Modernizing Your Technology Experience

University Council

Rob McCurdy, CIO
February 2019
Agenda

- IT Mission/Vision
- IT Transformation
- ITnext – Updates
  - Performance
  - Security
  - Client Services
  - What’s new
- ITnext – Eye on the Future
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MISSION
Implement and maintain practical information technology solutions that provide the platform for Michigan State University to excel in research, education, and outreach.

VISION
Exemplify visionary leadership and deliver effective technology solutions to enable Michigan State University students, faculty, and staff to positively impact vital global issues.
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**MSU IT Prior Landscape (2017/2018)**

Complex Environment, High Variance of IT Management, Increased Risk

<table>
<thead>
<tr>
<th>MULTIPLE APPLICATIONS</th>
<th>DECENTRALIZED IT</th>
<th>UNSCALABLE DEVELOPMENT PROCESS</th>
<th>INADEQUATE INFRA &amp; PROCUREMENT FUNCTIONS</th>
<th>MISALIGNED PEOPLE, SKILLS &amp; ORG STRUCTURE</th>
</tr>
</thead>
<tbody>
<tr>
<td>▶ Over 2,000 applications and platforms in IT landscape that offer duplicative functionality reducing efficiency and effectiveness</td>
<td>▶ Lack of a central, mature, established EA function leads to proliferation of technologies and tools as well as duplicative efforts</td>
<td>▶ Varying adoption and application of agile development, which delays solution delivery</td>
<td>▶ Lack of basic capabilities such as Disaster Recovery, self-service provisioning, etc.</td>
<td>▶ Disparate skills and knowledge to operate systems resulting in silos of information</td>
</tr>
<tr>
<td>▶ Increased effort and costs to support and maintain duplicative/unused systems</td>
<td>▶ Independent and uncoordinated governance functions inhibits efficiency</td>
<td>▶ Currently 3 different development models across IT (waterfall, hybrid, and agile) inhibit effective solution delivery</td>
<td>▶ Diverse toolsets and lack of controls inhibiting standardization</td>
<td>▶ High variation of IT roles and responsibilities leads to inefficient resource management</td>
</tr>
<tr>
<td>▶ Significant effort and investment to support the large technology footprint</td>
<td>▶ Significant investment of time in enforcing basic standards leads to insufficient management of IT</td>
<td>▶ Continued development of new applications on outdated platforms</td>
<td>▶ Inefficient procurement and licensing model that leads to duplicative licensing and wasteful contracts</td>
<td>▶ Historical MSU classification system hinders career development and talent management</td>
</tr>
<tr>
<td>▶ Technical debt must be rationalized for modernization</td>
<td></td>
<td>▶ Lack of standardized list of supported technologies leads to inefficient operations</td>
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<td></td>
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**MULTIPLE APPLICATIONS**
- Over 2,000 applications and platforms in IT landscape that offer duplicative functionality reducing efficiency and effectiveness
- Increased effort and costs to support and maintain duplicative/unused systems
- Significant effort and investment to support the large technology footprint
- Technical debt must be rationalized for modernization

**DECENTRALIZED IT**
- Lack of a central, mature, established EA function leads to proliferation of technologies and tools as well as duplicative efforts
- Independent and uncoordinated governance functions inhibits efficiency
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**UNSCALABLE DEVELOPMENT PROCESS**
- Varying adoption and application of agile development, which delays solution delivery
- Currently 3 different development models across IT (waterfall, hybrid, and agile) inhibit effective solution delivery
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**INADEQUATE INFRA & PROCUREMENT FUNCTIONS**
- Lack of basic capabilities such as Disaster Recovery, self-service provisioning, etc.
- Diverse toolsets and lack of controls inhibiting standardization
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- Significantly outdated systems that must be modernized

**MISALIGNED PEOPLE, SKILLS & ORG STRUCTURE**
- Disparate skills and knowledge to operate systems resulting in silos of information
- High variation of IT roles and responsibilities leads to inefficient resource management
- Historical MSU classification system hinders career development and talent management
**WHERE WE ARE NOW**

**ORGANIZATIONAL SYNERGIES**
- Streamlining organization structure and talent management to deliver IT services effectively
- Defining career path and progression for technology professionals

**FINANCIAL SYNERGIES**
- Performed a comprehensive benchmark assessment and assessed the financial health of MSU IT
- Identified ~$2MM so far in contract, process, and application savings (recurring)

**PROCESS SYNERGIES (IN PROGRESS)**
- Establishing formal operations and processes to deliver consistent IT services across the university
- Implementing financial governance and technologies to manage cost data and drive effective business decisions

**WHERE WE ARE GOING**

**Drive organizational value through technology enablement and knowledge expertise** across the university and for enabling prioritized focus areas like research and innovation.

