Agenda:

1. I.T. Strategic Planning:
   o Developing and Aligning I.T. Guiding Principles with University Goals
   o Assessing the “State of I.T.”
     • Summary of Leadership Interviews
     • YSU I.T. SWOT Analysis
     • YSU I.T. Benchmarking Analysis
   o Assessing the “State of Higher Education”
     • Higher Education Challenges
     • Higher Education I.T. Challenges
   o Developing & Aligning I.T. Roadmaps
Agenda:

2. I.T. Opportunities:
   - “High Level” Observations
   - Top 10 (plus 2) Opportunities for Improving I.T. Services

Next Steps

Questions?
One day Alice came to a fork in the road and saw a Cheshire cat in a tree.

"Which road do I take?" she asked.

His response was a question:

"Where do you want to go?"

"I don't know," Alice answered.

"Then," said the cat,

"it doesn't matter."

- Lewis Carroll, Alice in Wonderland
Developing & Aligning I.T. Guiding Principles with Strategic University Goals
IT Guiding Principles:

FY17-FY20

Sustainability

Student Success

Innovation

Engagement

YSU

IT.
IT Guiding Principles:

**FY17-FY20**

**Sustainability**
- Implementing new, or migrating existing, technologies to technologies that have a positive Return on Investment (ROI).

**Student Success**
- Improving student access by implementing and optimizing enabling technologies for academic achievement.

**Engagement**
- Engaging Regional peer organizations to promote standardization and consolidation of IT services.

**Innovation**
- Implement enabling technologies that address the research needs of faculty, graduate students, undergraduates and research partners.
Leadership Interview Summary
30+ Interviews Conducted

- IT Leaders (CTO, Directors/ADs)
- Business Leaders (President, AVP’s)
- Academic Leaders (Provost, Deans)
- Professors
- Student Government and another group of students
Student Success and Retaining Students
discussion with President Tressel:
- When Rudy Giuliani, took over as Mayor of NYC in 1994, subway usage was down 50% due to crimes committed by gangs, drug addicts and vagrants.
- Instead of trying to resolve all of these major issues, he focused on eliminating graffiti and “fare beaters”.
- Why? Because by eliminating those two things, he could significantly reduce crime in the subways as those creating graffiti and the “fare beaters” were the same individuals that were responsible for the majority of the muggings, rapes, etc.
Translating this to YSU.

Upon discussing this analogy, President Tressel immediately said – “class attendance”! If we focus on class attendance, we’ll retain more students and positively impact Student Success and Retention since studies show that a 1% increase in “students retained” equates to an additional $1M in revenues.

It’s this type of thinking that is imperative to Strategic Planning. For IT, YSU needs to focus on “business and academic challenges” and collaborating to develop creative, cost-effective IT enabled solutions.
Leader Quotes regarding Guiding Principles
“Regional Engagement is imperative for cross-institutional research.”

“Innovation: YSU is geographically positioned to spearhead innovation from Cleveland to Pittsburgh.”

“The Guiding Principles are aligned with the core academic and business needs.”

“Student Success is the key to organizational success.”

“Great at a macro level – the challenge will be operationalizing them!”
Leader Interview Summary
Common Themes
Common Interview Themes

I.T. Strengths:

✓ Tech Desk:
  • One-third of those interviewed specifically commented that the Tech Desk is doing a great job.
  • Metrics indicate that the Tech Desk is also a “low cost” service provider compared to peer organizations.
  • The only critical comments related to service consistency and the need for extended hours.
Common Interview Themes..

I.T. Strengths:

✓ I.T. Staff (in general):

- Over half of those interviewed expressed that the I.T. Staff effectively responds to the customer’s needs and tends to be dedicated and talented.
- Many indicated staff reductions and funding reductions as reasons for not rating more positively – not lack of staff effort.
- Over one-third commented that services are very good once your project is the priority, but the wait can be extensive.
Common Interview Themes.

I.T. Challenges:

- **Technologies are outdated compared to peer universities**
  - Lack of I.T. investment has resulted in outdated infrastructure (network, laptop/desktop, etc.)

- **Lack of Communication and Collaboration**
  - Two-thirds of interviewees commented that there is a significant communication gap between business/academic areas and I.T.

