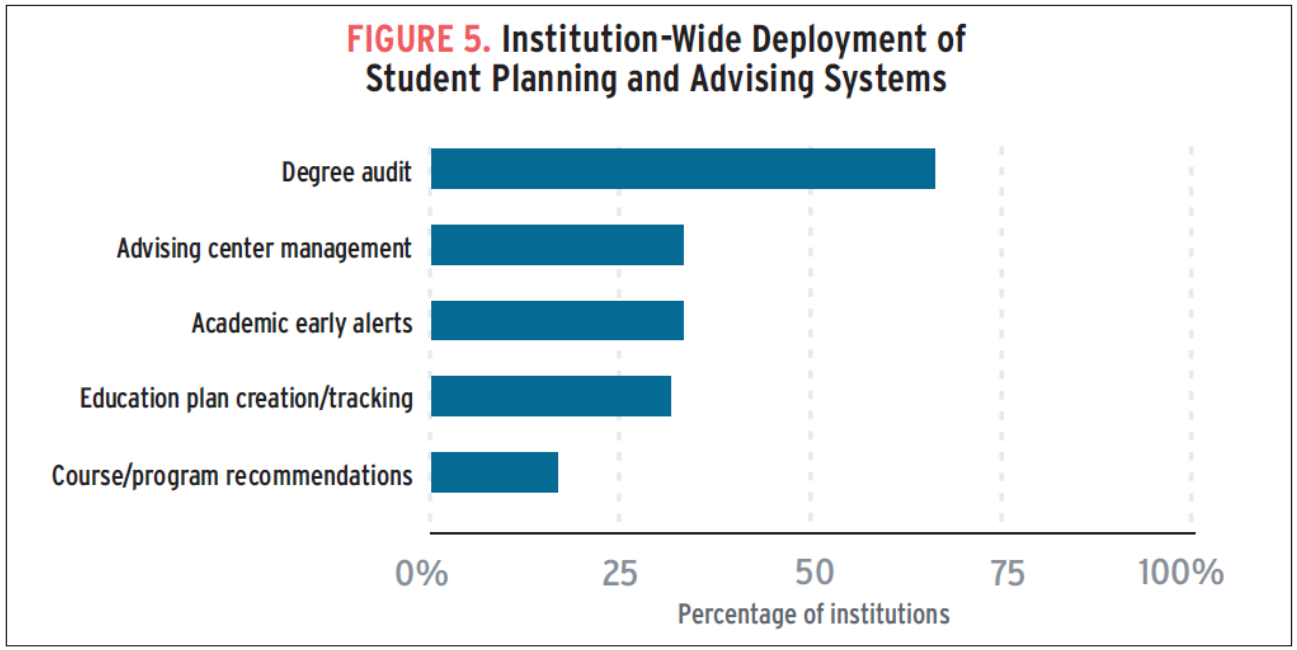
Issue #3: Student Success Technologies

Improving student outcomes through an institutional approach that strategically leverages technology



Educause Review
http://www.educause.edu
January/February 2016

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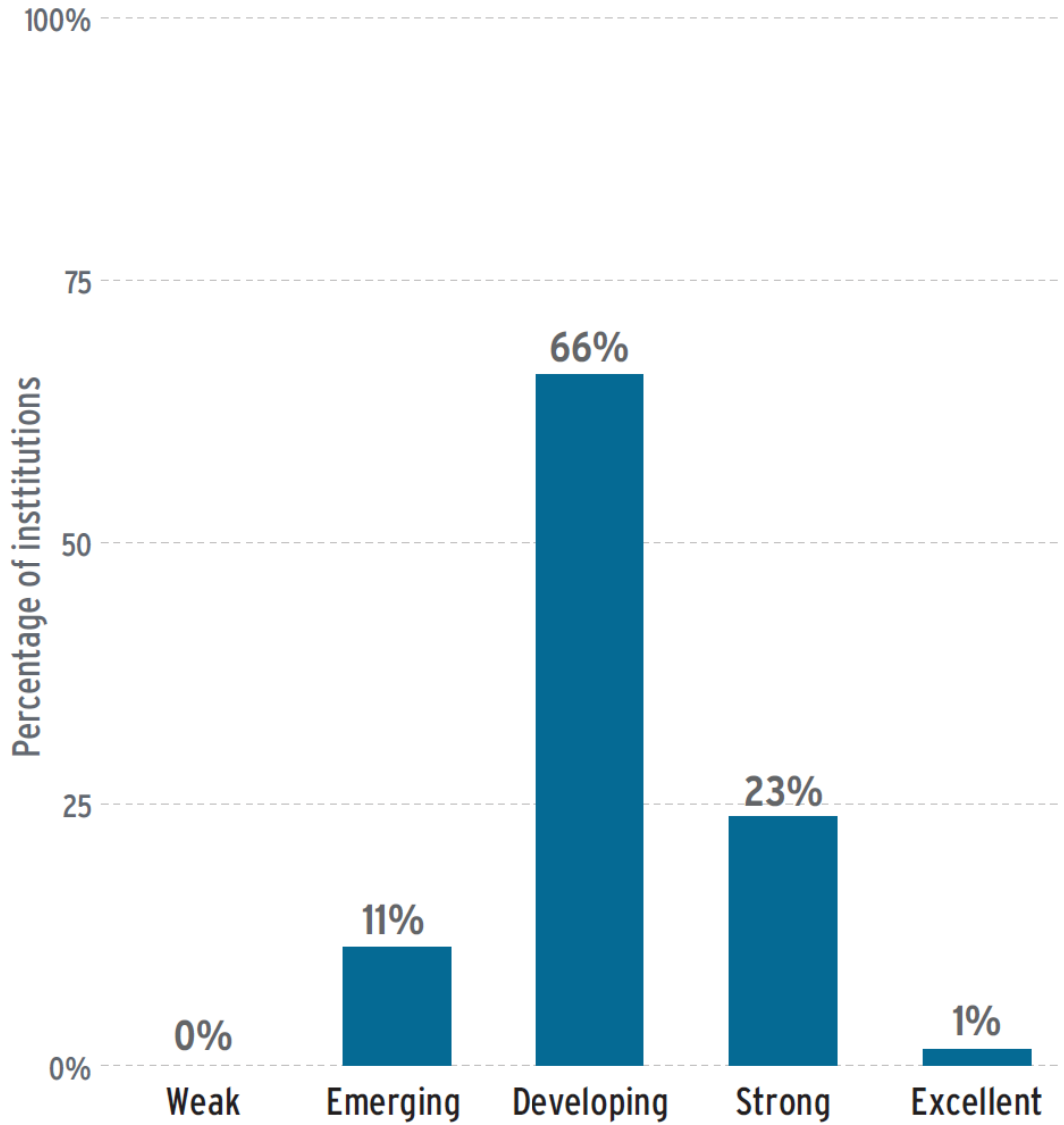
Issue #3: Student Success Technologies

Improving student outcomes through an institutional approach that strategically leverages technology

Educause Review
http://www.educause.edu
January/February 2016

FIGURE 8. Distribution for the Student Success Technologies Maturity Index



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Issue #5: Institutional Data Management

Improving the management of institutional data through data standards, integration, protection, and governance

"Institutions should begin with identifying a framework for data management decisions: a data governance model. Ensure the model provides for accountability as well as agility. Data must be managed, but in a way that still allows for rapid development of new applications of the data."