**Sustain financial synergies through further cost optimization opportunities** across shared platforms and services.

**Provide even higher levels of service quality and process efficiencies** to students, faculty, university staff, and researchers.
Customer Engagement: Our Commitments

• No immediate physical location moves or job duty changes

• No changes now, or in the future, will be made without discussions with the impacted unit to ensure best solutions are identified and implemented
### Near-Term IT Transformation Deliverables

<table>
<thead>
<tr>
<th></th>
<th>COMMON CORE WORKSTATIONS</th>
<th>SINGLE SIGN ON CAPABILITY</th>
<th>OFFICE 365 MIGRATION</th>
<th>TALENT MANAGEMENT</th>
<th>GOVERNANCE</th>
<th>CONTRACTS AND LICENSING</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td><strong>Core range of recommended workstations as critical path to security, efficiency, and potential savings of $1.3MM</strong></td>
<td><strong>Significant improvement in client experience when navigating various MSU systems</strong></td>
<td><strong>Easy to use, contemporary collaboration platform accessible across all devices, increasing productivity and security</strong></td>
<td><strong>Career and performance management, targeted professional and skill development</strong></td>
<td><strong>Key stakeholder involvement in decisions that align IT actions with institution’s objectives</strong></td>
<td><strong>Consolidation of disparate contracts, leverage MSU purchasing power, streamline technology expenditures</strong></td>
</tr>
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### MSU IT Performance Summary and Trends – January 2019

<table>
<thead>
<tr>
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<th></th>
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</tr>
</thead>
<tbody>
<tr>
<td>Security Incidents (&lt;100)</td>
<td>146</td>
<td>113</td>
<td>148</td>
<td>163</td>
<td>56</td>
<td>50</td>
</tr>
<tr>
<td>Vulnerabilities Remediated (&gt;10%)</td>
<td>11,822</td>
<td>6,367</td>
<td>5,981</td>
<td>10,118</td>
<td>5,319</td>
<td>4,030</td>
</tr>
<tr>
<td>IT Projects On-Plan (&gt;80%)</td>
<td>68%</td>
<td>69%</td>
<td>89%</td>
<td>79%</td>
<td>87%</td>
<td>90%</td>
</tr>
<tr>
<td>User Created Reports/Contents (Positive trend)</td>
<td>4,703</td>
<td>4,799</td>
<td>4,949</td>
<td>5,044</td>
<td>5,095</td>
<td>5,207</td>
</tr>
<tr>
<td>D2L Availability (&gt;= 99.9%)</td>
<td>99.9%</td>
<td>99.87%</td>
<td>100%</td>
<td>100%</td>
<td>99.96%</td>
<td>99.9%</td>
</tr>
<tr>
<td>SIS Availability (&gt;= 99%)</td>
<td>99.5%</td>
<td>99.9%</td>
<td>99.3%</td>
<td>99.0%</td>
<td>99.2%</td>
<td>100%</td>
</tr>
<tr>
<td>EBS Availability (&gt;= 99.9%)</td>
<td>99.3%</td>
<td>99.7%</td>
<td>99.7%</td>
<td>100%</td>
<td>100%</td>
<td>100%</td>
</tr>
<tr>
<td>Customer Satisfaction (&gt;= 85%) Per Service Desk Survey</td>
<td>88.9%</td>
<td>94.8%</td>
<td>96.0%</td>
<td>91.1%</td>
<td>100%</td>
<td>86.2%</td>
</tr>
</tbody>
</table>

**ACCOMPLISHMENTS AND PARTNERSHIPS**

- **RHS Spartan Mail Migration:** 3200 mailboxes were migrated to Office 365. RHS and MSUIT partnered in supporting the migration, including an RHS focused Tech Bar and the RHS Help Desk. The Tech Bar assisted over 200 in-person customers and the RHS Help Desk provided first level resolution rate of 93% with a 46% increase in volume.

- **IT Customer Service Centers** maintained consistent service levels exceeding 80% during Modified Operations.

