

# STATE OF IT ANNUAL REPORT

Finance – Facilities – Technology  
Committee

March 1, 2018



# STATE OF IT REPORT

## ► Goal

- Review progress/challenges over previous year
- Highlight significant achievements of US:IT staff
- Raise visibility/awareness of efforts of US:IT in supporting and serving campus constituencies
- Provide meaningful information to stakeholders

# STATE OF IT REPORT

## ► Features

### ► NEW Design

### ► Key Performance Indicators

### ► Team Highlights

### ► Future Directions

## University Services: Information Technology

STATE OF IT REPORT - 2017

## Help Desk Calls

Total # Calls in 2017

51,160

% Answered by  
Students

59.9%

% Calls Resolved on  
First Contact

90%

### TEAM HIGHLIGHTS

#### INFORMATION SECURITY OFFICE

Information Security continues to be in the forefront of US.IT activities. Available online is a detailed report on the state of the UMS information security, which examines threats and measures US.IT employs to reduce the risk to the UMS and its Universities. That report provides a set of strategies to continue improvement.

While the overall number of breaches to higher education institutions has declined in the past few years, the threat continues. Most higher education attacks are aimed at personal information, with a growing trend toward more espionage. Phishing continues to be a leading means to gain access, specifically to steal credentials.

To address Information Security threats, members throughout US.IT are engaged in activities every day that keep attacks in check. At the center of the efforts, four individuals in the Information Security Office (ISO) work to keep security practices honed. This office is responsible for policy, standards and practices, awareness and training, and consulting with departments to meet compliance standards (including, but not limited to FERPA, HIPAA, and PCI). Several major functions/services have been routinized in the past years. Information Security analysis reviews threats from several sources including reports from a 24-7 intrusion detection system. The team regularly scans systems for vulnerabilities and alerts US.IT staff of needed patching. The team responds to incidents appropriately using in-house diagnostics to analyze the extent of any security breach as well as contracted support for external investigations that may exceed our capabilities. The Information Security Office has developed a security program, participates in UMS compliance programs and provides a set of services to meet established requirements as well as increase the security posture.

To provide the most efficient and effective information security program, the Information Security Office in conjunction with their US.IT colleagues applies controls and protections commensurate with the risk. An iterative approach is applied such that higher risk assets are identified by data or criticality

Information Security Controls			
	Prevention	Detection	Response
People	Background Checks Confidentiality Training & Awareness Physical Security	Self-Monitoring & Alerts/Intrusion	Incident Response Team
Technology	Firewalls Anti-Virus Access Controls Vulnerability Scanning	Intrusion Detection System Central Logging and Alerting Network Tools	Forensic Tools
Process	Control Center/Help Desk/Service	Threat Analysis/IDS SIEM, SIEM, SIEM Intrusion Detection System, etc.	Incident Response Program

and then assessed against foreseeable threats based on vulnerabilities then controls are applied to manage the risk and the assets are reassessed. A combination of controls employ a mix of people, technology and process. An appropriate balance is required to maintain the strategy of "defense in depth."

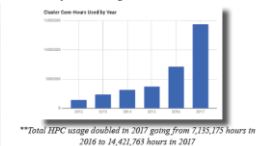
We have identified a number of strategic improvements aimed to suitably enhance current efforts. Among these, we propose better phishing mitigation approaches, a comprehensive revision of the Information Security Policy and Standards, and staff augmentation. In-depth technical defense strategies are also actively being explored.

#### ADVANCED COMPUTING GROUP

The Advanced Computing Group at the University of Maine was established in 2013 to provide computing infrastructure and support for the research needs of the state of Maine. The ACG provides complete computing power packages to advance research, education, and Maine into the 21st century. Services include: High Performance Computing (HPC), Cloud Computing with virtual machines (VM), data storage and high resolution visualization technology (v-WALL).

In 2017, 20 new compute nodes were purchased resulting in the addition of 560 cores to the HPC cluster and a 29% increase in processing power. Additionally, 512 GB of high speed memory was purchased to boost overall memory capacity for nodes utilized for genomics research. 2 new file servers were purchased to test a new 672 TB Ceph Storage cluster.

Over the past year, ACG completed a successful pilot of a new Virtual Computer Laboratory service serving classes at the University of Maine and the University of Maine at Augusta. This initiative is designed to provide remote access to virtualized workstations through a regular web browser. Additional testing of this platform will continue into the Spring 2018 term. Additionally, a collaboration between ACG and the UMaine Forestry Department culminated in a forestry mapping program that was featured as part of the NSF-funded Northeast Cyber Team Program.