—Brad Judy, Director of Information Security, University of Colorado System

Institutions that report:

- We have policies that specify rights and privileges regarding access to institutional and individual data: 69%
- Our data are standardized to support comparisons across areas within the institution: 47%
- Our data are standardized to support comparisons across areas within institutions: 37%

—EDUCAUSE Core Data Service 2014

Educause Review
http://www.educause.edu
January/February 2016

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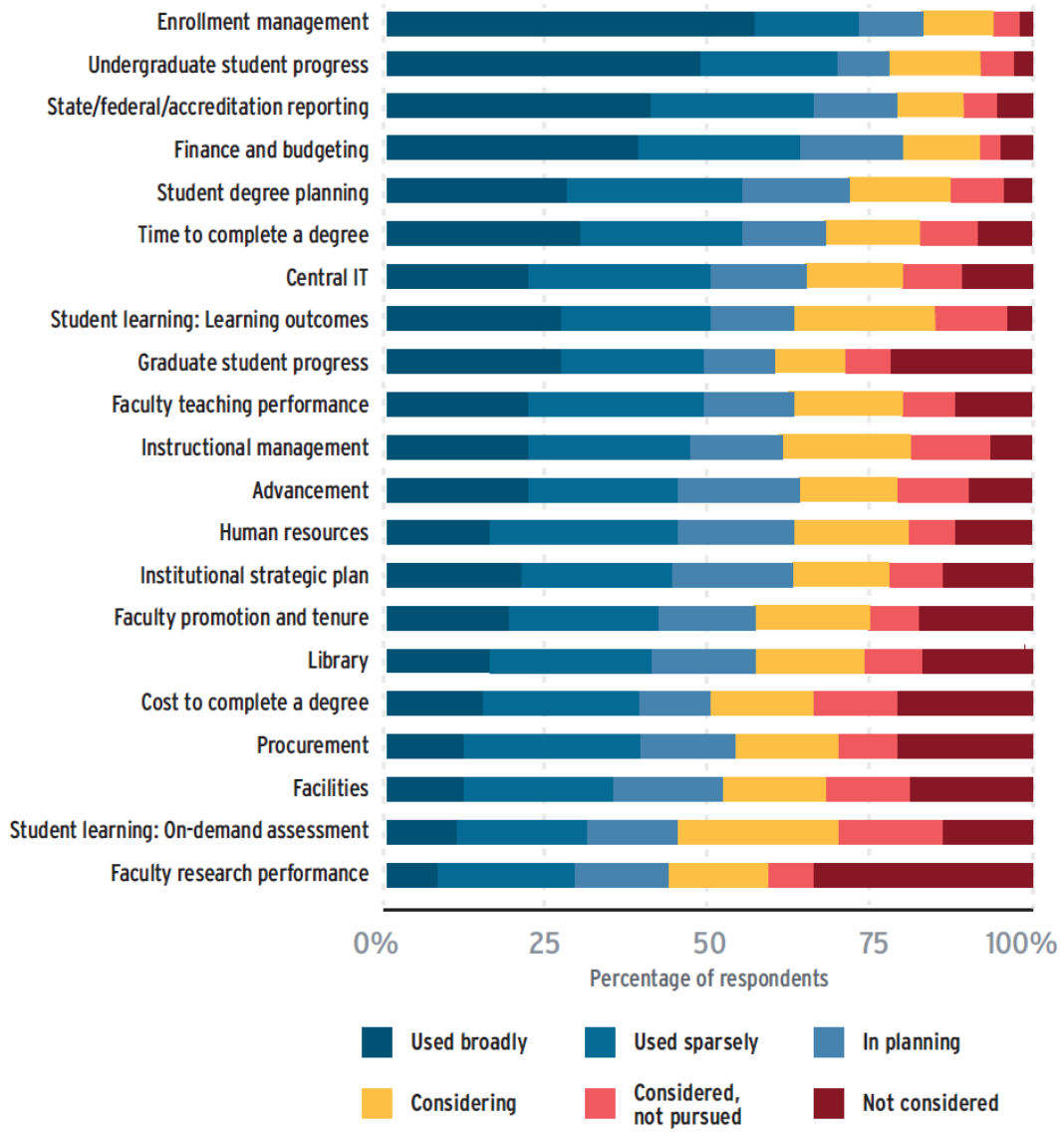
Issue #7: BI and Analytics

Developing effective methods for business intelligence, reporting, and analytics to ensure they are relevant to institutional priorities and decision making and can be easily accessed and used by administrators, faculty, and students

Educause Review
http://www.educause.edu
January/February 2016

FIGURE 12. Current and Planned Uses of Analytics



Source: Ronald Yanosky, with Pam Arroway, *The Analytics Landscape in Higher Education, 2015*, research report (Louisville, CO: ECAR, October 2015)

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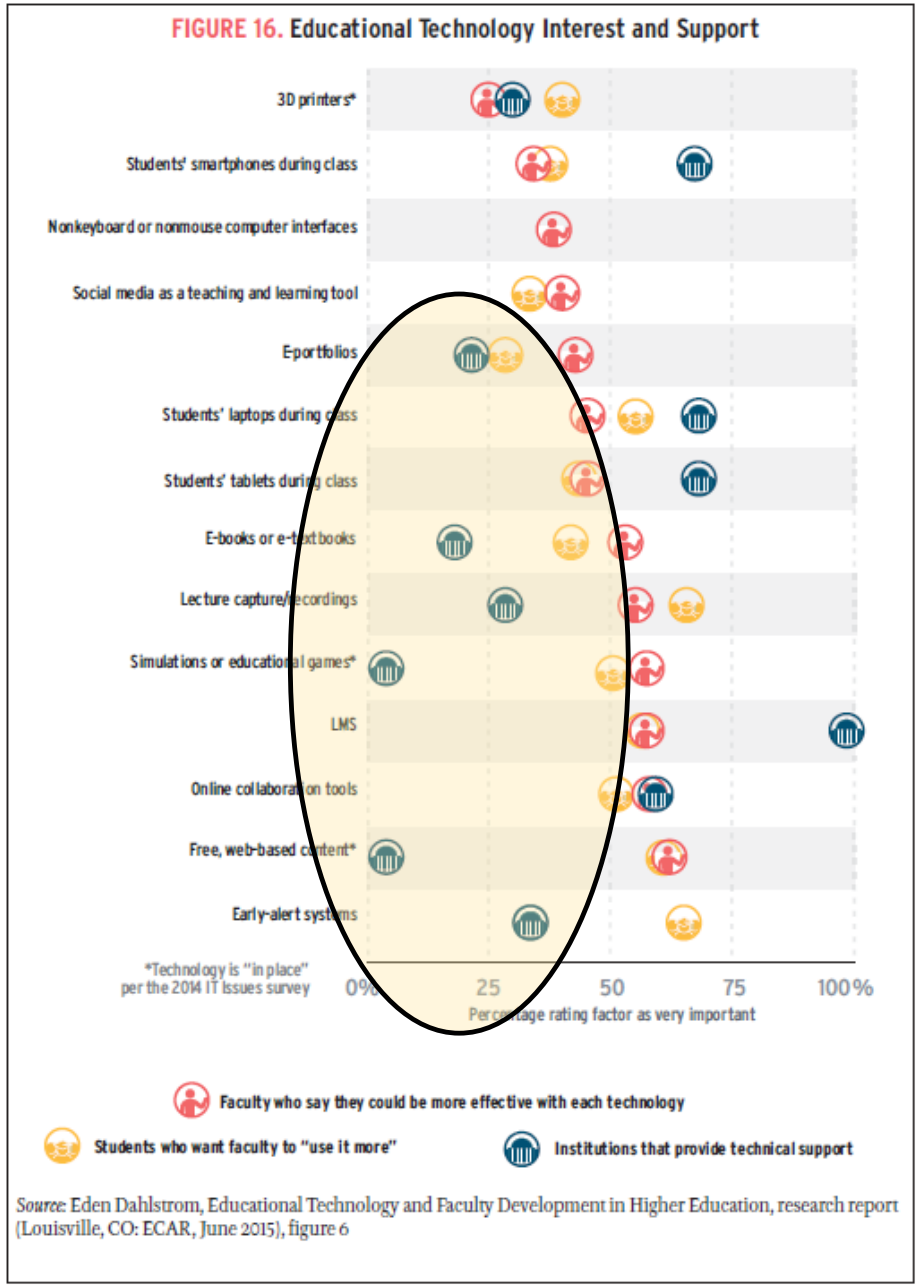
Issue #10: E-Learning and Online Education

Providing scalable and well-resourced e-learning services, facilities, and staff to support increased access to and expansion of online education

Educause Review
http://www.educause.edu
January/February 2016



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Trends and Support for Teaching and Learning Technology

THE CAMPUS COMPUTING PROJECT

campuscomputing.net October 2015

The 2015 National Survey of eLearning and Information Technology in US Higher Education

Great Faith in the Instructional Benefits of Digital Technologies; Great Expectations for the Rising Use of OER

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- Makerspaces
- Adaptive learning
- Affective computing
- Augmented Reality
- Badging
- OER
- The Internet of Things (IoT)
- Learning analytics
- IaaS, SaaS, PaaS…!

Makerspaces are community-operated workspaces where people with common interests, often in computers, machining, technology, science, digital art or electronic art, can meet, socialize, create, build, and collaborate.

Adaptive learning in its fundamental form is a **learning** methodology that changes the pedagogical approach toward a student based on the student's input and a predefined response. **Adaptive learning** more recently is being associated with a large-scale collection of **learning** data and statistically based pedagogical responses and can be seen as a subset of personalized **learning** that includes such approaches as affective and somatic computing.