- **All students now have full access to Microsoft Teams, including classroom site type to enable shared note taking and assignment management.**
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Upcoming Security Changes

- Better overlap with existing tools
- Simplified secure access
- Enhanced mail protection
- Data protection guidance
- Strengthen web protections
- Legacy debt decommissioning
- Remote access upgrades
- Improved border protections
MSU Virtual Private Network (VPN)

- Faster throughput
- More users supported
- Full-tunnel options for researchers overseas
- Can be installed quickly using MSU patch management

Target Delivery: Summer 2019

INTERNET

Remote Spartan

MSU VPN

MSU Resources
Access Enhancements

- Two-Factor Simplification
- Self-Service Password Reset
- Simplified Access
- Reduced Repetitive Logins
Access Request and Approval Process

- Quick display of requestable applications
- Immediate feedback on approvals process
• Recurring attestation that access is still needed
• Simple interface (approve/revoke buttons)
• Automated repetition and notification
Deprovisioning

- Individual access summary can be displayed for review
- Can revoke old/unneeded access in a couple clicks
- Automatic removal/change of access for given role (based on HR data)
Single Sign-On

- Sign in once and get access to the systems you need, quickly
- Seamless integration with MSU Two-Factor authentication
- Able to adapt to conditions for a simplified experience
- Reliable and redundant infrastructure
Mail Security Enhancements

- Reduced Phishing/Spam
- Simple Junk Interface
- Internal Defenses
Delivery Timeline

- **Spring 2019**: Mail Security Enhancements
- **Summer 2019**: Single Sign-On
- **Fall 2019**: MSU VPN
- **Spring 2020**: Access Requests
- **Summer 2020**: Access Recertification
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Client Support at Every Level

**RELATIONSHIP MANAGEMENT**
Serves to identify, optimize, and coordinate client demand spanning multiple university stakeholders

**SERVICE DELIVERY**
Liaise with unit and IT, understand unit needs and IT services, maintains service level

**FIELD SERVICES**
Client location based IT support for troubleshooting, hardware and software coordination, and support

**SERVICE DESK**
24/7 chat, email, and telephone support for day to day technology issues and questions (ithelp@msu.edu)

https://tech.msu.edu/
https://bolderit.msu.edu/
@TechAtMSU
The URM is a strategic partner between campus and IT

### Strategy and investment planning
- Help MSU units develop and integrate their investment projects and multiyear plans with IT
- Bring forth capabilities and technology innovations and support cross-unit synergies

### Demand management
- Identify demand, provide the resources and skills to qualify demand, and enable the optimization of cross-unit demand
- Organize the prioritization of demand in accordance with unit needs and IT delivery and sourcing capacities

### Delivery enablement
- Provide unit-intimate analysis resources that are familiar with the demand to the delivery process, participate in scrums and organize the participation of users

### Reporting and cost-of-service insights
- Help MSU understand its bill and manage its infrastructure costs. Bring forth cost avoidance and efficiency opportunities
- Articulate what the data/reports mean to Campus

### Relationship management
- Understand the goals and drivers of Campus units
- Serve as the voice of the units

### What defines an effective URM function?
- The URM should be a trusted advisor and strategic partner to the MSU units
- URMIs are highly flexible to adapt to the changes at MSU
- URM understands how to navigate IT process and function to deliver value and services to Campus Units
- The URM needs to be closely aligned to the units to drive deep understanding of student, faculty, staff and researcher needs
- The URM is empowered by IT to help MSU navigate IT decision gates to “get things done”
- URMIs have distinct skill sets which set them apart from other IT professionals; they are technically savvy with deep knowledge of the relationship areas they support
MSUIT Service Desk: Resolved Incidents

- *Jan-19*: 77% (2 Days or Less), 3% (2 - 14 Days), 14% (14 - 30 Days), 2% (More than 30 Days)
- *Dec-18*: 77% (2 Days or Less), 4% (2 - 14 Days), 15% (14 - 30 Days), 2% (More than 30 Days)
- *Nov-18*: 73% (2 Days or Less), 3% (2 - 14 Days), 20% (14 - 30 Days), 3% (More than 30 Days)
- *Oct-18*: 75% (2 Days or Less), 3% (2 - 14 Days), 19% (14 - 30 Days), 4% (More than 30 Days)
- *Sep-18*: 80% (2 Days or Less), 2% (2 - 14 Days), 15% (14 - 30 Days), 4% (More than 30 Days)
- *Aug-18*: 77% (2 Days or Less), 2% (2 - 14 Days), 16% (14 - 30 Days), 4% (More than 30 Days)
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MSU App