US.IT STATE OF IT REPORT 2017 15

### FUTURE DIRECTIONS Governance and Strategic Planning

#### SHARED GOVERNANCE

As noted in the Educare "Higher Education IT Governance Checklist" (March, 2017), IT Governance serves as an essential organizational process which facilitates robust, effective IT strategy to best meet the needs of the academy. This is accomplished by aligning decisions with institutional mission and needs, improving communication within the IT organization as well as with the larger community, ensuring stakeholder input and buy-in for policy, budget and project decisions and by integrating risk management into the decision making process.

In establishing a revised IT Governance structure for the University of Maine System, several key principles and goals have been defined. These principles and goals are aligned with an overall vision for US.IT Governance which is:

US.IT Governance will facilitate communication to further stakeholder engagement resulting in greater collaboration and consensus for IT project prioritization.

The key outcomes for successful US.IT Governance are:

- Greater Transparency: through enhanced information dissemination and dialogue with stakeholders
- Greater Accountability: US.IT assumes responsibility for supporting and executing decisions endorsed and/or derived through governance
- Greater Stewardship: US.IT ensures efficient and responsible use of technology resources supporting the University of Maine system and member campuses

A revised US.IT Governance structure will be established in 2018 and the various committees will be charged to achieve the following goals:

- Balance needs of campuses with cost-effective technology solutions

- Provide robust communication to clarify system-wide IT vision for supporting the University and the mission of member campuses
- Create opportunities for enhanced collaboration to improve efficiency and impact of technology solutions and services
- Establish policies and practices to ensure effective Information Technologies and Services are afforded to all members of the University of Maine system and community
- Create evaluation criteria for new services and solutions to be offered to member campuses
- Provide mechanisms to encourage and support innovation
- Provide robust analysis for total cost of service delivery
- Provide consistent, predictable project request cycle coordinated with annual University budget cycle

The basic framework of the US.IT Governance structure will encompass various cross-disciplinary teams, all working and communicating together to fulfill the core outcomes of the governance initiative. The basic structure is depicted in Figure O.

The Executive Information Services Council serves as the final decision-making authority for IT-supported initiatives. This group will serve to ensure strategic alignment of IT initiatives and services with the University of Maine System mission. The EISC will receive recommendations and proposals for consideration from two Strategic Councils:

**Strategic Academic Technology Council**

- Define and recommends strategic approaches to leveraging IT resources to support the Academic and Research needs of the University of Maine System and member campus

**Strategic Information Services Council**

- Defines and recommends strategies and approaches to key IT-related issues and services to best serve and support the needs of the University of Maine System and member campuses



# STATE OF IT REPORT

## ► 2017 Highlights

### ► Project Management Office

► 14 Completed Projects

► 10 New Projects

► Increase in Demand

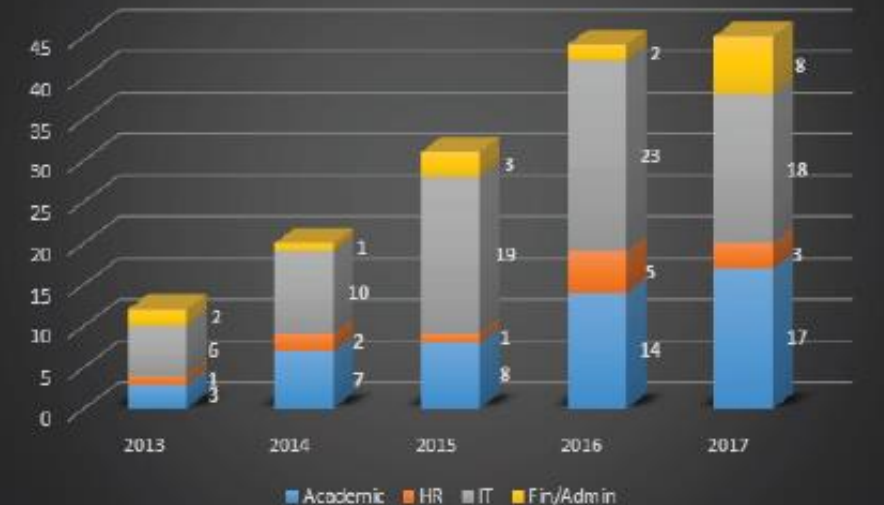
#### New Projects

- *MaineStreet HRMS upgrade*
- *Blue (course evaluation system for UM, UMM, USM, and UMPI)*
- *EAB Campus/Guide (UMA, UMPI, and UMM)*
- *Taskstream (assessment, accreditation, and e-portfolio system for UM and UMA)*
- *UMF website upgrade*