Affective computing technologies sense the emotional state of a user (via sensors, microphone, cameras and/or software logic) and respond by performing specific, predefined product/service features, such as changing a quiz or recommending a set of videos to fit the mood of the learner. **Affective computing** tries to address one of the major drawbacks of online learning versus in-classroom learning. (Using more sensors vs. data alone)

Augmented reality (AR) is the real-time use of information in the form of text, graphics, audio and other virtual enhancements integrated with real-world objects. It is this "real world" element that differentiates AR from **virtual reality**. AR integrates and adds value to the user's interaction with the real world, versus a simulation.

Digital badges or **"badging"** are a validated indicator of accomplishment, skill, quality or interest that can be earned in various learning environments.

Open Educational Resources (**OER**) are freely accessible, openly licensed documents and media that are useful for teaching, learning, and assessing as well as for research purposes. (Healing Earth uses OER)

The Internet of Things (**IoT**) is the network of physical objects that contain embedded technology to communicate and sense or interact with their internal states or the external environment.

Learning analytics is the use of intelligent data, learner-produced data, and analysis models to discover information and social connections for predicting and advising people's learning."

Sources

Gartner

http://www.gartner.com/it-glossary/?s=Learning+Analytics

WIKIPEDIA
The Free Encyclopedia

https://en.wikipedia.org/wiki/Main_Page

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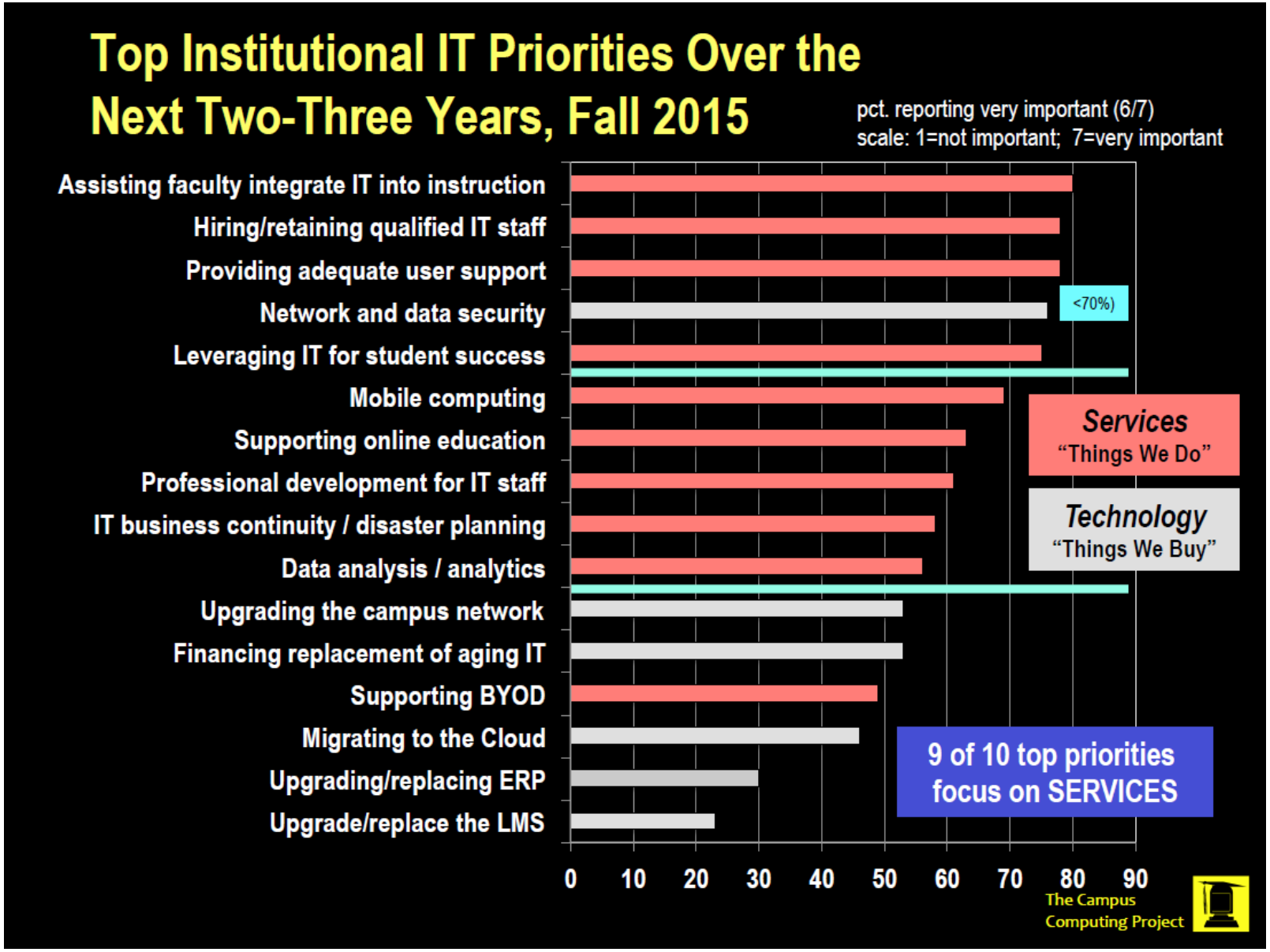

The Campus Computing Project, 2015
campuscomputing.net
October 2015

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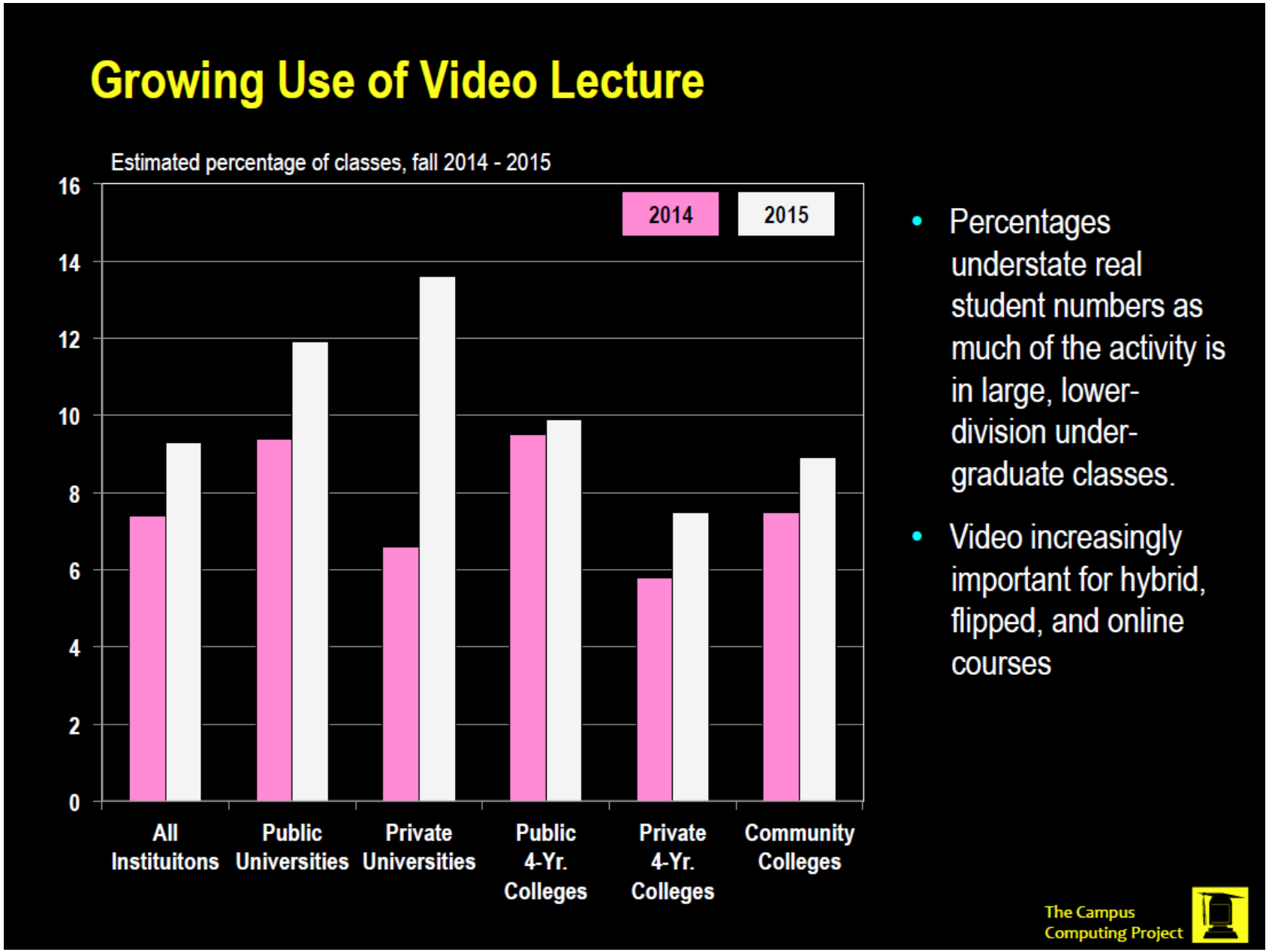

