ITS Executive Steering Committee (ITESC)

Agenda and Materials – October 01, 2019
Agenda

ITS Prioritized Projects Review
• S. Malisch, B. Montes, J. Sibenaller, D. Vonder Heide

Loyola Digital Experience Foundation: Collaboration & Security
• J. Sibenaller, D. Vonder Heide

Information Security Improvements
• J. Sibenaller

Data Backups
• D. Vonder Heide

HSC Applications
• S. Malisch, J. Sibenaller
## ITS Prioritized Projects Review

<table>
<thead>
<tr>
<th>Rank</th>
<th>Project</th>
<th>Technology</th>
<th>Phase</th>
<th>Rank</th>
<th>Project</th>
<th>Technology</th>
<th>Phase</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>LDE Foundation: Collaboration &amp; Security</td>
<td>Enterprise/ Multiple</td>
<td>Live/Build</td>
<td>15</td>
<td>Writing Placement Infrastructure</td>
<td>PeopleSoft</td>
<td>Testing</td>
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<tr>
<td>2</td>
<td>Sakai 12 Upgrade</td>
<td>Sakai</td>
<td>Live</td>
<td>16</td>
<td>Emergency Contact in RMS/Mercury using Person Flags</td>
<td>RMS/Mercury</td>
<td>Testing</td>
</tr>
<tr>
<td>3</td>
<td>Modifications for Collective Bargaining Agreement</td>
<td>Faculty Info System</td>
<td>Build</td>
<td>17</td>
<td>Board of Trustees SharePoint Portal</td>
<td>MS SharePoint</td>
<td>Live</td>
</tr>
<tr>
<td>4</td>
<td>Course Evaluation Replacement</td>
<td>SmartEvals</td>
<td>RFP Review</td>
<td>18</td>
<td>Career Services Software Replacement</td>
<td>Handshake</td>
<td>Live</td>
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<tr>
<td>5</td>
<td>Space and Asset Management System - Phase I</td>
<td>JLL-Archibus</td>
<td>Requirements</td>
<td>19</td>
<td>JIT Faculty Training for Online Teaching</td>
<td>Custom</td>
<td>Live</td>
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<tr>
<td>6</td>
<td>Course Schedule Builder/Student Success</td>
<td>EAB-Navigate</td>
<td>Kick-Off</td>
<td>20</td>
<td>Follett Integration with Sakai</td>
<td>Sakai</td>
<td>Deployment</td>
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<tr>
<td>7</td>
<td>LOCUS Fluid</td>
<td>PeopleSoft</td>
<td>Requirements</td>
<td>21</td>
<td>Mac OS Computer Management Application</td>
<td>JAMF</td>
<td>Live</td>
</tr>
<tr>
<td>8</td>
<td>Secure Submission of W9 Forms</td>
<td>Custom/Lawson</td>
<td>Live</td>
<td>22</td>
<td>LDE Transformation - Digital Assistant Pilot</td>
<td>Intrasee</td>
<td>Pilot</td>
</tr>
<tr>
<td>9</td>
<td>Proto-call After Hours Mental Health Services</td>
<td>Proto-Call</td>
<td>Live</td>
<td>23</td>
<td>Travel &amp; Expense Management Technology Solution</td>
<td>TBD</td>
<td>RFP Review</td>
</tr>
<tr>
<td>10</td>
<td>Preferred Names/Pronouns</td>
<td>Enterprise/ Multiple</td>
<td>Live/Analysis</td>
<td>24</td>
<td>Benefit Plan Termination Date Modification</td>
<td>Infor/Lawson</td>
<td>Build</td>
</tr>
<tr>
<td>11</td>
<td>Student Conduct &amp; Concerns (incl Faculty/staff)</td>
<td>Maxient</td>
<td>Live</td>
<td>25</td>
<td>Student Mentoring Pilot</td>
<td>PeopleGrove</td>
<td>Build</td>
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<tr>
<td>12</td>
<td>Learning Portfolio Review</td>
<td>TBD</td>
<td>RFP Review</td>
<td>26</td>
<td>OIP Center Replacement</td>
<td>Terra Dotta</td>
<td>Build</td>
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<tr>
<td>13</td>
<td>Replacement of ECSI SALNet</td>
<td>TBD</td>
<td>Analysis</td>
<td>27</td>
<td>CVENT Support for Climate Change Conference</td>
<td>CVENT</td>
<td>Deferred</td>
</tr>
<tr>
<td>14a</td>
<td>ISIR Data for Verification via Inceptia</td>
<td>Inceptia</td>
<td>Pending</td>
<td>--</td>
<td>New Benefits Vendor – Aetna vs Blue Cross</td>
<td>Infor/Lawson</td>
<td>Build</td>
</tr>
<tr>
<td>14b</td>
<td>Oracle Student Financial Planning Module</td>
<td>Oracle SFP</td>
<td>Deferred</td>
<td>--</td>
<td>BI Dashboards</td>
<td>MS Power BI</td>
<td>Build</td>
</tr>
</tbody>
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LDE Foundation-Program Summary

