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
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

<table>
<thead>
<tr>
<th>High</th>
<th>Oversight</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Policies, Standards, and Procedures</td>
</tr>
<tr>
<td></td>
<td>Monitoring and Audit</td>
</tr>
<tr>
<td>Medium</td>
<td>Training and Awareness</td>
</tr>
<tr>
<td>Low</td>
<td>Open Communications for Reporting Suspicions of Privacy or Security Violations</td>
</tr>
<tr>
<td></td>
<td>Enforcement and Discipline</td>
</tr>
<tr>
<td></td>
<td>Response and Prevention</td>
</tr>
</tbody>
</table>

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
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
Proposed Internet Connectivity
Proposed Internet Connectivity
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). Configuration and quotes are work in progress at this time and subject to further revision.

<table>
<thead>
<tr>
<th>Item Description</th>
<th>Capital/ One Time FY17 Costs</th>
<th>Estimated Operating/ Ongoing Costs FY18</th>
</tr>
</thead>
<tbody>
<tr>
<td>Upgrade Internet Connectivity to 10GB</td>
<td>$350,000</td>
<td>$83,000</td>
</tr>
<tr>
<td>Upgrade Cross Campus Connectivity</td>
<td>$75,000</td>
<td>$13,500</td>
</tr>
<tr>
<td>Future FY17 Project</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Current Cost**

<table>
<thead>
<tr>
<th>LSC</th>
<th>Operating</th>
</tr>
</thead>
<tbody>
<tr>
<td>Router</td>
<td>$8,900</td>
</tr>
<tr>
<td>IPS</td>
<td>$50,000</td>
</tr>
<tr>
<td>Circuit</td>
<td>$83,200</td>
</tr>
<tr>
<td><strong>Sub-Total</strong></td>
<td>$142,100</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>LSC</th>
<th>Operating</th>
</tr>
</thead>
<tbody>
<tr>
<td>Router</td>
<td>$9,000</td>
</tr>
<tr>
<td>Firewall</td>
<td>$11,000</td>
</tr>
<tr>
<td>IPS</td>
<td>$21,000</td>
</tr>
<tr>
<td>Circuit</td>
<td>$53,900</td>
</tr>
<tr>
<td><strong>Sub-Total</strong></td>
<td>$94,900</td>
</tr>
</tbody>
</table>

| **Total**      | $237,000  |
Stopgap

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

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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)
Industry Issues and Priorities
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

DIFFERENTIATE

2: Optimizing educational technology
3: Student success technologies
7: BI and analytics
10: E-learning and online education

REINVEST

1: Information security
4: IT workforce hiring and retention
6: IT funding
9: IT organizational development

DIVEST

5: Institutional data management
8: Enterprise application integration

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

Loyola Applications Sharing Data

Loyola Applications in the Cloud

Interface Breakdown
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.

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Figure 1: Themes of the 2016 Top 10 IT Issues

- **DIFFERENTIATE**
  2: Optimizing educational technology
  3: Student success technologies
  7: BI and analytics
  10: E-learning and online education

- **REINVEST**
  1: Information security
  4: IT workforce hiring and retention
  6: IT funding
  9: IT organizational development

- **DIVEST**
  5: Institutional data management
  8: Enterprise application integration

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

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
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
http://www.educause.edu
January/February 2016
Higher Ed IT Spend as a Percent of Revenue ...

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

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

<table>
<thead>
<tr>
<th>Revenue Scale</th>
<th>2014 Average</th>
<th>2013 Average</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt;$250M In Revenue</td>
<td>6.8%</td>
<td>N/A</td>
</tr>
<tr>
<td>$250M - $500M In Revenue</td>
<td>5.6%</td>
<td>N/A</td>
</tr>
<tr>
<td>$500M - $1B In Revenue</td>
<td>6.4%</td>
<td>N/A</td>
</tr>
<tr>
<td>$1B - $10B In Revenue</td>
<td>4.9%</td>
<td>N/A</td>
</tr>
<tr>
<td>$10B+ In Revenue</td>
<td>N/A</td>
<td>N/A</td>
</tr>
</tbody>
</table>

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%
ITS Operating Budget Benchmark

<table>
<thead>
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<tbody>
<tr>
<td>Lakeside</td>
<td></td>
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<tr>
<td>Budgeted Revenue</td>
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<tr>
<td>ITS Budget</td>
<td></td>
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<tr>
<td>ITS as % of LUC</td>
<td></td>
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</tbody>
</table>

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
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
## FY16 Technology Fee Breakdown

<table>
<thead>
<tr>
<th>Tech Fee Category</th>
<th>Actual Amount Expended</th>
</tr>
</thead>
<tbody>
<tr>
<td>Membership &amp; Dues</td>
<td>$62,109</td>
</tr>
<tr>
<td>ResNet Lab Support</td>
<td>$415,338</td>
</tr>
<tr>
<td>Software Maintenance</td>
<td>$1,286,783</td>
</tr>
<tr>
<td>Student Technology Refresh Programs</td>
<td>$991,197</td>
</tr>
<tr>
<td>Telecom/Internet</td>
<td>$407,160</td>
</tr>
<tr>
<td><strong>Grand Total</strong></td>
<td><strong>$3,162,586</strong></td>
</tr>
<tr>
<td><strong>Deficit</strong></td>
<td><strong>($168,445)</strong></td>
</tr>
</tbody>
</table>
Central IT Operating...