The Campus Computing Project, 2015
campuscomputing.net
October 2015

Use of Loyola Produced Video

Usage of video produced by the LUC community continued to grow in FY16:

- >1,700 new videos submitted to Kaltura (20% increase from 2015)
- >57,000 views of Loyola videos in FY16 (43% increase from FY15)
- >3,300 lecture captures were added by faculty to Panopto (67% increase from FY15)

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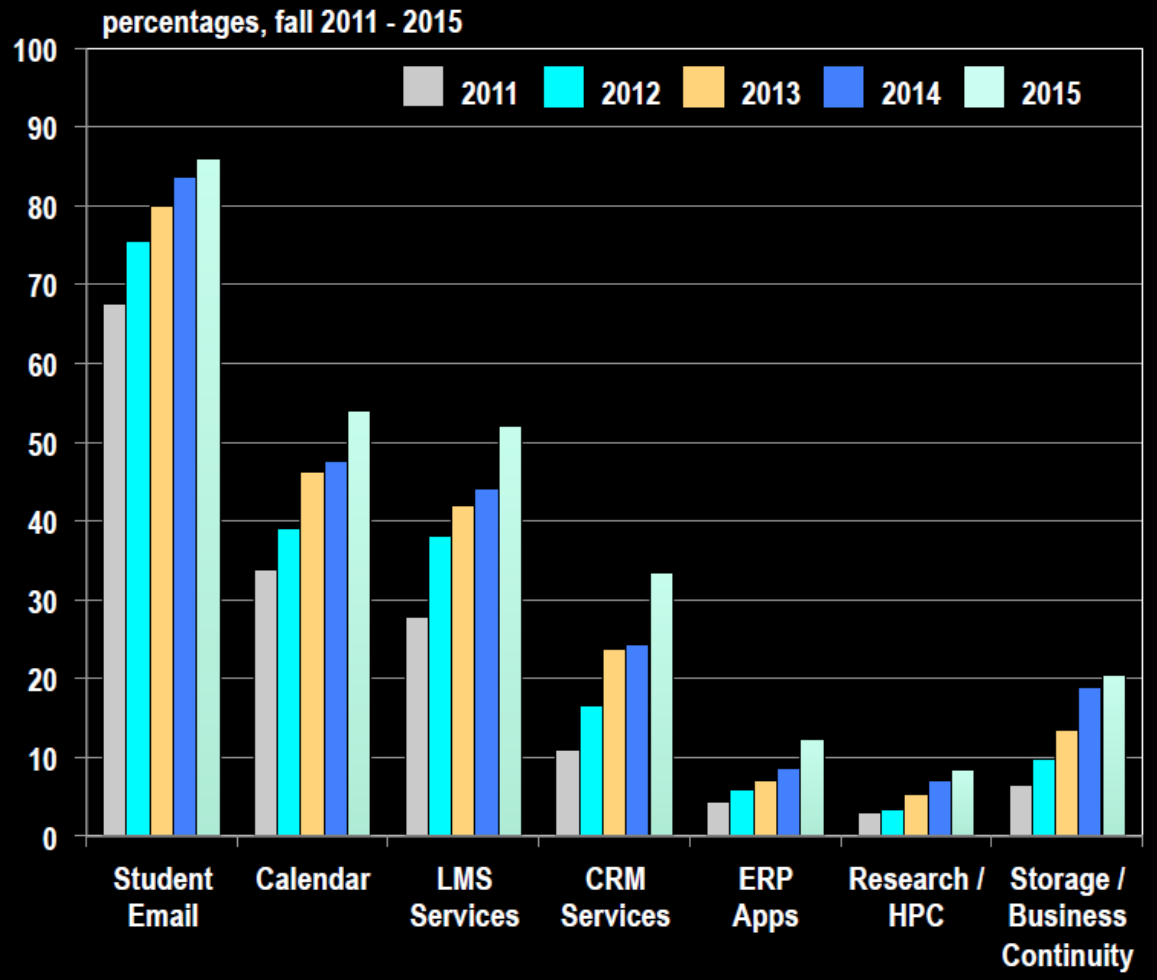
The Cloud

Slow Migration to Cloud Computing



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

- Risk
- Limited options from providers
- Trust
- Control

The Campus Computing Project

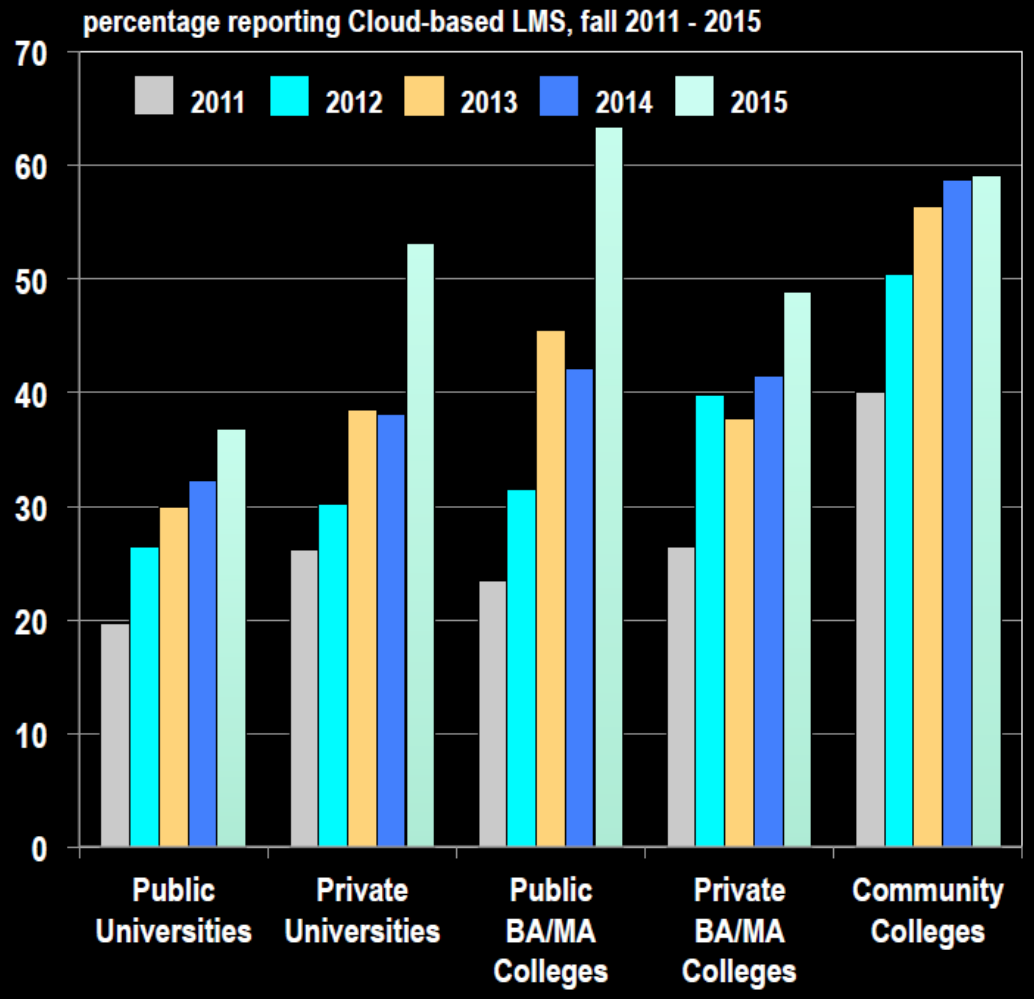
What is Cloud Computing anyway?

NIST Definition: Cloud computing is a model for enabling convenient, on-demand network access to a shared pool of configurable computing resources (e.g., networks, servers, storage, applications, and services) that can be rapidly provisioned and released with minimal management effort or service provider interaction. Variations:

1. SaaS
   - Service on demand, through a subscription, in a "pay-as-you-go" model
   - Good uses: "Vanilla"/no customization, web or mobile, demand spikes
2. PaaS
   - Services to develop, test, deploy, host and maintain applications
   - Good uses: Supports agile, iterative software development
3. IaaS
   - Delivers servers, storage, network and operating systems – as an on-demand service
   - Good uses: Demand is volatile/rapid growth, no cap-ex, temporary need

- Public vs. Private and U.S. Only vs. International Sites
- Changing Skillsets and Roles
- Adding complexity to technology contracts with introduction of 3rd parties

LMS Moves to the Clouds



- LMS providers seem to lead on Cloud services
- LMS as the "toe in the Cloud" experience for higher ed?