Overall Health

• **Lime** – minor delays, minor risks
  • **MFA** – Pilot results caused re-configuration and additional unplanned testing
  • **LastPass** – Initial configuration of Single Sign-On component was problematic
  • **Data Loss Prevention** – Taking a more conservative approach to validate policy impacts on documents
  • **Advanced Information Protection** – Configuration issue with the Vendor

Program Manager Change

• Heather Chester assumed the role on 9/16
<table>
<thead>
<tr>
<th>Description</th>
<th>Phase</th>
<th>Timing</th>
<th>Product</th>
<th>Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cloud email</td>
<td>Live</td>
<td>FY20 Q1</td>
<td>Exchange Online</td>
<td>Opportunity</td>
</tr>
<tr>
<td>Multi-factor authentication tool</td>
<td>Pilot</td>
<td>FY20 Q4</td>
<td>Azure Multi-Factor Authentication and Conditional Access</td>
<td>Roadmap</td>
</tr>
<tr>
<td>Password manager/repository</td>
<td>Pilot</td>
<td>FY20 Q2</td>
<td>LastPass</td>
<td>Add-On</td>
</tr>
<tr>
<td>Data monitoring and loss prevention</td>
<td>Pilot</td>
<td>FY20 Q3</td>
<td>Azure Data Loss Prevention</td>
<td>Roadmap</td>
</tr>
<tr>
<td>Classify and label documents (need for data loss execution)</td>
<td>Testing</td>
<td>FY20 Q3</td>
<td>Azure Information Protection</td>
<td>Roadmap</td>
</tr>
<tr>
<td>Password self-service (replaces React)</td>
<td>Pending</td>
<td>FY20 Q4</td>
<td>Azure Password Self-service</td>
<td>Add-On</td>
</tr>
<tr>
<td>Mobile device management tool</td>
<td>Analysis</td>
<td>FY20 Q4</td>
<td>Intune (Mobile Device Management)</td>
<td>Roadmap</td>
</tr>
<tr>
<td>Privileged &amp; powerful access management</td>
<td>Pending</td>
<td>FY20 Q4</td>
<td>Azure Privileged Identity Management</td>
<td>Roadmap</td>
</tr>
<tr>
<td>Email spam/security filtering (replaces Proofpoint)</td>
<td>Pending</td>
<td>FY21 Q1</td>
<td>Exchange Online Protection and Advanced Threat Protection</td>
<td>Opportunity</td>
</tr>
<tr>
<td>Landing page for faculty staff including single sign-on</td>
<td>Research</td>
<td>FY21 Q2</td>
<td>O365 Application Portal (single sign-on)</td>
<td>Opportunity</td>
</tr>
</tbody>
</table>
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# Information Security Program Components

