Welcome UMass

IT Conference

June 7, 2017
UMass IT Conference Committee

Many Thanks To:

- Stan Eads – Amherst
- Apurva Mehta – Boston
- Margaret Dias – Dartmouth
- Nancy Fowler – Lowell
- Christine Pimentel – Medical School
- Andrea Delaney – Medical School
- Bill Smith – President’s Office
CIO Panel Discussion

- Michael Cipriano – Lowell
- Holger Dippel – Dartmouth
- Chris Misra – Amherst
- Keith Moran – UITS
- Bob Weir – Boston
- Greg Wolf – Medical School
It’s all about student success.

“Colleges and universities are concentrating on student success to address concerns about the costs, value, and outcomes of higher education.”

Four focus areas for higher education IT:
- Develop the IT foundations
- Develop the data foundations
- Ensure effective leadership
- Enable successful students

https://www.educause.edu/research-and-publications/research/top-10-it-issues
Educause Top 10 in 2017

Student Success

FIGURE 1. Themes of the 2017 Top 10 IT Issues

SUCCESSFUL STUDENTS
Student Success and Completion
Digital Transformation of Learning

EFFECTIVE LEADERSHIP
Strategic Leadership
Sustainable Funding
Higher Education Affordability

DATA FOUNDATIONS
Data-Informed Decision Making
Data Management and Governance

IT FOUNDATIONS
Information Security
Sustainable Staffing
Next-Gen Enterprise IT
What is the top issue facing IT in higher education?

- Information Security
- Student Success & Completion
- Data-Informed Decision Making
- Strategic Leadership
- Sustainable Funding
- Data Management & Governance
- Higher Education Affordability
- Sustainable Staffing
- Next Generation Enterprise IT
- Digital Transformation of Learning

Please take this quick poll: https://goo.gl/M6OrNz
Poll Results

How did the UMASS IT audience respond?

Results Breakdown - Part 2 / 6

- Information Security: 24 (21%)
- Sustainable Staffing: 21 (18%)
- Higher Education Affordability: 15 (13%)
- Strategic Leadership: 14 (12%)
- Sustainable Funding: 11 (10%)
- Student Success & Completion: 8 (8%)
- Digital Transformation of Learning: 7 (6%)
- Data-Informed Decision Making: 7 (6%)
- Next Generation Enterprise IT: 5 (4%)
- Data Management & Governance: 1 (1%)

Report Poll
### UMass Lowell IT

#### Efforts Connected to our 2020 Strategic Plan

<table>
<thead>
<tr>
<th>Team</th>
<th>Recent Projects</th>
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</thead>
<tbody>
<tr>
<td><strong>Jim Packard</strong> (Information Security)</td>
<td>Palo Alto Firewalls, Varonis, updated policies</td>
</tr>
<tr>
<td><strong>Mike Lucas</strong> (IT Services &amp; Instructional Technology)</td>
<td>PTB Technology, ITIL, Mobile, Closed Captioning</td>
</tr>
<tr>
<td><strong>Lori Dembowitz</strong> (Enterprise Applications, Data Analytics)</td>
<td>salesforce CRM, ‘Day School’ Blackboard, DataMart</td>
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<tr>
<td><strong>Steve Athanas</strong> (Systems Eng, Platforms, Computer Labs)</td>
<td>vLabs Workstation, Exchange 2016, DCO</td>
</tr>
<tr>
<td><strong>Steve Hall</strong> (Networks &amp; Telecommunications)</td>
<td>Unified Communications, Network Upgrade</td>
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Campus Technology Update

UMass IT Conference
Lowell, MA

June 7, 2017
IT Strategic Plan: Initiatives Continue

- **Teaching and Learning**
  Student Centered Learning, Innovative Teaching, and New IT ecosystem

- **Research**
  Data Management, Electronic Research Administration, High Performance Computing

- **Engagement & Outreach**
  Campus-wide Accessible Systems and Better Support of Community Interactions

- **Enterprise Systems**
  Transparent Governance Model, Streamline Administrative Workflows, improve Data Reporting/Analytics

- **Infrastructure**
  Advance Network, Data Center, Information Security projects and Improve Policies and IT Recruitment and Development of campus-wide IT staff
Top IT Priorities for FY18

• **Strategy**
  - **Infrastructure**
    - Network – major core coming to completion and building modernization will continue
    - Data Center – migration completes, next phases launch
    - Information Security - better controls and policies, advancing liaisons program
  - **Instructional Innovation** – Expansion of symposium & innovate program
    
    innovate.umass.edu

• **Organization Development** – IT governance, more IT procurement and compliance coordination and improved campus training