FY16 Consolidated Operating Budget
ITS incl. Technology Fee

- Salary & Benefits: 67%
- Services and Maintenance: 20%
- Membership & Dues: 1%
- Telecommunications: 8%
- Consulting/Training/Departmental/Other*: 4%
Portfolio Alignment...

Run – Ongoing operations
Grow – Information systems and services to optimize performance
Transform – New technologies and processes that fundamentally promote change

*Best Practice source – Gartner*
Top 10 IT Issues, 2016

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FIGURE 1. Themes of the 2016 Top 10 IT Issues

DIFFERENTIATE
- Optimizing educational technology
- Student success technologies
- BI and analytics
- E-learning and online education

FIGURE 2. The Purpose Alignment Model

High
- Partner
- Differentiating

Low
- Who cares
- Parity

Mission-Critical

Source: Neil Nickolaisen, “Aligning to Purpose,” EDUCAUSE Review 49, no. 3 (May/June 2014)
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
FIGURE 5. Institution-Wide Deployment of Student Planning and Advising Systems

- Degree audit
- Advising center management
- Academic early alerts
- Education plan creation/tracking
- Course/program recommendations

Percentage of institutions
0% 25% 50% 75% 100%
Figure 8: Distribution for the Student Success Technologies Maturity Index

- 0% Weak
- 11% Emerging
- 66% Developing
- 23% Strong
- 1% Excellent

Improving student outcomes through an institutional approach that strategically leverages technology.
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
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.

Trends and Support for Teaching and Learning Technology

THE CAMPUS COMPUTING PROJECT

campuscomputing.net

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
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."
Top Institutional IT Priorities Over the Next Two-Three Years, Fall 2015

- Assisting faculty integrate IT into instruction
- Hiring/retaining qualified IT staff
- Providing adequate user support
- Network and data security
- Leveraging IT for student success
- Mobile computing
- Supporting online education
- Professional development for IT staff
- IT business continuity / disaster planning
- Data analysis / analytics
- Upgrading the campus network
- Financing replacement of aging IT
- Supporting BYOD
- Migrating to the Cloud
- Upgrading/replacing ERP
- Upgrade/replace the LMS

Scale: 1 = not important; 7 = very important

Services “Things We Do”
Technology “Things We Buy”

9 of 10 top priorities focus on SERVICES
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)
The Cloud
Slow Migration to Cloud Computing

percentages, fall 2011 - 2015

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

- Risk
- Limited options from providers
- Trust
- Control
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

percentage reporting Cloud-based LMS, fall 2011 - 2015

- LMS providers seem to lead on Cloud services
- LMS as the “toe in the Cloud” experience for higher ed?
# Institutional Demography of LMS Providers, 2015

The percentage of institutions reporting a campus-standard LMS is shown in the table below:

<table>
<thead>
<tr>
<th>Provider</th>
<th>All</th>
<th>Pub Univ</th>
<th>Private Univ</th>
<th>Public BA/MA</th>
<th>Private BA/MA</th>
<th>Comm Coll</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bb</td>
<td>39.1</td>
<td>50.9</td>
<td>50</td>
<td>40.7</td>
<td>33.9</td>
<td>35.2</td>
</tr>
<tr>
<td>D2L</td>
<td>11.8</td>
<td>8.8</td>
<td>6.3</td>
<td>20.8</td>
<td>3.0</td>
<td>25.0</td>
</tr>
<tr>
<td>Instructure (Canvas)</td>
<td>14.2</td>
<td>15.8</td>
<td>18.8</td>
<td>13.9</td>
<td>8.9</td>
<td>21.6</td>
</tr>
<tr>
<td>Moodle</td>
<td>21.6</td>
<td>7.0</td>
<td>9.4</td>
<td>19.4</td>
<td>37.5</td>
<td>6.8</td>
</tr>
<tr>
<td>Sakai</td>
<td>3.1</td>
<td>1.8</td>
<td>9.4</td>
<td>&gt; 1.0</td>
<td>4.8</td>
<td>1.1</td>
</tr>
</tbody>
</table>

- **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.
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
- 22% of institutions do not have a strategic plan for network and data security.
- 32% of institutions do not have a strategic plan for IT disaster recovery.
Current State & Technology Direction
ITS FY16 Annual Summary

Data Centers & Network

Loxahatchee lake data centers house 750 devices including servers, appliances, and equipment.

• Over 230 Terabytes of online storage
• 40 physical enterprise-class servers and over 350 virtual servers
• 2,000 wireless access points covering 10% of Levadion buildings
• 3,000 campus network connected to the Internet backbone
• 1,545 student devices connecting to a small 2008 file servers of email storage

Other Facts

• 2 presentations were delivered by ITS staff members at leading technology and higher education software conferences.