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The Campus Computing Project, 2015
campuscomputing.net
October 2015

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Institutional Demography of LMS Providers, 2015

percentage of institutions reporting a campus-standard LMS

	All	Pub Univ	Private Univ	Public BA/MA	Private BA/MA	Comm Coll
Bb	39.1	50.9	50	40.7	33.9	35.2
D2L	11.8	8.8	6.3	20.8	3.0	25.0
Instructure *(Canvas)*	14.2	15.8	18.8	13.9	8.9	21.6
Moodle	21.6	7.0	9.4	19.4	37.5	6.8
Sakai	3.1	1.8	9.4	> 1.0	4.8	1.1

- Market presence varies by sector

3 Big LMS Stories

- Decline of Bb
- Rise of Canvas
- Sakai after Unizin

Three-fifths (61.6%) of campuses report plans to review the current LMS strategy for budget or other reasons

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The Campus Computing Project, 2015
campuscomputing.net
October 2015

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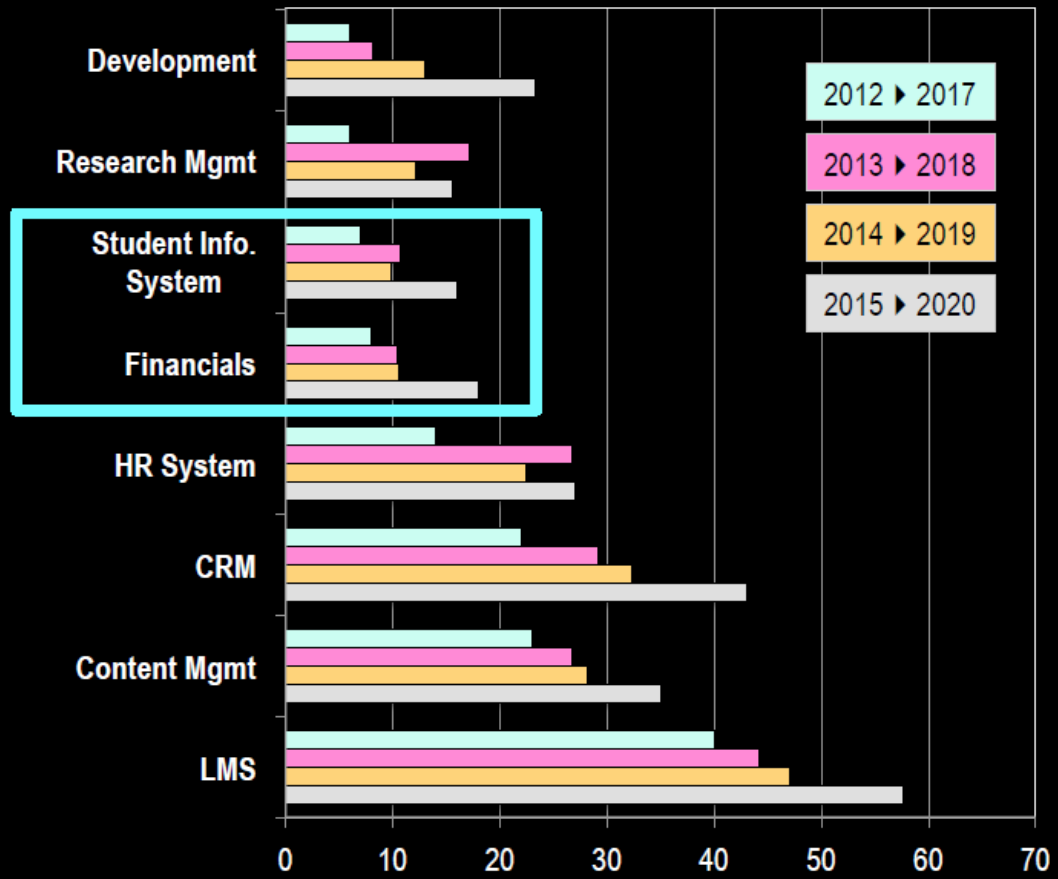
No Mass Movement to the Cloud in Five Years

It is very likely that my campus will move to a Cloud/SaaS Solution in five years

scale: 1=not likely; 7=very likely; percentage for very likely (6/7)



Some gains in 2015, but most CIOs still don't see "high cloud" applications coming soon to their campuses

WHY?

- Absence of clear path from ERP providers
- Can't visualize moving to Cloud
- Want to retain command and control
- Let others make the journey first

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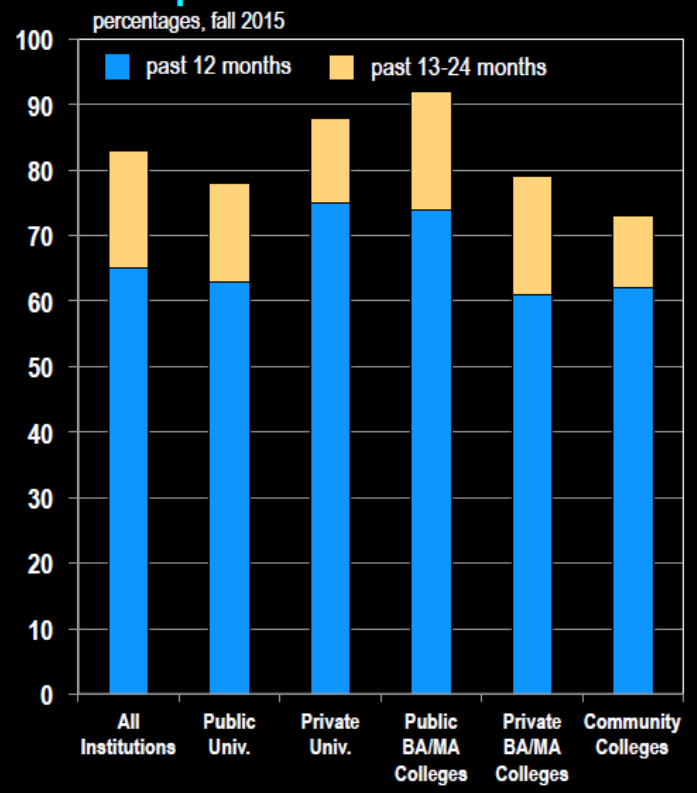
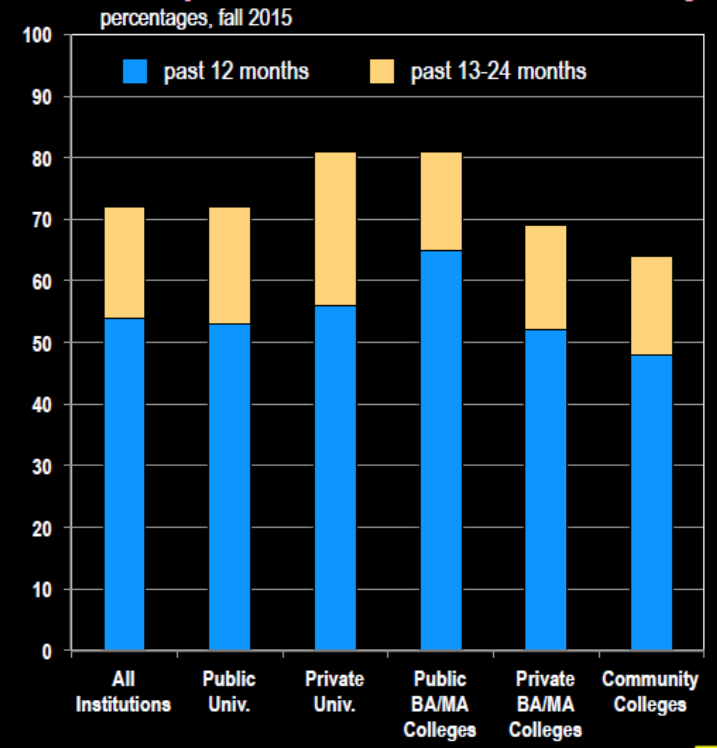
Updating Campus IT Security & Disaster Plans, 2015

- 22 pct. DO NOT have a strategic plan for network and data security
- 32 pct. DO NOT have a strategic plan for IT disaster recovery

Last Update for Network & Data Security



Last Update for IT Disaster Recovery



The Campus Computing Project

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Current State
&
Technology Direction