• **Operations** – continued focus on growing excellence in IT user experience as needs continue to evolve
Data Center Project – Build completed on time, budget and scope
Migration of Amherst campus applications nearing completion
EDUCAUSE Top 10 Issues

- **Information Security**: Developing a holistic, agile approach to reduce institutional exposure to information security threats
- **Student Success and Completion**: Effectively applying data and predictive analytics to improve student success and completion
- **Data-Informed Decision Making**: Ensuring that business intelligence, reporting, and analytics are relevant, convenient, and used by administrators, faculty, and students
- **Strategic Leadership**: Repositioning or reinforcing the role of IT leadership as a strategic partner with institutional leadership
- **Sustainable Funding**: Developing IT funding models that sustain core services, support innovation, and facilitate growth
- **Data Management and Governance**: Improving the management of institutional data through data standards, integration, protection, and governance
- **Higher Education Affordability**: Prioritizing IT investments and resources in the context of increasing demand and limited resources
- **Sustainable Staffing**: Ensuring adequate staffing capacity and staff retention as budgets shrink or remain flat and as external competition grows
- **Next-Gen Enterprise IT**: Developing and implementing enterprise IT applications, architectures, and sourcing strategies to achieve agility, scalability, cost-effectiveness, and effective analytics
- **Digital Transformation of Learning**: Collaborating with faculty and academic leadership to apply technology to teaching and learning in ways that reflect innovations in pedagogy and the institutional mission
Overview

Past Year
- Security
- VDI
- Office 365
- Salesforce / TargetX
- Student employment workflow
- Wireless

Next Year
- More security, VDI, Office 365, wireless, Salesforce
- Classroom technology
- IT governance
- New budget process
- New life cycle management
Information Security

Past Year
• Security assessment
• DHS reports
• SOC integration
• End-user education

Next Year
• Remove local admin accounts
• Office 365 security tools
• Build-out SOC integration
• Policies
Student Success & Informed Decision Making

Past Year(s)
- MapWorks
- EAB

Next Year
- Salesforce
- Tableau
Past Year
• VDI
• Office365

Next Year
• Support more Office365 tools; academic integration
• IT service management and resource planning
• New technology pilot classrooms
Leadership, Funding, Staffing

Past Year
- Reestablished faculty senate technology committee
- Open positions

Next Year
- Establishing campus IT governance group
- Hiring new staff
- Campus moves to RCM budget process
All-UMass IT Conference
UITS – Educause Top 10 Issues
Information Security: Developing a holistic, agile approach to reduce institutional exposure to information security threats

- NIST CSF
  - Holistic Risk Based Approach
  - Repeatable – Program Development Process
    - UITS, UMD, UMB

- SIEM Hosting
Student Success and Completion: Effectively applying data and predictive analytics to improve student success and completion

- Summit
  - Enterprise Data Warehouse - Foundation
  - Possible Directions
    - Self Service: BI
      - Tool Support – Tableau & MS Power BI
      - Direct Data Access
    - Self Service: Analytics
      - Database Access Campus Analysts
      - Analytics Server
        - SQL Server – R and Python Support
Data Informed Decision Making: Ensuring that business intelligence, reporting, and analytics are relevant, convenient, and used by administrators, faculty, and students

- Summit
  - Need to Emphasize Mobile
    - Examples
      - BOT accessing key metrics
      - Admission Councilors at High Schools
  - Bring BI & Analytics to the User Experience
    - Summit Dashboards in PS
    - Salesforce visuals on Summit Dashboard
Strategic Leadership: Repositioning or reinforcing the role of IT leadership as a strategic partner with institutional leadership

- New CIO
  - Reports to President

- Interacts Board of Trustees, Chancellors, Campus CIO’s, VC’s

- IT Steering Committee
  - Chancellor, CIO’s, VC’s, CFO
Sustainable Funding: Developing IT funding models that sustain core services, support innovation, and facilitate growth

- More Aggressive Pursuit of Grants
  - NSF Cybersecurity
  - New England Storage Exchange (NESE)

- New Funding Opportunities
  - Operationalize NIST CSF
    - UML & ITSM Solutions
Data Management and Governance: Improving the management of institutional data through data standards, integration, protection and governance

Today

- Governance Committee Formed From BI Cabinet – Prioritize an Organizational Framework.
- Tight Process for Access Via OBIEE

Future – People won’t be satisfied with just data in Enterprise Data Warehouse (EDW)

