School of Athens represents natural Truth, acquired through reason. Under the arched vault of an immense Basilica with lacunar ceiling and pilasters, a crowd of philosophers and wise men of the past, along with High Renaissance artists and patrons, argue heatedly among themselves or meditate in silence.

- Raffaello Sanzio da Urbino

Technology in higher education is in a constant state of change. As we in the Technology Services department reflect upon the challenges and accomplishments of 2015 outlined here, we find that our mission and Loyola University’s remains the same – to support Jesuit education and change the world one student at a time. While the tools and systems we utilize continue to transform the ways in which we work, they will never change the why – our unwavering commitment to the education of the whole person.

-Louise Finn, CIO and AVP of Technology Services
ABOUT US

TECHNOLOGY in higher education is undergoing remarkable change. Because of the disruptive nature of technology change, we have been more focused on improving the end-user experience, providing transparency into our projects and operations, and through our governance bodies, providing more opportunities for input into our decision making processes.

We not only continue to develop and maintain a secure and robust technology environment at Loyola, but also work to reflect and reinforce our dedication to the mission of the university.

All of this enables us to build a solid partnership with our customers and by working together, further the mission of the university.

OUR MISSION

Our mission is to support, enrich and inspire the academic, social, and administrative experience of the Loyola community through dynamic partnerships and a focus on effective technologies in alignment with the university’s mission and dedication to lifelong learning and caring for the whole person.

TECHNOLOGY GOVERNANCE

Technology governance at Loyola consists of multiple committees—each focused on the successful use of technologies that enable student success, sound business operations, and the meeting of compliance requirements, while keeping a watchful eye on emerging technology trends. Each committee meets monthly throughout the academic year.

2015 DATA+EDITORS’ CHOICE AWARD FROM COMPUTERWORLD

Loyola’s Technology Services team was recognized for its use of a big data tool, Varonis, DatAdvantage in locating Personally Identifiable Information (PII) in its file stores and removing it.
THE ORGANIZATION

Technology is always changing; getting smaller, faster, cheaper. We work with our Loyola colleagues on campus to understand, adopt and utilize its power in order to meet the goals and objectives of the institution. We are organized into the following working groups:

OFFICE OF CIO
Budget, Scheduling, Strategic Planning, Contract & Vendor Management

BUSINESS SERVICES
PMO, BPO, Procurement & Asset Management, Training

CLIENT SERVICES
Help Center, Desktop & Lab/Class Support

ENTERPRISE APPLICATIONS
ERP Dev/Ops, Web, Reporting

INFRASTRUCTURE SERVICES
Servers & Storage, Networking (data/voice), IDM, DR/BCP

SECURITY OPERATIONS CENTER
Risk Mgt., Incident Mgt., Vulnerability Mgt., Cyber Awareness, Compliance, Data Security

OFFICE OF EDUCATIONAL TECHNOLOGY
LMS, Instructional Design, Media Development

The Services we Provide

The service catalog was developed to inform our end-users of the various services our department provides and to enable us to annually examine the total cost of delivery for each service. Because many services may be obtained from outside the university, we want to be sure we are keeping costs down while adding value for our customers. The catalog is categorized into two main areas: Campus Computing (services all customers use) and University Functions (services provided to major operational areas). Examples of Campus Computing services would be E-mail, Internet access and printing. Examples of University Function services would be the phone-a-thon system for fundraising or the learning management system for teaching and learning. The technology services catalog can be found at: www.loyola.edu/department/technologyservices/services
The value that technology brings to the university is multi-faceted. While technology can provide quick access to data, enhance communication and collaboration between students, faculty and staff, it also enables the business side of the institution to fulfill its requirements in meeting the demands and expectations of its stakeholders.

**University Functions**

Represents the various areas within Loyola that support the mission of the university and rely heavily on the use of information technologies:

- Academic Administration
- Advancement
- Campus Management
- Enrollment
- Finance
- Human Resources
- Student Services
- Teaching & Learning

**Campus Computing**

Represents services offered to all constituents in the Loyola community:

- Business Intelligence
- Server Management
- Professional Services
- Network Services
- Point of Sales
- Voice Communication
- Security
- Communication & Collaboration
- Data Management
- Web Services
- Client Services
- Disaster Recovery & Business Continuation
- Labs (departmental) and Conference Rooms
- Service Center

**Projects**

Funded through the university capital budget, that are in the implementation process:

- HRIS Re-Implementation and Position Control
- eProcurement
- SQL Colleague Migration
- LiveText Integration with Colleague and Moodle

**For each of the three cost categories, there are two components:**

- Personnel - which include salaries as well as professional development, conferences, membership fees and office supplies
- Expenses such as hardware, software, online services
FOUR-YEAR LONGITUDINAL TECHNOLOGY COSTS TO SUPPORT THE UNIVERSITY

University Function & Campus Computing Cost

<table>
<thead>
<tr>
<th>Academic Management</th>
<th>Advancement</th>
<th>Campus Management</th>
<th>Enrollment Management</th>
<th>Finance</th>
<th>Human Resources</th>
<th>Student Services</th>
<th>Teaching &amp; Learning</th>
</tr>
</thead>
<tbody>
<tr>
<td>FY12</td>
<td>$1,101</td>
<td>$406</td>
<td>$1,382</td>
<td>$1,940</td>
<td>$617</td>
<td>$253</td>
<td>$2,981</td>
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<tr>
<td>FY13</td>
<td>$1,107</td>
<td>$364</td>
<td>$1,388</td>
<td>$1,693</td>
<td>$444</td>
<td>$248</td>
<td>$2,879</td>
</tr>
<tr>
<td>FY14</td>
<td>$1,193</td>
<td>$391</td>
<td>$1,665</td>
<td>$964</td>
<td>$644</td>
<td>$249</td>
<td>$3,315</td>
</tr>
<tr>
<td>FY15</td>
<td>$987</td>
<td>$369</td>
<td>$1,291</td>
<td>$601</td>
<td>$371</td>
<td>$194</td>
<td>$2,841</td>
</tr>
</tbody>
</table>

Note:
1) All numeric values in thousands of dollars
2) This chart does not include project costs for the year

CAPITAL PROJECTS COMPLETED FOR FY15

ARMS
Athletic Recruitment, team mgmt., NCAA compliance, operations, reporting
Department(s): Student Development, Athletics
$22,500

SCOREBOARD CLOSED CAPTIONING
Department(s): Student Development, Disability Support Services, Business & Finance, Events
$12,500

MAXIENT DATA MANAGEMENT
Department(s): Student Development
$12,500

ACADEMIC WORKS: SCHOLARSHIP MANAGEMENT
Department(s): Advancement, Enrollment Management
$18,500

RECRUITER CUSTOMER RELATIONSHIP MANAGEMENT
Department(s): Academic Affairs, Sellinger School of Business and Management
$12,500

PHONATHON SYSTEM UPGRADE
Department(s): Advancement
$50,000

Note:
1) All numeric values in thousands of dollars
2) This chart does not include project costs for the year
In keeping with Jesuit values we aspire to embody, we focused on improving the customer experience. In coordinated efforts, we worked on the following areas:

**To Connect and Communicate**
Working with Human Resources, we reorganized our department to better meet the needs of the Loyola community. We established relationship manager roles for faculty, students and staff/administration. These three relationship managers serve as a central point of contact with each group to advocate on their behalf within our department and understand how technology can best support their role.

**To Innovate**
We continue to work to demonstrate the business value of IT and serve the role of service brokering and consulting. Using timely, respectful communication, we worked to educate our community about technology trends and how they can be leveraged in meeting the University’s mission. An example this year was our migration to a new telephone system, Voice Over IP (VOIP) which allows for web conferencing, voicemail to email and more features in the coming year.

**Student Retention**
We worked with Records to create smart online forms for faculty that enabled their students to be quickly warned within hours (instead of days or weeks) of their academic performance, enabling them to make adjustments mid-semester.

**Cost Avoidance**
We digitized the Common App intake process to create prospect records in the Constituent Relationship Management (CRM) system without human intervention which sped up the process, and enabled a record year for undergraduate applications processed.

**Operating Efficiencies**
Our Business Process Office (BPO) continues to work with departments across the university to improve workflow efficiencies. In Human Resources, for instance, all active employee and student employee paper files prior to 2014 were back scanned. This eliminated 2 large file cabinets and now provides quicker access to documents which are maintained in secure environments. All student academic files are now available in an electronic format, providing improved visibility into record processing for Records, Academic Advising, and graduate academic department staffs. The BPO also established workflow between International Student Services and the admission offices. This creates efficiencies in time processing visas for incoming international students.