#### Completed Projects

- *MaineStreet Financials upgrade*
- *Transfer Equivalency Guides*
- *UMA Website upgrade*
- *EAB SSC-Foundation*
- *learn.maine.edu website upgrade*
- *AiM upgrade*
- *Access Control*

FIGURE H Project Requests  
(By Category/Year)





# STATE OF IT REPORT

## ► 2017 Highlights

### ► Classrooms For The Future

- 149 Rooms Renovated
- Consistent Improvement in Assessment Scores
  - Pre-Upgrade Average = 2.4
  - Goal  $\geq 3.0$
  - Actual = 3.1
- Positive Faculty & Student feedback

*"Made me more focused on teaching instead of trying to get technology to work."*

*"I can teach while looking at the students not having to turn my back or to the side."*

*"Very versatile for group work."*

*"Much more pleasant environment."*

*"Make all classrooms like these rooms."*

*"I like that the projector and sound system can be controlled with one button. The projector provides a good quality picture."*

*"I like that this room has reliable equipment."*

*"Better teaching experience for myself and students."*

*"It makes it feel more realistic and like you are sitting in the same room as everyone."*

*"more of a comfortable experience"*

*"I like how there are outlets on the table, it makes it easy to bring a laptop for work and not worry about where we are going to plug it in."*

*"This has made me realize how many opportunities are available to us students now compared to just a short time ago."*