- **Lack of understanding of business functions**
  - I.T. relies too heavily on business users
  - Departments are “filling gaps” with Shadow I.T.
I.T. Challenges:

✓ I.T. is Reactive versus Proactive
  • Business leaders expect I.T. to be engaged in managing the technical direction of their business systems.

✓ An abundance of tools but not knowledge on “how to use” or optimize them
  • Users require retraining.
  • Application Portfolio is not leveraged or optimized
Common Interview Themes....

I.T. Challenges:

✓ Students: I.T. not focused on mobile technologies
  • Computer Labs offer traditional computing services – workstations with network printers.

✓ Students: Professors aren’t consistently using the ILM system (Blackboard)
  • As a result, students are using third party “freeware” (i.e. GoogleDocs, DropBox, etc.) for collaboration.
YSU Information Technologies SWOT Analysis
# YSU I.T. SWOT ANALYSIS

<table>
<thead>
<tr>
<th>Strengths</th>
<th>Weaknesses</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Customer-facing services are perceived favorably</td>
<td>• Lack of Governance</td>
</tr>
<tr>
<td>• Reliable and secure wired network</td>
<td>• Communication gaps</td>
</tr>
<tr>
<td>• Talented and dedicated I.T. staff</td>
<td>• Wireless coverage gaps</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Opportunities</th>
<th>Threats</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Collaboration with other universities</td>
<td>• Financial constraints</td>
</tr>
<tr>
<td>• I.T. Philosophy change</td>
<td>• Faculty willingness to change or standardize</td>
</tr>
<tr>
<td>• Improve Relationships</td>
<td>• I.T. Union constraints</td>
</tr>
<tr>
<td>• Communicate more within and outside of I.T.</td>
<td>• I.T. viewed as Operational and not Strategic</td>
</tr>
<tr>
<td>• Develop a “Yes But” Culture</td>
<td></td>
</tr>
</tbody>
</table>
Benchmarking Analysis
Comparison of IT financial and operational metrics to other “like” institutions

- Cleveland State University
- Wright State University
- EDUCAUSE Benchmark
YSU IT FTE’s

Total FTE’s = 50 (does not include overtime and student workers)
YSU IT FY17 BUDGET SUMMARY

- Wages/Salaries: $4,161,412 (58%)
- Exp Chargeback: $273,467 (4%)
- Supplies: $317,733 (4%)
- Rentals: $254,481 (4%)
- S/W Maintenance: $229,022 (3%)
- Contractuals: $200,000 (3%)
- Telephone Charges: $192,666 (3%)
- Miscellaneous: $1,539,415 (21%)

Total: $4,161,412
IT OPEX per University FTE

- YSU: $627.00
- WSU: $897.00
- CSU: $823.00
- Educause: $684.00
IT OPEX as a % of Univ. OPEX

YSU: 4.80%
WSU: 4.82%
CSU: 5.12%
ITS Staffing Metrics - YSU IT FTES/1,000 Univ. FTES

Shadow IT = 13 FTE’s
Reorganization = +2 FTE’s

Variance = 24 FTE’s

Realistic Variance = 9 FTE’s

Graph showing the staffing metrics from 2007 to 2017.
YSU I.T. is understaffed compared to peers and industry benchmark

<table>
<thead>
<tr>
<th>Base Metric</th>
<th>YSU IT FTE’s</th>
<th>Variance from Current</th>
</tr>
</thead>
<tbody>
<tr>
<td>CSU</td>
<td>58.0</td>
<td>+1.0</td>
</tr>
<tr>
<td>WSU</td>
<td>70.0</td>
<td>+13.0</td>
</tr>
<tr>
<td>EDUCAUSE</td>
<td>97.0</td>
<td>+40.0</td>
</tr>
</tbody>
</table>
## Benchmark Metrics Comparison