FY16 FACTS

ITFY16 TECHNOLOGY FEE ALLOCATIONS

- Technology Fee
- CoA Petition
- 2016-17 Summer
- ITFY16-17 Fall
- ITFY16-17 Spring

Initiatives under development include:

- Transition Help Desk to Service Desk model with new IT Service Catalog
- Establishing Zoom video conferencing as an EUC new video conferencing standard
- Provide a web time-stamped assignment application for 4021, cleaned up from LIHPC Faculty member's version of the application
- Develop new Online Performance Review Process
- Move Access Management into an IT Service Warehouse (ITW)
- Incorporate Sakai data into the Enterprise Data Warehouse (EDW)
- Office Self-serve guest wireless access
- Planned upgrades with significant technology changes:
  - Advancement (Education) - Timekeeping (Kronos)
  - LUC Online phone system
  - Student Portal and Student System (OASIS)
  - LUC Technology Strategy - A ROADMAP FOR CHANGE
ITS FY16 Portfolio Summary

FY16 Projects by Strategic Alignment

- Infrastructure: 14%
- Continuous Service Development: 25%
- Administrative Initiatives: 41%
- Academic & Faculty Support: 11%
- Student Technology Support: 5%

545 Projects

FY16 Projects by Priority

- A-High: 33%
- B-Medium: 40%
- C-Low: 15%
- M-Must Do: 12%

<table>
<thead>
<tr>
<th>Strategic Category</th>
<th>FY16 Q1-Q2 Completed Projects</th>
<th>FY16 Q3-Q4 Completed Projects</th>
<th>FY16 Total Projects</th>
<th>FY16 % of Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Academic &amp; Faculty Support</td>
<td>4</td>
<td>5</td>
<td>9</td>
<td>7%</td>
</tr>
<tr>
<td>Administrative Initiatives</td>
<td>30</td>
<td>23</td>
<td>53</td>
<td>42%</td>
</tr>
<tr>
<td>Continuous Service Development</td>
<td>16</td>
<td>16</td>
<td>32</td>
<td>26%</td>
</tr>
<tr>
<td>Infrastructure</td>
<td>15</td>
<td>7</td>
<td>22</td>
<td>18%</td>
</tr>
<tr>
<td>Student Technology Support</td>
<td>6</td>
<td>3</td>
<td>9</td>
<td>7%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>71</strong></td>
<td><strong>54</strong></td>
<td><strong>125</strong></td>
<td><strong>100%</strong></td>
</tr>
</tbody>
</table>
## ITS FY16 Scorecard Summary

<table>
<thead>
<tr>
<th>ITS Scorecard Summary</th>
<th>Health Index</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>FY12</td>
</tr>
<tr>
<td>Academic &amp; Faculty Support Scorecard</td>
<td>3.9</td>
</tr>
<tr>
<td>Administrative Technology Scorecard</td>
<td>4.1</td>
</tr>
<tr>
<td>Student Technology Scorecard</td>
<td>4.3</td>
</tr>
<tr>
<td>Infrastructure Scorecard</td>
<td>3.6</td>
</tr>
<tr>
<td>Continuous Service Improvement Scorecard</td>
<td>3.9</td>
</tr>
<tr>
<td>Governance &amp; Funding Scorecard</td>
<td>4.0</td>
</tr>
</tbody>
</table>

| 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
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
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
Anytime Anywhere Access Strategy

**Detailed User Experience**

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)

**Current 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.

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.

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.

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.

**Future State**

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.

Change Initiatives to Move to Future State

- 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

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.

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.

Loyola’s technology architecture strategy supports

Students/Faculty/Staff/Alums/Friends...

"Technology at Loyola enables me to fulfill my relationship in a simple, secure and seamless way."

Schedules which are 24/7 in nature (Anytime)
An LUC Community which is mobile (Anywhere)
Straightforward and appropriate access to systems (Access)
Anytime Anywhere Access Strategy

Technology Implications

**Current State**
- Multiple sign-ons
- Limited accessibility
- Random application locations
- Loyola assigned/approved devices
- Multiple steps to accomplish a single task
- Data is difficult to find

**Infrastructure**
- Disparate infrastructure across campuses
- Local software delivery through LUC workstations
- Partial DR plans and environments

**Security**
- Help desk password reset
- Single/two factor authentication, VPN certificate
- Basic information security awareness
- Complicated security architecture
- Reactive security actions/protection

**Services**
- Content presentation is inconsistent
- Support via direct contact
- Ad-hoc service definitions
- Decentralized technology services support
- Institutional data dispersed

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**Future State**
- Single sign-on
- Accessibility by role
- Portal/home page
- Device agnostic
- Streamlined execution of tasks
- Data easily locatable

**Accessibility**
- Unified infrastructure across campuses
- Virtualized desktop and application access
- Defined, tested and maintained DR environments

**Self-service password reset**
- Multi-factor authentication
- Information Security education program
- Simplified and transparent security architecture
- Proactive risk-based security program / decisions

**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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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