<table>
<thead>
<tr>
<th>Governance</th>
<th>Cyber Threat Protection</th>
<th>Awareness, Education &amp; Training</th>
<th>Data Identification, Analysis &amp; Forensics</th>
</tr>
</thead>
<tbody>
<tr>
<td>Policies, Procedures &amp; Guidelines</td>
<td>Vulnerability Assessments</td>
<td>Audit, Compliance &amp; Regulations</td>
<td>Secure Access</td>
</tr>
<tr>
<td>Incident Response</td>
<td>Risk Assessment Program</td>
<td>Security Operations Center</td>
<td>ERP Security Services</td>
</tr>
</tbody>
</table>

Loyola University Chicago Confidential Materials – Do not Distribute
Layered Security – Levels 1-5

Policy & Procedures
• Published, reviewed annually, governed by ISAC, cyber insurance

Awareness & Training
• Online sessions, social media, web site, videos, phish publishing

Firewalls
• Palo Alto Next Generation Firewall

Intrusion Prevention
• Palo Alto Next Generation Firewall, Global Protect

Web Security
• F5 Load Balancer, F5 Web Application Firewall

Layered Security – Levels 6-10

Email Security
• ProofPoint, MS Junk Filtering

End User Security
• MS Defender, Bradford NAC, Global Protect VPN

Data Loss Prevention
• Identify Finder (at rest data)

Integrity Monitoring
• IBM AppScan (web application), Logrhythm (SIEM), CimTrak (PCI file integrity), Trustwave (external scanning)

Data Encryption
• MS Bitlocker, Oracle native encryption
Layered Security – Levels 1-5

Policy & Procedures
- Published, reviewed annually, governed by ISAC, cyber insurance, secure how-to instructions

Awareness & Training
- Online sessions, social media, web site, videos, phish publishing, Phinn, SecurityIQ

Firewalls
- Palo Alto Next Generation Firewall (switch to application based permissions)

Intrusion Prevention
- Palo Alto Next Generation Firewall, Global Protect,

Web Security
- F5 Load Balancer, F5 Web Application Firewall

Layered Security – Levels 6-10

Email Security
- ProofPoint, MS Junk Filtering, Exchange Online Protection and Advanced Threat Protection

End User Security
- MS Defender, Bradford NAC, Global Protect VPN, Multi-Factor Authentication, LastPass Password Vault, Privileged Identity Mgmt, Intune Mobile Device Mgmt

Data Loss Prevention
- Identify Finder (at rest data), MS DLP and Azure Information Protection (data in motion)

Integrity Monitoring
- IBM AppScan (web application), Logrhythm (SIEM), CimTrak (PCI file integrity), Trustwave (external scanning), Nessus (internal scanning)

Data Encryption
- MS Bitlocker, Oracle native encryption
# Cyber Threat Protection – FY20-FY21

## Layered Security – Levels 1-5

### Policy & Procedures
- Published, reviewed annually, governed by ISAC, cyber insurance, secure how-to instructions, 3rd party info. security program assessment

### Awareness & Training
- Online sessions, social media, web site, videos, phish publishing, Phinn, SecurityIQ

### Firewalls
- Palo Alto Next Generation Firewall (switch to application based permissions), data center firewalls

### Intrusion Prevention
- Palo Alto Next Generation Firewall, Global Protect, mobile threat protection

### Web Security
- F5 Load Balancer, F5 Web Application Firewall

## Layered Security – Levels 6-10

### Email Security
- ProofPoint, MS Junk Filtering, Exchange Online Protection and Advanced Threat Protection

### End User Security
- MS Defender, Bradford NAC, Global Protect VPN, Multi-Factor Authentication, LastPass Password Vault, Privileged Identity Mgmt, Intune Mobile Device Mgmt, signatureless anti-malware

### Data Loss Prevention
- Identify Finder (at rest data), MS DLP and Azure Information Protection (data in motion)

### Integrity Monitoring
- IBM AppScan (web application), Logrhythm (SIEM), CimTrak (PCI file integrity), Trustwave (external scanning), Nessus (internal scanning), full penetration test