### Financial Metrics

<table>
<thead>
<tr>
<th>Metric</th>
<th>YSU</th>
<th>EDUCOURSE</th>
<th>Favorable/Unfavorable</th>
</tr>
</thead>
<tbody>
<tr>
<td>IT Salaries as a % of IT OPEX</td>
<td>47%</td>
<td>56%</td>
<td>Favorable</td>
</tr>
<tr>
<td>IT non-Salary as a % of IT OPEX</td>
<td>34%</td>
<td>34%</td>
<td>Favorable</td>
</tr>
<tr>
<td>IT CAPEX as a % of IT OPEX</td>
<td>19%</td>
<td>4%</td>
<td>Favorable</td>
</tr>
</tbody>
</table>
## Benchmark Metrics Comparison

**IT Staffing**

<table>
<thead>
<tr>
<th>Metric</th>
<th>YSU</th>
<th>EDUCAUSE</th>
<th>Favorable/Unfavorable</th>
</tr>
</thead>
<tbody>
<tr>
<td>Student workers as a % of Total IT FTE’s</td>
<td>25%</td>
<td>23%</td>
<td>Favorable</td>
</tr>
<tr>
<td>IT Training spend per IT FTE</td>
<td>$574</td>
<td>$990</td>
<td>Unfavorable</td>
</tr>
</tbody>
</table>
# Benchmark Metrics Comparison

## IT Services

<table>
<thead>
<tr>
<th>Metric</th>
<th>YSU</th>
<th>EDUCAUSE</th>
<th>Favorable/Unfavorable</th>
</tr>
</thead>
<tbody>
<tr>
<td>% Institutions offering Tier 2 Help Desk or higher</td>
<td>Yes</td>
<td>77%</td>
<td>Favorable</td>
</tr>
<tr>
<td>Student FTE’s per Computer Lab workstations</td>
<td>4.4</td>
<td>12</td>
<td>Unfavorable; overserved</td>
</tr>
<tr>
<td>% of Universities participating in Regional data center initiatives</td>
<td>Yes</td>
<td>52%</td>
<td>Assess collocation to SOCC with DR at YSU</td>
</tr>
<tr>
<td>% Wireless Access Points 802.11n compatible</td>
<td>23%</td>
<td>60%</td>
<td>Unfavorable</td>
</tr>
<tr>
<td>% Universities with mandatory IT Security training for faculty</td>
<td>Yes</td>
<td>79%</td>
<td>Policy not enforced</td>
</tr>
</tbody>
</table>
Benchmarking Conclusions:

- YSU IT compares “favorably” in all three of the key metrics in relationship to their peer group.
  - IT OPEX per University FTE
  - IT OPEX as a % of University OPEX
  - IT FTE’s per 1,000 University FTE’s

- Concerns:
  - Metrics confirm “underspending” on I.T. and indicate insufficient I.T. staffing in targeted areas
  - Network infrastructure refresh needs to be a top priority
  - Staffing priorities: Network and Security engineers/technicians
  - Shadow I.T. has augmented staff reductions, not captured in the metrics
Higher Education
“Today and Tomorrow”
Market Analysis
Higher Education

Main Challenges:

- Reduction is State Funding
- Changing Academic Curricula from Departmental to Entrepreneurial Hubs
- Increase in MOOCS/Distance Learning
- Increased Emphasis on Student Recruitment & Retention
- Significant need for Technology Investment
Higher Education
Emerging Technologies
Ten Emerging Technologies for Higher Education – YSU’s adoption

- Computerized Grading
- Electronic Textbooks (E-textbooks)
- Simulation Technology
- Gamification
- Flipped Classrooms
- Active Learning Classrooms

- Massive Open Online Courses (MOOC)
- Collaborative Distance Learning Environments
- Active Learning Platform
- Learning Management Systems
Higher Education IT
Top Ten Challenges
How does YSU I.T. address theses challenges?

- **INNOVATION** – Keeping pace with I.T. professional’s skills by investing in training and education of IT professionals in emerging technologies
- **SUSTAINABILITY & STUDENT SUCCESS** – Supporting emerging trends by upgrading the wireless infrastructure and BYOD offerings/policies/procedures
- **SUSTAINABILITY** – Develop an institution-wide cloud strategy and kick-off an Application Rationalization project to assess portfolio gaps
- **SUSTAINABILITY & GOVERNANCE** - Improving the institution’s operational efficiency through information technology
- **GOVERNANCE** - Integrating information technology into institutional decision-making through TCO and ROI analysis
- **SUSTAINABILITY & INNOVATION** - Using analytics to support critical institutional outcomes
How does YSU I.T. address these challenges?