- Other sources – PS Direct, Cloud
- Need Responsiveness – Agility, Experimentation
  - Integration – Data Bus, Secure Workflow
  - Data Lake – Massive storage depositions of raw data
Higher Education Affordability: Prioritizing IT investments and resources in the context of increasing demand and limited resources

- Doing More w Less
  - DevOps

- Shared Services

- Collaboration
  - This Event
  - Security Council
Sustainable Staffing: Ensuring adequate staffing capacity and staff retention as budgets shrink or remain flat and as external competition grows

- Roll Our Own
  - Student Workforce
  - Promote from Within

- Emphasize the Benefits
  - Pension & Healthcare

- Emphasize the Purpose & Mission
  - Innovation Economy Fuel – The Brain (Bay) State
Next-Gen Enterprise IT: Developing and implanting enterprise IT applications, architectures, and sourcing strategies to achieve agility, scalability, cost-effectiveness, and effective analytics

- Next Generation ERP
  - Prepare Now
    - De-customize
    - Profoundly Simplify Administrative Processes
  - Integrate & Secure
- Broker
  - Escort to the Cloud – AWS, Azure
Digital Transformation of Learning: Collaborating with faculty/academic leadership to apply technology to teaching and learning in ways that reflect innovations in pedagogy and the institutional mission.

- Cybersecurity Training
- Hands On Experience
  - Virtual Environments & Portfolios
  - Teaching Hospitals = Teaching IT Ops Centers
- Cyber Ranges – Defend or Attack Alpha Town
UMass Boston ITS Overview

- Introduction & Context

- ITS Enablement Model & Service Improvement Focus
ITS Hierarchy of Services

1. Personalization
2. Academic Enablement
3. Administrative Enablement
4. Constituent Enablement
5. IT Service Delivery/Support
6. IT Foundational Technologies/Processes
7. IT Staff and Leadership
UMass Medical School

The mission of the University of Massachusetts Medical School is to advance the health and well-being of the people of the commonwealth and the world through pioneering advances in education, research and health care delivery.
**IT is focused on: Basic Research Ecosystem**

Collaboration with UMass Dartmouth researchers increased GPU cluster utilization roughly 10x year over year

Collaboration with UMA & UMD researchers led to HPC network redesign; bandwidth increased 3x

**GPU Queue CPU Usage over Time**

**MGHPCC Peak Network Throughput (Gb/s)**

- Boston
- Lowell
- Amherst
- Worcester
- Dartmouth

Date Range:
- 8/5/2016 - 10/22/2016
- 10/22/2016 - 01/07/2017
- 01/07/2017 - 01/22/2017
Building an Integrative Clinical & Biospecimen Data Ecosystem to:

• Enable **data driven** research
• Enable **translation** of research findings to clinical care
• Make a difference in community and **global health**
IT is focused on: Digital Marketing

IT is focused on: Education

Our Schools

University of Massachusetts Medical School

School of Medicine
The Graduate School of Biomedical Sciences

The Graduate School of Nursing

Center for Mindfulness in Medicine, Health Care, and Society

Our Technology Ecosystem

Zoom

Blackboard

Kaltura

E*Value

Microsoft HoloLens

’Blended’ learning (Periop)
Perioperative Nursing | Periop 101 Certificate

Online learning (Genomics)
Genomics for Clinical Practice and Research

Mixed Reality (Anatomy)

Advancing the careers of nurses to help shape the future of nursing

Discover how advances in genomics and genetics are transforming healthcare

Starts May 16th
IT is focused on: A Strong Technology Foundation

Empowering our constituents!

Securing our environment!
- Assessments
- Policy Upgrades
- Perimeter Security
- End Point Control
- Server hardening
- NIST 800-53 adherent
- HIPAA compliance (regulated environment)
- SOC 2 – Type 2 for Shrewsbury Data Center

Hosting our 4th IT Expo: 9/27/17!

Modernizing our Data Center!
- All solid state storage
- Upgrading SAN
- Upgrading compute
- DR planning with UMA
IT is focused on: Healthcare Delivery

$350M healthcare delivery company, whose primary mission is to help Medicaid and other human service agencies accomplish their missions. Located in Shrewsbury, Charlestown, Boston, JP, Quincy & Worcester.

Centers include:
- Center for Healthcare Financing (Charlestown)
- Center for Health Law and Economics
- Disability and Community Services
- Health and Criminal Justice Program
- Center for Health Policy and Research
- Clinical Pharmacy Services
- Disability Evaluation Services
- UHealthSolutions

MassBiologics

FDA-licensed manufacturer of Tetanus and Diptheria (Td) vaccines. MassBiologics is also researching a Lyme Disease antibody. Located in Mattapan.