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ITS FY16 Annual Summary

Run ... *ongoing operations*

Sample Service Volumes

Daily
- 1,100,000 e-mails received
- 3,000 faculty/staff devices synched to e-mail
- 11,800 logins to LOCUS
- 6,250 total printed pages
- 31,200 visits to luc.edu

Weekly
- 750 Help Desk tickets
- 620 checkouts from Media Lab
- 50 classroom support calls
- 100 Loyola Secure Access sessions
- 150 Atomic Learning tutorials viewed

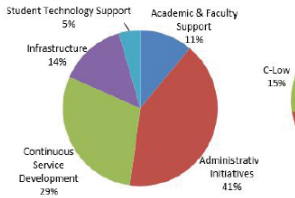
Monthly
- 458,417 Campus Card Transactions
- 363,000 logins to Sakai (+118%)
- 156,000 computer lab logins
- 240 courses using lecture capture
- 320 new videos to the video repository

Annually
- 330 million network attacks blocked
- 267,900 visits to mobile LOCUS
- 4.2 million Campus Card transactions
- 511,000 Business Intelligence reports run

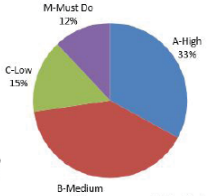
Enterprise Highlights
- 6,300 workstations with approximately 27% available for student use
- 300 technology-equipped classroom spaces
- T4 (Web Content Management System) has over 50,000 pages utilizing 91,000 files (shtml, pdf, jpg, etc.)
- 430 faculty/staff machines migrated from LUHS to LUC

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 also grown 35% since FY13.

FY16 Projects by Strategic Alignment



FY16 Projects by Priority



Strategic Category	FY16 Q1-Q2 Completed Projects	FY16 Q3-Q4 Completed Projects	FY16 Total Projects	FY16 % of Total
Academic & Faculty Support	4	5	9	7%
Administrative Initiatives	30	23	53	42%
Continuous Service Development	16	16	32	26%
Infrastructure	15	7	22	18%
Student Technology Support	6	3	9	7%
	71	**54**	**125**	**100%**

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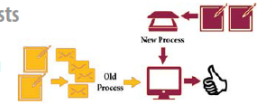
Grow ... *information systems and services to optimize performance*

Campus Security
There are over 700 security cameras deployed campus-wide to promote and support campus safety. The camera management application benefited from an upgrade to the hardware and software application. In addition, efficiencies introduced in the storage environment results in 50% space savings for archived footage allowing the University to extend the number of days that footage is available.

PARCS - Parking System Replacement
The outdated parking management system including gates, payment kiosks, and parking office terminals were replaced. This improved the interaction needed with the parking permit system, AIMS, and the campus card system, CBORD. This has resulted in a 35% increase in revenue from new parking permits in the first three months of operation, as well as the reduction of lost revenue with tighter access controls. Additional benefits include improved reporting ability for revenue tracking and the reduction in the frequency to service the payment kiosks.

Curriculum Change Requests
The review and approval process for curriculum change requests that are submitted to the College of Arts and Sciences (CAS) Academic Council was streamlined by enabling more efficient communication and collaboration. Annually, over 500 requests were submitted as Word documents via email and posted to a website where comments, versioning, and approval status was not easily managed. Utilizing existing technology in our electronic document management solution, DocFinity, allows for improved control and visibility of these aspects of the submission and review process.



Other Highlights
- Implemented a tutor tracking system for use by the tutoring center in the Academic Support Center. This provides the ability to schedule a student or groups for tutoring, tracks participation and progress and provides for regular communication with students using these services.
- Replaced the course evaluation system with web-based IDEA from Campus Labs. This provides additional functionality and improved results reporting. Faculty will receive their results within days of the end of the evaluation period versus weeks/ months.
- Moved the math placement process via the ALEKS application to a proctored test.
- The Finance and Human Resource system, Infor/Lawson, that supports administrative processing was upgraded to Version 10 in early May. The new version offers an improved user interface, a work collaboration space, more robust security, and solves a long-standing browser independence issue.
- The Loyola Alert system was expanded to accommodate broader scenarios related to emergencies and business continuity. The alerting system can now send urgent messages to University leaders and stores a new list to include Residence Life departmental cell phones; it also allows all Loyola Alert participants to define more than two phone numbers for notification (students can include parents or guardians).

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

Anytime Anywhere Access

Loyola's technology architecture strategy supports
Schedules which are 24/7 in nature (Anytime)
An LUC Community which is mobile (Anywhere)
Straightforward and appropriate access to systems (Access)

Students/Faculty/Staff/Alums/Friends...
"Technology at Loyola enables me to fulfill my relationship in a simple, secure and seamless way."

Regardless of where I am, I can:
- **Collaborate** with students, faculty and staff via meetings or 1:1 (video conference, share files and research data securely)
- **Complete** business with Loyola (apply to Loyola, schedule a visit, sign up for events, register for classes, view grades, pay my bill, donate, etc.)
- **Conduct** self-service activities (reset my password, reserve a meeting space or digital media equipment, access reporting, etc.)
- **Connect** to my Loyola services without intervention from any device

FY16 projects that promote and support Loyola's Anytime Anywhere Access techonlogy direction include.
- Self Service password reset
- Streamlined remote secure access via Loyola Secure Access
- Easier network registration for devices via Bradford Network Access Control
- Secure file sharing for private data or large files via email with Loyola Secure Transfer
- Transition to 802.1x wireless network to automate device identification and improve security
- Added Web App Firewall (WAF) to protect web applications from common attacks

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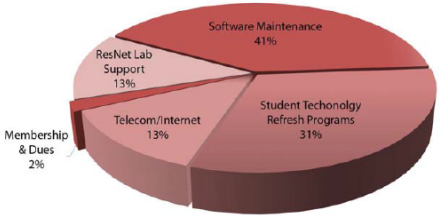
Student Technology Innovations
- The Office for International Programs introduced an electronic course approval process so students can complete an online form describing the foreign course they wish to take for Loyola credit. The request is routed electronically for review and approval reducing the approval time for students from weeks to days.
- Assessing Clinical Ethics Skills (ACES) was developed for the Neiswanger Institute for Bioethics in Loyola's Health Scineces Division to provide training on how to rate the skills of clinical ethics consultants in simulated ethics cases consultations with patients or family members. One application is used in Graduate courses offered by the Institute, and the other is available for use by ethics committee members, clinical ethics consultants, and health professionals from other institutions throught the U.S. A sample demonstration of ACES can be accessed here: https://lucapps.luc.edu/clinicalethicsdemo/.

FY16 FACTS

Data Centers & Networks
Loyola's Lakeside data centers house 750 devices including servers, appliances, and equipment:
- Over 620 Terabytes of online storage
- 80+ physical enterprise class servers and over 365 virtual servers
- 2,600 wireless access points covering 95% of Loyola's buildings
- 43,000 devices registered on the wireless network
- 3.5 Gig connection for internet bandwidth
- 10,695 student devices connecting to e-mail
- 200 Terabytes of e-mail storage

Other Facts
- 21 presentations were delivered by ITS staff members at leading technology and higher education venues
- 2 staff members awarded the LUC Committment to Excellence Award
- 1 staff member nominated for Staff Member of the Year and 1 staff member awarded "Outstanding Campus Partner" by Student Development Division
- eCampus news identified ITRS "Academic Tech Tips" as one of their Top 10 in Higher Education blogs http://www.ecampusnews.com/top-news/higher-ed-blogs-277/

FY16 TECHNOLOGY FEE ALLOCATIONS



TECHNOLOGY SCORECARDS
An annual technology assessment based on the strategic 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 FY12	FY13	FY14	FY15	FY16	FY15-16 Change	Total Change (since FY07)
Academic & Faculty Support Scorecard	3.9	3.8	3.8	3.8	3.9	3%	24%
Administrative Technology Scorecard	4.1	3.9	3.9	3.9	3.8	-2%	8%
Student Technology Scorecard	4.3	4.4	4.7	4.8	4.7	-2%	19%
Infrastructure Scorecard	3.6	3.6	3.7	3.8	3.7	-1%	19%
Continuous Service Improvement Scorecard	3.9	3.9	3.8	3.9	3.9	1%	41%
Governance & Funding Scorecard	4.0	3.9	3.9	3.9	3.9	-1%	31%
Average Annual Score	4.0	3.9	4.0	4.0	4.0	-1%	25%
Year to Year Improvement	1%	-1%	2%	0%	-1%		

FY17 & BEYOND
MAJOR INITIATIVES - FY17 Q1-Q2

Academic and Faculty Support
- LOCUS Enhancements (6)
- Access Control & Security - Maxxess (2)
- Faculty Information System Suite Enhancements
- Online Exam Proctoring Solutions - Pilot