**Risk Mitigation**
We migrated the current Phon-a-thon system used for fund raising into the cloud, enabling us to reestablish our compliance posture with the new Payment Card Industry (PCI) requirements.
**Move to York Road**

To accommodate a need to free up space on main campus, back office staff from Technology Services moved to 4806 York Road. In addition to consolidating staff, this move allowed the Technology Training Center to relocate to a space on the campus quad, which made it much more convenient for people to attend training.

**Departmental Re-org**

We re-organized technology services in order to better meet the evolving needs of our constituencies. Major changes were made in the areas of:

- Client Services (formerly OTS) was slimmed down to only customer support activities, with Patrick Donohue being promoted to director.
- Renamed the Faculty Technology Center to Office of Educational Technologies.
- Created a new Business Services unit, comprised of the business process office, tech training center, procurement & asset management in addition to the PMO, all under the leadership of Richard Sigler.
- Created the Security Operations Center (SOC) with a new director, Patricia Malek. The SOC director is responsible for risk management, compliance, incident management, data security, cyber awareness and vulnerability assessments.

Technology Services was re-organized to better serve the needs of the university.
QUANTITATIVE VIEW OF TECHNOLOGY SERVICES

Help Center Ticket Volume
• Answered 22,854 calls and received 11,914 emails
• 10,000 Tickets closed by the Technology Services Department

Email Metrics
In the past year, Loyola received 516 million emails. Over 90% of those emails were filtered out by our anti-spam system, with approximately 54 million emails delivered to Loyola users.

Asset Inventory
Technology Services manages an overall asset inventory valued at $5,750,000
This includes:
• 1363 desktops with a value of $800,000
• 932 laptops with a value of $830,000
• Lab and classroom workstations valued at $850,000
• LCD signage with a value of $50,000
• Network switches and routers valued at $650,000
• Firewall equipment valued at $165,000

Bandwidth
We have multiple Internet connections for a total of 1GB. The following chart depicts our average bandwidth usage by website:

Unit Cost per Constituent

<table>
<thead>
<tr>
<th></th>
<th>FY12</th>
<th>FY13</th>
<th>FY14</th>
<th>FY15</th>
</tr>
</thead>
<tbody>
<tr>
<td>Faculty</td>
<td>$3,853</td>
<td>$4,116</td>
<td>$3,203</td>
<td>$2,665</td>
</tr>
<tr>
<td>Admin</td>
<td>$5,813</td>
<td>$6,381</td>
<td>$5,968</td>
<td>$5,231</td>
</tr>
<tr>
<td>Student</td>
<td>$1,006</td>
<td>$925</td>
<td>$924</td>
<td>$749</td>
</tr>
</tbody>
</table>
SERVER DEMAND & UTILIZATION

In FY15, Technology Services further increased server efficiency to cope with the growing community demand. Engineers from Infrastructure worked on “thin provisioning” for primary SVC SAN storage, and recovered a large amount of usable storage. This allowed us to more efficiently use what we have already purchased. It was estimated that we realized 30TB savings and $76K in avoided future storage purchases, and recovered 35.3% of existing SVC storage.

30TB SAVINGS  
$76K COST AVOIDED  
RECOVERED 35.3% SVC STORAGE

PMO: CAPITAL PROJECT SELECTION

Technology Services partnered with Facilities to derive the recommended portfolio to submit to Cabinet for funding and approval. The Technology Services scorecard was completely reworked with TSAC to include the priorities of Loyola’s current strategic plan. The new scorecard examines:

• Start-up and ongoing staffing and budget costs
• Cost savings, revenue generation, competitiveness, administrative effectiveness, mission and strategic plan.
• Return on Investment and Total Cost of Ownership over 5 years
• Cost & Benefit analysis
• Risk vs. Reward Analysis
• Risk Exposure

SERVICE IMPORTANCE & SATISFACTION RATING

Technology Services and the Loyola Notre Dame Library partnered to conduct the MISO (Managing Information Service Outcomes) survey in the spring of 2015. This survey measures satisfaction, frequency of use, importance, skill level and more for various services our departments provide. This report focuses on the technology-related needs for Loyola’s faculty, staff, and students.

STAFF SATISFACTION

Most important service indicated: Email Services  
Average rating: 3.64

FACULTY SATISFACTION

Most important service indicated: Email Services  
Average rating: 3.66

STUDENT SATISFACTION

Most important service indicated: 
Performance of Wireless Access on Campus  
Average rating: 3.57
OFFICE OF TECHNOLOGY SERVICES

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