### Data Encryption
- MS Bitlocker, Oracle native encryption, Oracle data masking, point to point encryption
Data Backups (Storage): Current State

Hardware
- Focused on applications and data (450 physical servers)
- 565 TB Capacity at both LSC and WTC
- Original purchase in 2004 (IBM)

Software
- Proprietary (IBM Spectrum Protect)

Data
- Hardware running at capacity
  - 565 TB per Campus (replicated)*
  - Replicated Nightly
- Backup Retention
  - Production – 400 Days
  - Test/Dev – 90 Days

* This does not include data backup for virtual servers. All inclusive is ~1.25 PB (petabytes)
Data Backups (Storage): Limitations

Backup Performance
  • 45 minutes to 4 hours per server
  • Approximately 15 hours/day

Disaster Recovery Replication (to opposite campus)
  • 20+ hours/day

Tape Limitations
  • De-Duplication and Compression Limitations

Additional Concerns
  • Replace Legacy Hardware
  • Maintenance (Replacement parts availability)
  • Cannot Accommodate High Capacity Drives/Tapes
Data Backups (Storage): Recommendation

Technology Advisory Committee Activities
- Vendor analysis
- Gartner review
- Revise retention policies
  - Production – 100 Days
  - Test/Dev – 40 Days
- Talk with peer institutions

Recommendation
- Dell / EMC
  - Market leader
  - Integrates with cloud storage
  - Vendor agnostic (non-proprietary)

Capital / Operating (Maintenance)
- $514,408 (includes 3 years maintenance; funded by $520K placeholder in FY19)
- $48,312 (current maintenance on legacy hardware, temporarily reallocated to offset forecasted increases)
- $52,665 (commences in FY23)
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HSC Application Mapping
## 2019 ITESC Schedule

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<thead>
<tr>
<th>Date</th>
<th>Time</th>
<th>Topics</th>
</tr>
</thead>
<tbody>
<tr>
<td>February 27, 2019</td>
<td>1:00-3:00 PM</td>
<td>- Integrated Workplace Management System</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Loyola Digital Experience/Email in the Cloud Pilot Results</td>
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<tr>
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<td>- Key Upcoming Technology Changes</td>
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<tr>
<td>April 30, 2019</td>
<td>1:00-3:00 PM</td>
<td>- Space &amp; Asset Management System - Archibus</td>
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<td>- Academic Technology Committee</td>
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<tr>
<td></td>
<td></td>
<td>- Information Security Advisory Council</td>
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<td></td>
<td>- Architecture Review Board/Loyola Digital Experience</td>
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<tr>
<td></td>
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<td>- ITS Project Portfolio Preparation</td>
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<tr>
<td>June 20, 2019</td>
<td>1:00-3:00 PM</td>
<td>- Project Portfolio Prioritization</td>
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<td>August 21, 2019</td>
<td>Wednesday, 1:00-3:00 PM</td>
<td>- FY20 Q1-Q2 Portfolio Prioritization Results</td>
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<td></td>
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<td>- Technology Support for Faculty Teaching This Fall</td>
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<td></td>
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<td>- Major Initiatives Contract Summary Status</td>
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<td>- Additional Highlights</td>
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<td>October 1, 2019</td>
<td>Tuesday, 1:00-3:00 PM</td>
<td>- ITS Prioritized Projects Review</td>
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<td>- Loyola Digital Experience Foundation: Collaboration &amp; Security</td>
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<tr>
<td></td>
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<td>- Information Security Improvements</td>
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<td></td>
<td></td>
<td>- HSC Applications</td>
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<tr>
<td>December 12, 2019</td>
<td>Thursday, 1:00-3:00 PM</td>
<td>- PeopleSoft Fluid Demo</td>
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<td>- Project Portfolio Prioritization</td>
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