- **GOVERNANCE** – Fund information technology strategically by understanding how technology enables the university to accomplish business goals
- **GOVERNANCE** - Transforming the institution’s business with information technology
- **ENGAGEMENT** - Supporting the research mission through high-performance computing, large data, and analytics
- **GOVERNANCE** - Establishing and implementing IT governance throughout the institution
Executive Summary
High Level Mapping
Roadmaps integrated with Guiding Principles

- Sustainability: 51%
- Student Success: 32%
- Engagement: 6%
- Innovation: 11%
<table>
<thead>
<tr>
<th>IT Strategic Plan Guiding Principle</th>
<th>Information Services Strategic Plan Projects</th>
</tr>
</thead>
<tbody>
<tr>
<td>Governance</td>
<td>• Implement an effective IT Governance structure with Executive IT Steering and Functional Advisory Groups</td>
</tr>
</tbody>
</table>
| Sustainability                    | • Initiate Application Rationalization project  
|                                   | • Secure Funding for IT Infrastructure Refresh |
| Student Success                   | • Create Student Image for student devices. Assess offering PC purchases for incoming Freshman that includes Student Image and virus protection  
|                                   | • Pilot “Genius Bar” concept to support mobile computing  
<p>|                                   | • Assess “charging stations” campus-wide |</p>
<table>
<thead>
<tr>
<th>IT Strategic Plan Guiding Principle</th>
<th>Information Services Strategic Plan Projects</th>
</tr>
</thead>
</table>
| Engagement                         | • Assess Data Center migration to State of Ohio Computer Center (SOCC)  
• Assess ERP migration to State Standard (WorkDay)  
• Assess Regional Tech Desk transition to Regional Service  
• Assess YBI Building 5 as an Entrepreneurial space for YSU Undergraduates |
| Innovation                         | • Engage in discussions with the STEM College to support Additive Manufacturing IT needs  
• Assess Research I.T. needs with Academic Leaders  
• Research BI needs with Business Leaders |
Sustainability

- Implementing new, or migrating existing, technologies to technologies that have a positive Return on Investment (ROI).
- Maintaining or upgrading current technologies to meet regulatory compliance or avoid technological obsolescence.
# Sustainability Initiatives

<table>
<thead>
<tr>
<th>FY17</th>
<th>FY18</th>
<th>FY19</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Printer/Toner Management</td>
<td>• Windows 10 Migration</td>
<td>• Completion: Security Framework</td>
</tr>
<tr>
<td>• EMS Tech Certifications</td>
<td>• EMS Techs Mac Certified</td>
<td>• Multi-factor authentication on devices/software</td>
</tr>
<tr>
<td>• Network visibility with Nessus</td>
<td>• Implement E-mail Filtering (Adv)</td>
<td>• Server/Network Refresh (60%)</td>
</tr>
<tr>
<td>• Security software/firmware update</td>
<td>• Encryption for portable devices</td>
<td>• Fiber Plant Expansion West Implement</td>
</tr>
<tr>
<td>• Expanded IPS/IDS</td>
<td>• E-mail Archiving Solution</td>
<td>• PBX Replacement/Upgrade</td>
</tr>
<tr>
<td>• Develop Security Maturity Model</td>
<td>• PCI Compliance</td>
<td>• Replace AT&amp;T DS3 and PRI’s with SIP Trunks</td>
</tr>
<tr>
<td>• Perform External Vulnerability Scans</td>
<td>• Security Awareness Program</td>
<td>• Storage Refresh</td>
</tr>
<tr>
<td>• InfoSec Procedure Manual</td>
<td>• Initiate: Security Framework</td>
<td>• Continue enhanced analytics within ITSM</td>
</tr>
<tr>
<td>• Review Admin Accounts</td>
<td>• Identification &amp; Auditing PII</td>
<td>• Assess Transition to Managed Print Services upon end of ComDoc Contract</td>
</tr>
<tr>
<td>• Vulnerability Assessment Program</td>
<td>• PII Completion</td>
<td></td>
</tr>
<tr>
<td>• Security Event Mgmt Expansion</td>
<td>• Faculty Load Compensation</td>
<td></td>
</tr>
<tr>
<td>• Upgrade to Oracle 12c</td>
<td>• XML transcripts</td>
<td></td>
</tr>
<tr>
<td>• PII Initiative</td>
<td>• Server/Network Refresh (40%)</td>
<td></td>
</tr>
<tr>
<td>• Banner – YSU Foundation</td>
<td>• Network Closet Cooling &amp; EP (100%)</td>
<td></td>
</tr>
<tr>
<td>• VMWare Health Check</td>
<td>• Fiber Plant Expansion West Design</td>
<td></td>
</tr>
<tr>
<td>• CCTV Health Check</td>
<td>• Development of enhanced analytics within ITSM</td>
<td></td>
</tr>
<tr>
<td>• Server/Network Refresh (20%)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Network Closet Cooling &amp; EP (50%)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• PCI Segmentation</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Analysis, purchase, configuration and training of new ITSM</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Impact:** Maintaining cost effective technology operations
Improving student access by implementing and optimizing enabling technologies for academic achievement.