*"Instant access to my Professors when I have questions."*

*"Easy to use remote and comfortable chairs."*

Faculty Feedback

Student Feedback

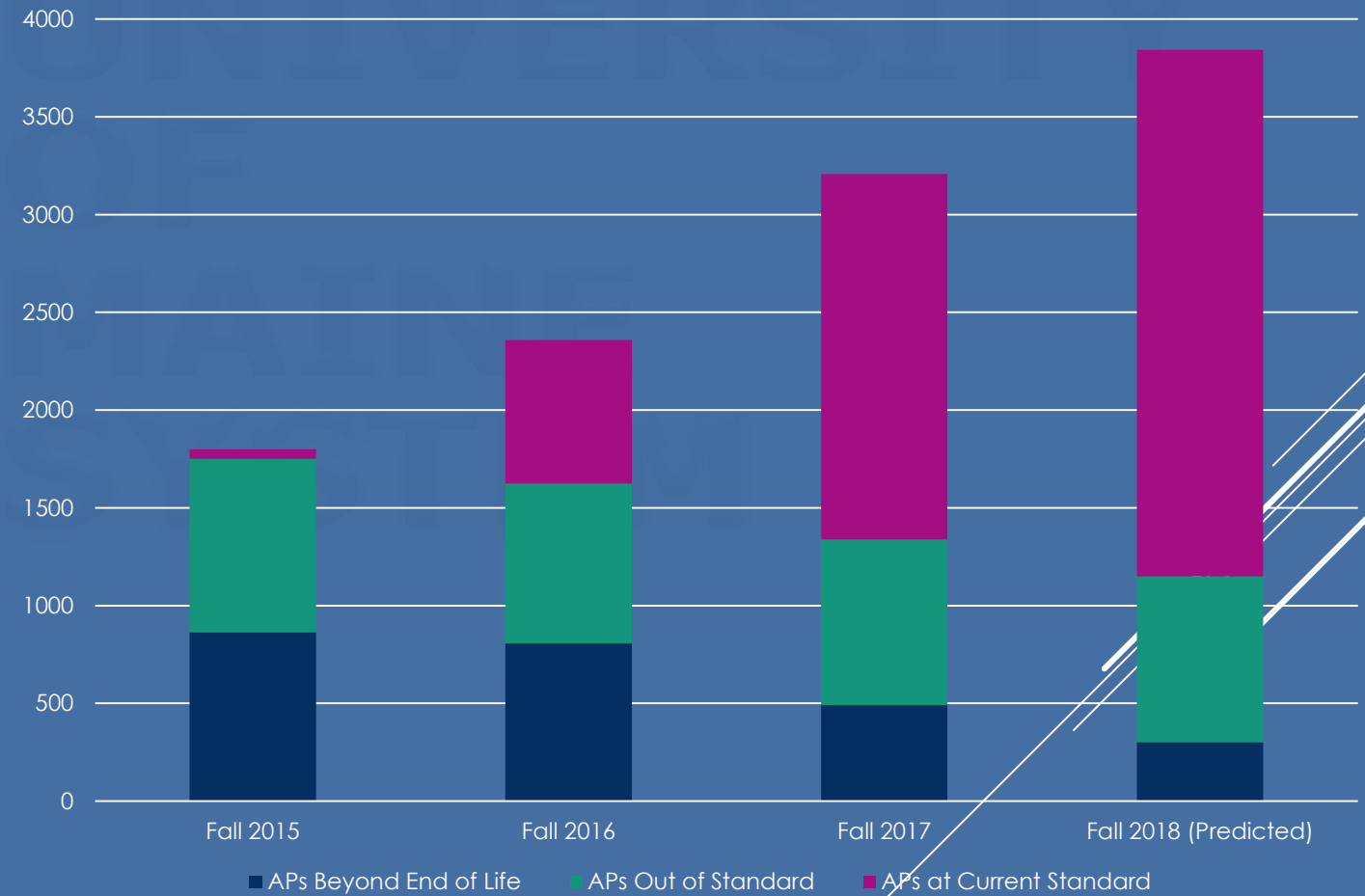
# STATE OF IT REPORT

## ► 2017 Highlights

### ► Wireless Infrastructure

- Bring deployed APs to current standards
  - By end of 2018: Investments will expand wireless deployment with majority of APs at current standard; elimination of most APs beyond serviceable life

# APs Deployed by Year and Service Status

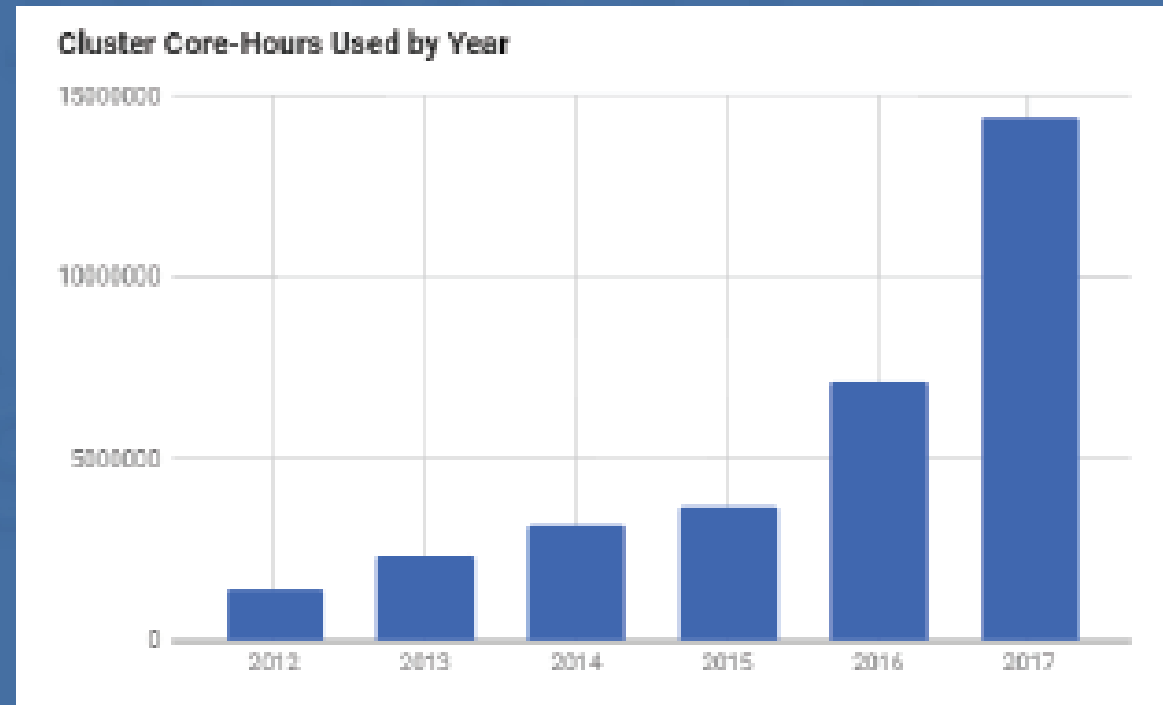


# STATE OF IT REPORT

## ► 2017 Highlights

### ► Advanced Computing Group

- Provides research computing infrastructure & support
- Near 50% increase in Core-hour utilization over prior year
- 20 New Nodes
  - +560 cores
  - +29% processing power
  - +512GB high speed RAM
  - +672TB Storage