Administrative Initiatives
- Online Performance Management System
- Lawson/Kronos Enhancements (3)
- Advancement Systems (6)
- Oracle 12C Database Upgrade (Required for PS Upgrade)
- Campus Labs – Extracts and Related Components
- LCFS Technology Needs for EMR, HIPAA, and PCI

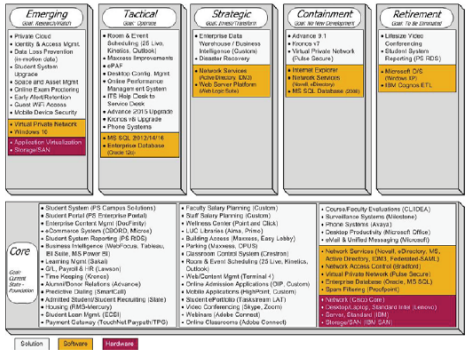
Student Technology Support
- Mental Health Act – Student Optional Disclosure
- Scholarship Management for Advancement
- Redevelop the *Here For You* Mobile Application for the Wellness Center
- Move Student Refunds from LOCUS to Lawson

Infrastructure
- Campus Construction Initiatives (6)
- Information Security Program (7)
- LUHS/LUC/HSD Technology Program (4)
- IT Disaster Recovery (12)
- Phone System Replacement

Continuous Service Development
- Business Intelligence/Data Warehouse (5)
- Enterprise Content Management (4)
- Biology Lab Research Positions - Application and Tracking
- ITS Help Desk to Service Desk
- Establish ZOOM Technology for Conferencing

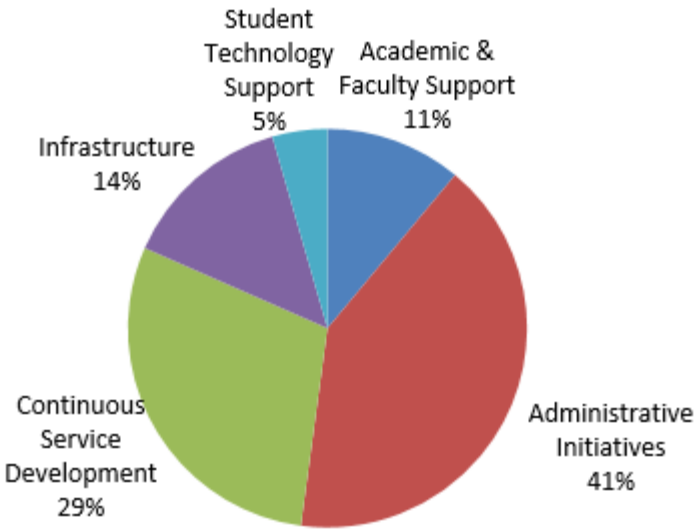
Initiatives under development include:
- Transition Help Desk to Service Desk model with new ITS Service Catalog
- Establish Zoom video conferencing as LUC's new video conferencing standard
- Provide a Part Time Stipend assignments application for HSD, cloned from Lakeside Faculty Administrations version of the application
- Develop an Online Performance Review Process
- Move Advancement reporting to Advance Data Warehouse (ADW)
- Incorporate Sakai data into the Enterprise Data Warehouse (EDW)
- Offer Self-service guest wireless access
- Planned Upgrades with significant technology changes:
  - ✔ Advancement (Ellucian)
  - ✔ TimeKeeping (Kronos)
  - ✔ Lakeside phone systems
  - ✔ Student Portal and Student System (Oracle)

LUC Technology Strategy - A Roadmap for Change



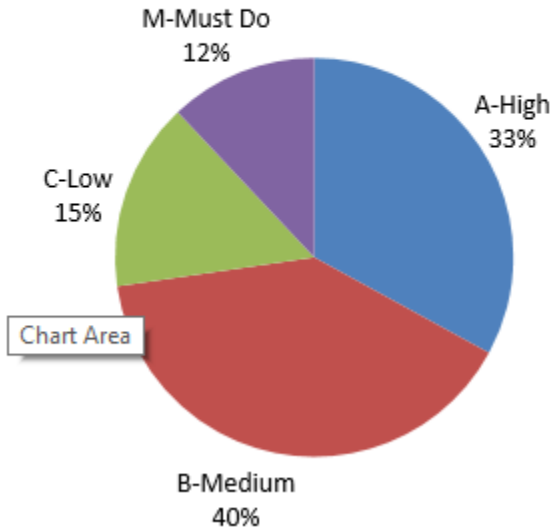
ITS FY16 Portfolio Summary

FY16 Projects by Strategic Alignment



545 Projects

FY16 Projects by Priority



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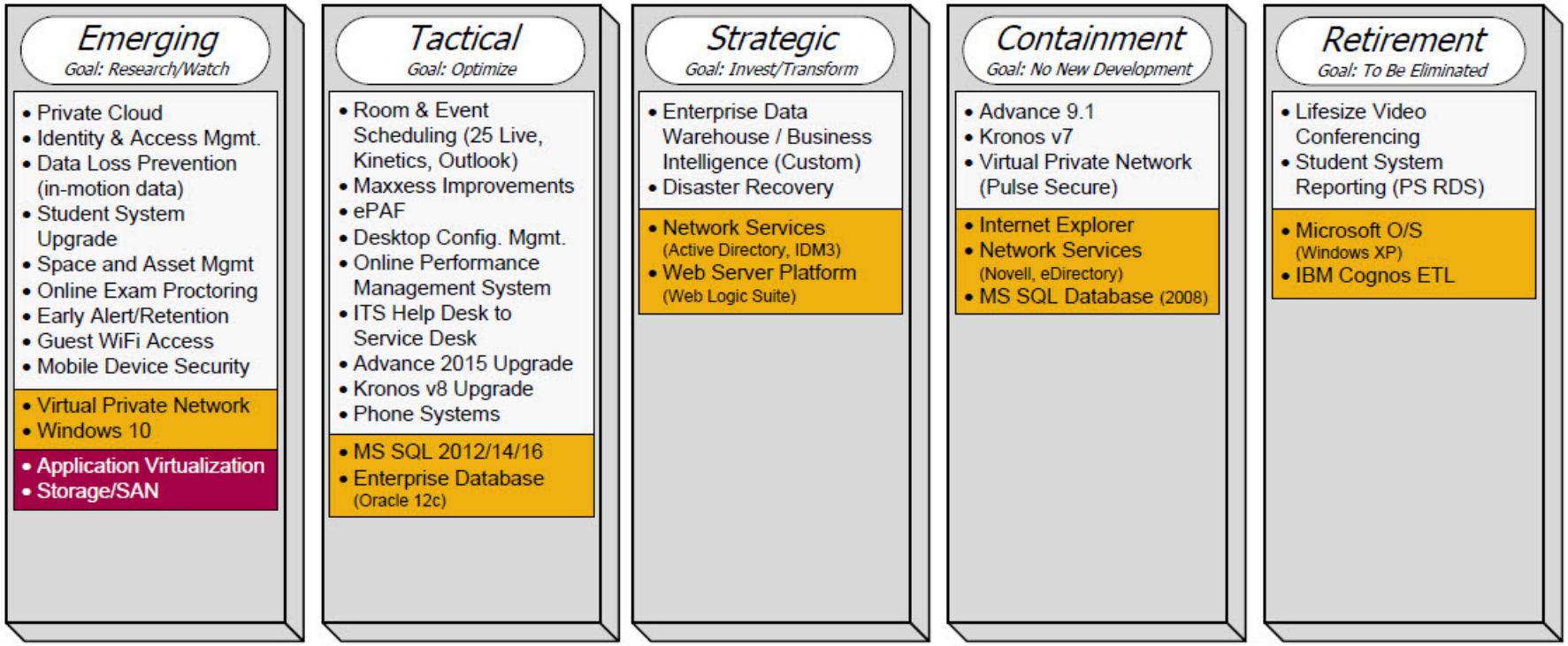
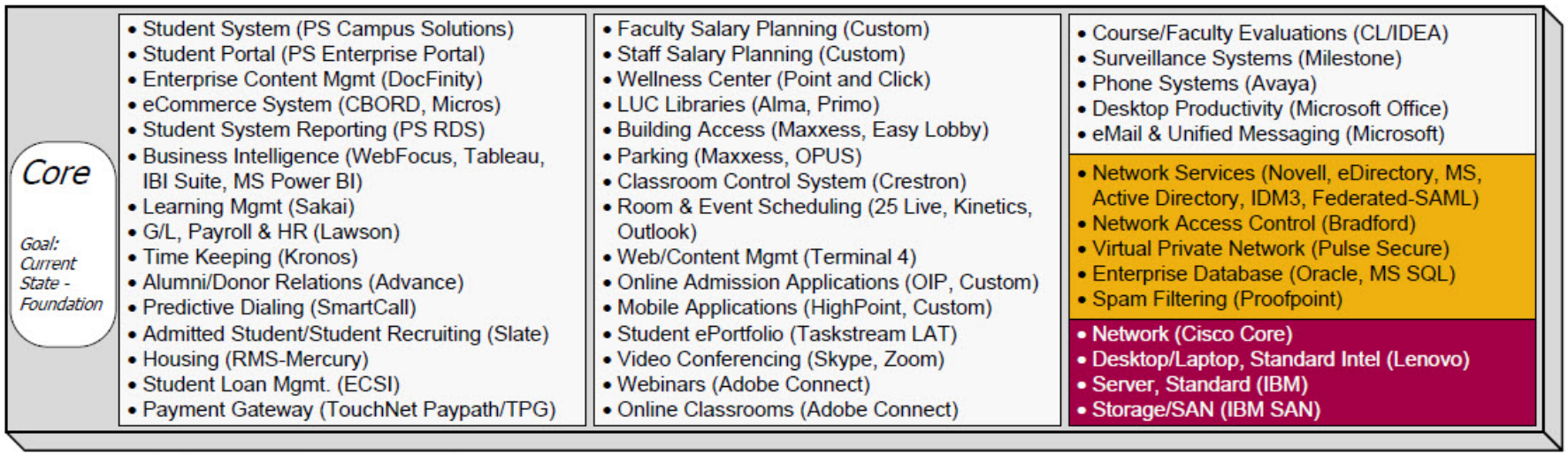
LUC Technology Strategy - A Roadmap for Change