Implement mobile technologies that not only enable academic success but enhance a student’s “life experience”.
## Student Success Initiatives

### FY17
- Identify Students Pre-Requisites
- Recruit for Undergrad Admissions
- New SAT/Exam Scores
- ALUM Email Type
- EPAF for Student Employment
- Migrate Starfish to Symplicity
- Initiate Banner XE Server Environment
- Banner XE Assessment
- Recruit CRM 4.2 Migration
- DARS conversion to u.achieve
- Add Student Worker to Security Team
- Multimedia Spaces (upgrades/remote/cam & mic)
- Network Redesign
- Siemens PM Software Assessment

### FY18
- Initiate Banner XE Upgrade
- Banner – NCAA Database
- Implement Yearlong Registration
- Complete Banner XE Server Environment
- Recruit CRM for Undergrad Adm
- U.achieve completion
- Multimedia Spaces (upgrades/remote/cam & mic)
- Rework IDL Spaces (fewer/SOA videoconferencing)
- Siemens PM Software Implementation
- BYOD Print Service
- Rework IDL Spaces (fewer/SOA videoconferencing)

### FY19
- Complete Banner XE
- Multimedia Spaces
- BYOD Service

**Impact:** Enable student success through technology
Engaging Regional peer organizations to promote standardization and consolidation of IT services.

Engaging with community partners (i.e. Youngstown Business Incubator) to develop Intellectual Property or to generate new revenue streams.
Engagement Initiatives

FY17

• Assess Data Center migration to State of Ohio Computer Center (SOCC)
• Assess ERP migration to State Standard (WorkDay)
• Assess Regional Tech Desk transition to Regional Service
• Assess YBI Building 5 as an Entrepreneurial space for YSU Undergraduates

FY18

• Dependent on decisions made regarding FY17 Assessments

Impact: Optimize I.T. cost effectiveness through “leveraged services”
Innovation

- Implement enabling technologies that address the research needs of faculty, graduate students, undergraduates and research partners.
- Introduce new “state of the art” technologies that position YSU to attract new business opportunities.
Innovation Initiatives

**FY17**
- EMS Research Lab Support Training
- Engage in discussions with the STEM College to support Additive Manufacturing IT needs (i.e. 3-D Printer Support)
- Assess transition from Computer Labs to “Genius Bars”
- Assess Mobile Solutions
- Initiate BI discussions

**FY18**
- Secure Funding for Mobile Solutions
- Develop BI Framework and Secure Funding
- Implement “Genius Bars”

**FY19**
- Implement Mobile Solutions
- Implement BI Initiative

*Impact: Enable Academic Research and Business Intelligence*
“High Level” Observations &
“Top 10” I.T. Opportunities
“High Level” Observations:

- I.T. service offerings are *inconsistent* due to lack of enforced formal processes and staff talent level inconsistencies.

- I.T. is viewed as operational and not strategic resulting in a reactive versus proactive I.T. culture where I.T. is engaged at the “glimmer stage”.

- I.T. priorities are established by “squeaky wheels” and “political clout” versus through effective I.T. Governance.

- “Shadow I.T.” is filling the I.T. “thought leadership” gap in many academic and business areas.