- Recently shipped
  - November: University Resource contact
  - December: NetID Login
  - January: View course schedule

- Shipping soon
  - February: Sparty’s and Starbucks locations
  - March: Real-time bus locations (~30 sec)
Common Core Workstation Program
Streamlining MSU Staff And Faculty Computer Options

- Eight models of workstations serve up to 90% of MSU employees
- Standard menu could save the University up to $800K annually
- Established menu could reduce support time and cost by ~$500K
- Workstations available in under 5 days
Spartan Mail Migrations – Targeted Completion May 2019

• MSU IT is leveraging most effective technology in three areas: email, workstations, and servers

• Mail Migration is a partnership with academic and service units to combine a multitude of different email servers on campus into Spartan Mail.

• Spartan Mail allows users to easily find, communicate, and schedule meetings with contacts outside of their department, including faculty, staff, and students. Additionally, users will receive a larger (25 GB) mailbox.

Current Migration Schedule

<table>
<thead>
<tr>
<th>College of Music</th>
<th>University Advancement</th>
<th>MSU Libraries</th>
<th>Health Colleges</th>
<th>Dept of Chemistry</th>
<th>Dept of Epi &amp; Bio</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mar-15</td>
<td>Apr-7</td>
<td>Apr-8</td>
<td>Apr-15</td>
<td>May-15</td>
<td>May-16</td>
</tr>
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</table>
Teams is now fully available for student use

MSU IT is partnering with student governing bodies to increase adoption

Almost 450,000 chat messages in the past month

Wondering how Teams can enhance collaboration with students?
Upgraded Networks For Improved Performance and Connectivity

• Wired and Wi-Fi Capabilities
  • Veterinary Diagnostic Labs
  • Biochemistry
  • Biophysical Sciences Building (BPS)
  • Eagle Run Osteopathic Medicine Clinic (Grand Rapids)

• We can assess your buildings/classrooms and provide recommendations based on how you use the space
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Teaching and Learning Environment (TLE)  
February 18 - March 15

- Focus on innovation that enhances student learning

- Priority given to requests impacting student classroom, labs, and high impact learning experiences

- OPB, HUB, and MSUIT are available to assist in your TLE planning and proposals
### Strategic Technology Trends Impacting Higher Education

<table>
<thead>
<tr>
<th>TECHNOLOGY TRENDS</th>
<th>DRIVERS</th>
<th>APPLICATION</th>
</tr>
</thead>
</table>
| **1** Predictive Analytics | Higher education regulators and parents increasingly demand for improvement in performance, outcomes, and efficiency in the competitive and cost-constrained higher education environment | - Predict course demand based on historical course-taking patterns  
- Identify courses in a major that are predictive of future success in that major |
| **2** Augmented Reality | Students expect deep learning opportunities, mobility, and flexibility in their learning environment where hands-on experience enhance significantly their learning cycle | - Simulate hands-on experiences such as practicing surgery in a controlled environment or judging a courtroom with jury  
- Make virtual field trips to historical, unsafe, or out of reach places |
| **3** Digital Credentials | Education consumers are looking for more marketable, granular, and exchangeable credentials. There is a noticeable demand for new approaches that empower learners to plan, track, and share their accomplishments in a secure and verifiable way | - Streamline recruitment process by moving towards "interviewless hiring" and expedite searching for candidates whose digital credential is reflective of required competencies  
- Use chatbots as course teaching assistants  
- Use chatbots to support University application, administration, registration, onboarding, and financial aid processes on 24/7 basis |
| **4** Conversational AI* | A dramatic shift is happening from users having to learn how a user interface work to the interfaces learning what the user wants. Users demand for freeing up their time for advanced tasks and have 24/7 to automated intelligence | - Use chatbots as course teaching assistants  
- Use chatbots to support University application, administration, registration, onboarding, and financial aid processes on 24/7 basis  
- Enable digital transformation at University by enhancing user experience through use of AI, chatbots, and digital credentials all spurred on by analytics that support data-driven decision-making |
| **5** Next Gen SIS | Business optimization delivery is required through supporting not only the University back office but also faculty and students. Vendors are also increasingly shifting to cloud based solutions with limited support service of legacy SIS |  |
SPARTANS WILL.