August 2016





Solution | Software | Hardware

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ITS FY16 Scorecard Summary…

ITS Scorecard Summary	Health Index						
	FY12	FY13	FY14	FY15	FY16	FY15-16 Change	Total Change (since FY07)
Academic & Faculty Support Scorecard	3.9	3.8	3.8	3.8	3.9	3%	24%
Administrative Technology Scorecard	4.1	3.9	3.9	3.9	3.8	-2%	8%
Student Technology Scorecard	4.3	4.4	4.7	4.8	4.7	-2%	19%
Infrastructure Scorecard	3.6	3.6	3.7	3.8	3.7	-1%	19%
Continuous Service Improvement Scorecard	3.9	3.9	3.8	3.9	3.9	1%	41%
Governance & Funding Scorecard	4.0	3.9	3.9	3.9	3.9	-1%	31%
Average Annual Score	4.0	3.9	4.0	4.0	4.0	-1%	25%
Year to Year Improvement	1%	-1%	2%	0%	-1%		

As of December 2015

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ITS Strategic Direction
“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?”

Technology Implications

- Reduce or eliminate constraints of things like VPN, Loyola Software, network drives
- Portal
- Virtualization
- Desktop Management
- Application streaming
- Cloud-based
- Increased device independence

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I am a…

Loyola's technology architecture strategy supports
Schedules which are 24/7 in nature (Anytime)
An LUC Community which is mobile (Anywhere)
Straightforward and appropriate access to systems (Access)

Students/Faculty/Staff/Alums/Friends…
"Technology at Loyola enables me to fulfill my relationship in a simple, secure and seamless way."

Regardless of where I am, I can:

- **Collaborate** with students, faculty and staff via meetings or 1:1 (video conference, share files and research data securely)
- **Complete** business with Loyola (apply to Loyola, schedule a visit, sign up for events, register for classes, view grades, pay my bill, donate, etc.)
- **Conduct** self-service activities (reset my password, reserve a meeting space or digital media equipment, access reporting, etc.)
- **Connect** to my Loyola services without intervention from any device

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Anytime Anywhere Access Strategy

Detailed User Experience

	Current State	Change Initiatives to Move to Future State	Future State
Accessibility	Applications are difficult to find with access to the applications requiring disparate credentials or complex processes to launch. Specific devices or configurations are required for some applications. Data is kept in many places with inconsistent reporting methods.	• Identity & Access Management • Remote Application Access • Application Virtualization • Portal Technology Assessment • Inter-Campus Connectivity Improvements • Wired & Wireless Network Security • Improved Device Registration • Data Loss Prevention • Disaster Recovery • Creation of Institutional Dashboards • Service Desk/Expanded Self Service • Social Media Communications • Password Self Service • Loyola Secure Access • Information Security Awareness • Mobile Device Management • Mobile Classroom Clickers • Systems Upgrades: LOCUS, Lawson, Advance, Kronos, Help Desk, DocFinity	Applications are easily locatable with streamlined access methods by role regardless of the device or configuration. Clear and recommended reporting and storage options for institutional, shared and individual data.
Infrastructure	A number of legacy technologies are available, installed and supported to perform similar functions. Applications are delivered locally and may require support/human intervention. Limited or partial system redundancy and disaster recovery plans for technology services.		Standardized infrastructure streamlines support and availability of technology services. Applications are delivered and accessible virtually and do not require desktop software. System availability is optimized with disaster recovery plans and processes in place and tested for key technology services.
Security	Password resets can only be performed by full-time staff during limited hours. A secure computing environment is available but requires complex processes to access and use. Access to information is the same regardless of the level of risk. The University has implemented a portion of an information security risk program that includes voluntary participation in information security awareness sessions.		Password resets can be performed securely without intervention by a third party. Straightforward and direct access to applications, data and services is appropriately allowed by role and secured by risk. Loyola's information assets are protected adequately by an information security risk and awareness program that is understood and delivered to all Loyola constituents.
Services	Disparate services, standards and technologies are supported with limited hours and options for help desk assistance. Applications are not device "agnostic" and information presentation is inconsistent. Access to data is tailored to specific needs or requests and is not standardized.		Technology services are clearly defined, communicated and supported by a robust self-service environment. Applications will be delivered to a given device or browser in such a way that is readable and usable. Data is structured, organized and consolidated via self-service dashboards.

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Anytime Anywhere Access Strategy

Technology Implications

	Current State	Change Initiatives to Move to Future State	Future State
Accessibility	Multiple sign-ons Limited accessibility Random application locations Loyola assigned/approved devices Multiple steps to accomplish a single task Data is difficult to find	• Identity & Access Management • Remote Application Access • Application Virtualization • Portal Technology Assessment • Inter-Campus Connectivity Improvements • Wired & Wireless Network Security • Improved Device Registration • Data Loss Prevention • Disaster Recovery • Creation of Institutional Dashboards • Service Desk/Expanded Self Service • Social Media Communications • Password Self Service • Loyola Secure Access • Information Security Awareness • Mobile Device Management • Mobile Classroom Clickers • Systems Upgrades: LOCUS, Lawson, Advance, Kronos, Help Desk, DocFinity	Single sign-on Accessibility by role Portal/home page Device agnostic Streamlined execution of tasks Data easily locatable
Infrastructure	Disparate infrastructure across campuses Local software delivery through LUC workstations Partial DR plans and environments		Unified infrastructure across campuses Virtualized desktop and application access Defined, tested and maintained DR environments
Security	Help desk password reset Single/two factor authentication, VPN certificate Basic information security awareness Complicated security architecture Reactive security actions/protection		Self-service password reset Multi-factor authentication Information Security education program Simplified and transparent security architecture Proactive risk-based security program / decisions
Services	Content presentation is inconsistent Support via direct contact Ad-hoc service definitions Decentralized technology services support Institutional data dispersed		Content presentation is device/browser agnostic Robust self-service support environment Well defined service offerings Centralized technology services support Self-service reporting and Dashboards

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Technology Briefing

2016

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2016 ITESC Schedule

March 29, 2016 - Tuesday, 1:30-3:30 PM

- Space Management Needs Analysis
- Phone System Replacement-Strategy
- Information Security Update
- Disaster Recovery Update-Brief
- LUHS Workday Migration-LUC Process Analysis

May 18, 2016 - Wednesday, 1:30-3:30 PM

- Phone System Replacement
- Video Conferencing Update
- Disaster Recovery Update

June 23, 2016 - Thursday, 1:30-3:30 PM

- Project Portfolio Prioritization

October 13, 2016 - Thursday, 1:30-3:30 PM

- HIPAA Compliance – New Topics
- Software Licensing Related to Alumni Access
- Internet Bandwidth Planning
- Tech Briefing

November 17, 2016 - Thursday, 1:30-3:30 PM

December 13, 2016 - Tuesday, 1:30-3:30 PM

- Project Portfolio Prioritization

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