- The “union culture” has created a *workload imbalance* and staff morale issues within I.T.
Top 10 (plus 2) I.T. Opportunities

1. Implement an I.T. Governance Structure
2. Network Infrastructure Refresh
3. Campus-wide Managed Print Services
4. Data Center Relocation to State of Ohio Computer Center (SOCC)
5. Application Standardization and Rationalization
6. Standardized Student Device
7. Create “Genius Bars” / Reduce Computer Labs
8. ERP/Banner Optimization
9. Replace I.T. Tech Desk System
10. Migrate Phone Systems to Voice-over IP (VOIP)
11. Collaborative Applications
12. Centralized Scheduling of Computer Labs

13. Replace I.T. Tech Desk System
14. Collaborative Applications
1. I.T. Governance Structure

Effective I.T. Governance is…

• Clearly understanding the business strategy and aligning technology strategy with the business strategy

• Providing clarity between the business strategy and the I.T. initiatives

• Providing clarity through the preparation of a business case (ROI/TCO) for each significant I.T. initiative

• Attaining agreement on I.T. priorities as a leadership group looking at the entire university priorities

• Attaining agreement on which priorities should start/finish first (i.e. highest ROI, greatest business/academic impact)

• Understanding the resources necessary to accomplish the initiatives.
I.T. Governance Structure

November 2016

Tod Hall Leaders

I.T. Executive Steering Council (New Committee)

I.T. Steering Committee (Existing Committee)

Business Operations Advisory Committee (Existing Committee)

Security & Policy Advisory Committee (New Committee)

Technology Advisory Committee (New Committee)

Academic Senate (Existing Committee)

Academic Senate Technologies Committee (Existing Committee)

Examples:

Banner, business software, device standardization for business users, printer consolidation in business areas, etc.

Security software and security appliance selection, security policy review, vetting of new cyber attacks and solutions, etc.

Data Center considerations, infrastructure technology refresh and standardization, wireless communication standards, etc.
Committees

I.T. Executive Steering Council (ITESC):
- Final authority on I.T. priorities and expenditures
- Comprised primarily of Tod Hall Leaders

I.T. Steering Committee (ITSC):
- Existing committee, per the union contract
- Has not been effective due to a lack of a supporting governance structure
- Makes final recommendations to ITESC regarding I.T. priorities and expenditures
- Comprised of business and academic leaders and I.T. champions
Subcommittees

Academic Senate Technology Committee (ASTC):
- New work group focused on optimizing technologies (Blackboard, multi-media devices, etc.) used in the academic setting, recommending technology standards and technology use policies
- Comprised primarily of students, faculty, academic chairs or deans and departmental shadow I.T. staff

Business Operations Advisory Committee (BOAC):
- Existing work group focused on optimizing the ERP application and integrated systems
- Comprised of Data Custodians and shadow I.T. systems administrators

Security & Policy Advisory Committee (S-PAC):
- New work group focused on optimizing I.T. security technologies, policies and education/training
- Lead by ISO and includes HR and Legal members.

Technology Advisory Committee (TAC):
- New work group focused on optimizing enterprise technologies
- Lead by Director of I.T. Infrastructure; includes CSIS chair and student leaders for mobile technologies
Network Infrastructure Refresh

Best Practice

- Infrastructure
- Middleware
- Applications
- Analytics

Investment

- $$
- $

YSU Current State

- Infrastructure
- Middleware
- Applications
- Analytics

Investment

- $$$
- $$
- $
## Network Infrastructure

<table>
<thead>
<tr>
<th>Device</th>
<th>Last Refreshed / Age</th>
<th>Best Practice / Target</th>
<th>Recommendation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Core</td>
<td>2008 / 8</td>
<td>5</td>
<td>Refresh Core Network Electronics ASAP</td>
</tr>
<tr>
<td>Edge</td>
<td>2001 / 15</td>
<td>5 - 7</td>
<td>Edge switches in 6 of 47 buildings (14.3%) have been refreshed since 2001. Recommendation is to refresh all buildings over the next seven years, refreshing the six most current buildings in year 7.</td>
</tr>
<tr>
<td>Wireless</td>
<td>Varies significantly; only 23% of WAP’s are 802.11n compatible</td>
<td>5 / 4 high, 5 medium, 8 low traffic areas</td>
<td>Engage third-party consulting provider to conduct a campus-wide wireless network assessment.</td>
</tr>
</tbody>
</table>
**Investment Summary**