# STATE OF IT REPORT

## ▶ Future Directions

### ▶ Shared Governance Framework

#### ▶ Vision

- ▶ Facilitate COMMUNICATION to further STAKEHOLDER ENGAGEMENT leading to greater COLLABORATION and CONSENSUS for PRIORITIZATION

#### ▶ Outcomes

- ▶ Greater Transparency: Information and understanding for stakeholders
- ▶ Greater Accountability: IT assumes responsibility for Decisions endorsed/derived through governance
- ▶ Greater Stewardship: IT ensures efficient and responsible use of technology resources supporting the University of Maine system and member campuses



# STATE OF IT REPORT

## ► Future Directions

### ► Shared Governance Framework

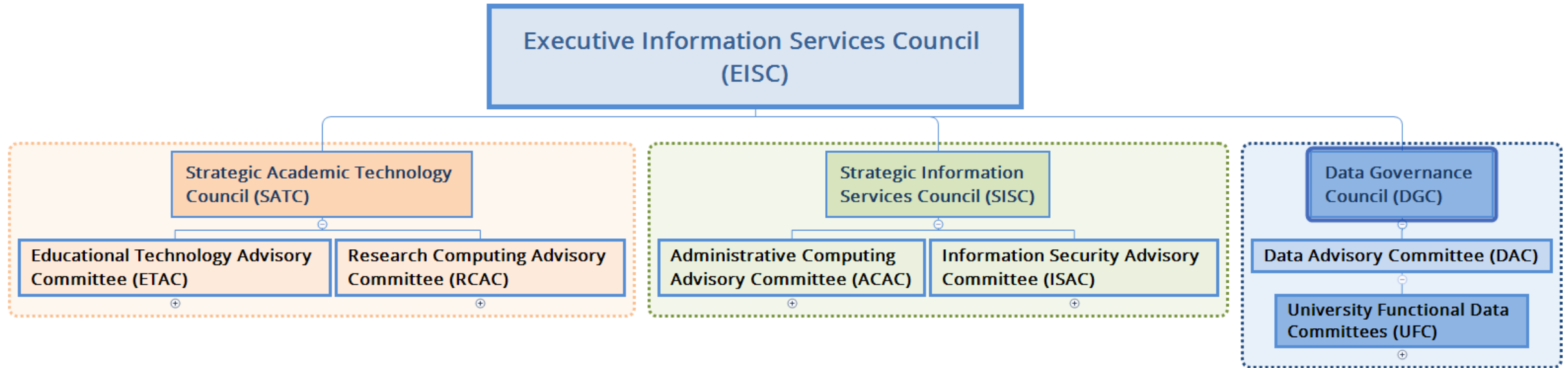
#### ► Goals

- Balance NEEDS of campuses with cost-effective technology SOLUTIONS
- Provide robust COMMUNICATION to clarify system-wide IT vision
- Enhance COLLABORATION to improve efficiency/impact of technology solutions and services
- Establish policies and practices to ensure EFFECTIVE Information Technologies and Services are afforded to all members of the University of Maine system and community
- Define consistent, reliable EVALUATION criteria for new services/solutions
- Encourage and support INNOVATION
- Provide robust ANALYSIS for total cost of service delivery
- Develop annual project request cycle COORDINATED with annual UMS budget cycle

# STATE OF IT REPORT

## ► Future Directions

### ► Shared Governance Framework



# STATE OF IT REPORT

## ► Future Directions

### ► Strategic Planning

#### ► Purpose

- Develop 3-5 year roadmap
- Clarify priorities
- Support for budget and resource planning
- Define discrete annual deliverables



# STATE OF IT REPORT

## ► Future Directions

### ► Strategic Planning

#### ► Current Efforts

##### ► Task Forces:

##### ► Mission, Vision, Values

- To define the shared mission and vision for US:IT and the core values to which we aspire

##### ► Core US:IT Services

- Review all supported services, identify core, essential services upon which all campuses are dependent
- Initiate development of model to recalibrate service chargeback system; enable campus flexibility for investment/innovation



# STATE OF IT REPORT

## ► Future Directions

### ► Strategic Planning

#### ► Current Efforts

##### ► Strategic Planning Mini-Retreats

► Scheduled from March 9-April 17

► Purpose: Produce Prioritized Goal Statements

##### ► US:IT Summit

► Late May 2018

► Purpose: Develop SMART objectives aligned with Prioritized Goals from mini-retreat sessions

#### ► Draft Strategic Plan available July 2018





# ► Questions?