<table>
<thead>
<tr>
<th>Category</th>
<th>Investment (7 years)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Core/Edge/Wireless</td>
<td>$4.0M</td>
</tr>
<tr>
<td>Staff Augmentation</td>
<td>$1.75M ($250k/yr)</td>
</tr>
<tr>
<td>Network Assessments</td>
<td>$250k</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>$6.0M</strong></td>
</tr>
</tbody>
</table>

*Figures do not include costs for closet environmental and power systems*
3. Managed Print Services Campus-wide

- ComDoc contract covers 10% of campus printers.
- Preparing for campus-wide managed print services implementation when contract expires in 2018.
- Assess pilot of a few campus buildings in preparation for contract expiration to forecast associated savings.
4. Data Center Relocation to SOCC

- State of Ohio Computer Center (SOCC)
  - Tier 3 Data Center (on a 1-4 scale)
    - YSU’s is Tier 1
    - Five 9’s reliability (99.999%)
    - YSU has migrated 90% of servers to virtual servers
      - This allows us to validate ROI and fully test connectivity prior to relocating
    - YSU would become DR site, but scaled down significantly.
5. Application Rationalization and Standardization

• Inventory and categorize all applications
• Establish roles and responsibility matrices for all applications
• Goal to standardize or rationalize applications to minimize use of third party applications (ROI analysis)
• Identifies “Shadow IT” support and formally includes them in the support model
6. **Assess Standardizing Student Access**

- Offer standard laptop offerings to students (Apple and/or Windows) with a pre-loaded student image
  - Leverages State contracts for purchasing
- Could offer “student image” to be loaded on existing student laptops (would need to assess labor cost or third party cost)
- Student image would include virus protection and regular updates
7. **Pilot “Genius Bars” and Reduce Computer Labs**

- Per EDUCAUSE, YSU is significantly overserved with Computer Lab workstations
- Plan to assess usage of Computer Labs with usage tracking software
- Will start with one “Genius Lab” and reassess Computer Lab usage in that building
8. **ERP/Banner Optimization**

- Prior to Banner XE upgrade, assess and document current departmental workflows.
- Develop detailed project plan, project costs (hardware, software, implementation and training) for Banner XE before starting project.
- Develop future state departmental workflows based on new functionality provided by Banner XE.
9. Upgrade Incident Management System

- Current Tech Desk software is end of life
- Consolidate Computer Request system
  - Computer incident requests, work requests and project requests will be managed out of “one” application
  - Sets the foundation for I.T. Resource Capacity Management
  - Necessary for creating an I.T. Project Management Office (PMO)
10. Migrate PBX Systems to VOIP

- VOIP is current standard for new builds and for PBX system replacement
- Plan to transition Meshel Hall to VOIP with renovations scheduled in 2017/2018.
  - Assess functionality within I.T.
  - Implement “soft phones” on laptops
  - Eliminate voice mail and analog PBX systems (long term)
  - Create the infrastructure for campus-wide implementation
- Assess cloud-based VOIP options
11. Collaboration Applications

- Assess use of Microsoft SharePoint as a collaboration tool within ITS and across campus.
- Of particular interest is the elimination of paper forms by transitioning to e-forms using SharePoint
12. **Centralized Scheduling for Computer Labs**

- Facilitated by the Provost’s Office, migrate to a centralized scheduling hub for scheduling Computer Labs through O365 calendar
- Assess integrating Banner class data into O365 calendar
- The cultural transition is the migration from viewing computer labs as departmental property to shared resources
Next Steps

- In coordination with Neal McNally and Martin Abraham, develop a Communication Plan for communicating the IT Strategic Plan & Operational Assessment
- Development of IT “Success Metrics” for the IT staff to ensure that the IT Strategic Plan is effectively operationalized
“Our position today is due to our thinking in the past.

Our position in the future is due to our thinking today.”

- John Maxwell,
  Thinking for a Change
Questions