A First-Ever Proposal to SBPC

-- First proposal submitted collectively to SBPC from senior leaders on behalf of the whole university recognizing that IT impacts all of us

-- First set of action items emerging from the new University-wide IT Strategic Plan finalized in 2017

-- First strategic prioritization of institutional IT needs established by the new IT Governance Council (ITgov) – a campus-wide Council formed in fall 2016

-- First identified and proposed “top institutional IT needs” outlined in the Plan per ITgov

-- First-ever IT investment requests to SBPC
<table>
<thead>
<tr>
<th>Name</th>
<th>Title/Department/Office</th>
</tr>
</thead>
<tbody>
<tr>
<td>Karim Boughida, Chair</td>
<td>University Libraries</td>
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<tr>
<td>Richard Kubica, ex-officio</td>
<td>Information Technology Services</td>
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<tr>
<td>Mike Motta</td>
<td>Information Technology Services &amp; Office for the Advancement of Teaching and Learning</td>
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<tr>
<td>Sharon Bell*</td>
<td>Controller’s Office</td>
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<td>Michael Katz</td>
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<td>Mike Khalfayan</td>
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<td>Joan Peckham</td>
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<tr>
<td>David Porter</td>
<td>Information Technology Services, Media and Technology Services</td>
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<td>John Sears *</td>
<td>Housing &amp; Residential Life</td>
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<td>Kathleen Torrens</td>
<td>Communication Studies and Office for the Advancement of Teaching and Learning</td>
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*No longer with URI
Summary

Funding request for 2 inter-related strategic IT initiatives in FY 2019

• University-wide Information Technology Directory Service
  • Merge and centralize an accurate authentication Directory Service with timely information to increase efficiencies for providing secure and innovative IT
    • $170,000 Annually for Microsoft Licensing (FY2019 and later)
    • $330,000 One-time for Consulting/Implementation Services

• University-wide Information Technology Security Infrastructure
  • Install and deploy a consistent Security Infrastructure throughout the University.
    • $258,760 One-time Purchases and Professional Services in FY 2019 of which $87,438 becomes base in FY 2020 and later for Patch/Vulnerability Management Services

Total Request: FY 19 – OTO = $588,760
FY 19 – base = $170,000
FY 20 - base = $ 87,438
University-wide Information Technology Directory Service

• **What is a “Directory Service?”**
  - First technology “step” to granting a user access.
  - THE *authoritative* database identifying who is permitted access to University IT services and data.

• **Currently 3 exist within ITS, 9 or more exist outside of ITS**
  - Those outside of ITS are maintained manually, independent of University business processes such as on/off-boarding of faculty/staff and students.
  - ITS Directories are maintained through daily e-Campus data feeds.
    - 4 million authentication requests per week (not all URI users).

• Inconsistent creation, maintenance, and securing of authentication data along with the process of allowing users into University applications creates security lapses, deficiencies, and risks to URI.
Directory Service - Benefits to URI

• **Cost savings to colleges and departments**
  – No need for department resources to create, update, and maintain access rights and privileges.
  – Single logon means fewer account logons to remember and fewer calls to Help Desk or Cloud vendors for account resets.

• **Improved Security**
  – Centralized “system of record” processing allows for timely add and remove of access privileges for University constituents.
  – Ensures reliability of determining access rights and privileges.

• **Improved integration of services, including Cloud service**
  – Standardized, validated and centrally available Directory Service improves a frequent “go-live” barrier to IT services across University.
Security Breaches
  – Single Directory more closely controls access to URI Systems
    • Reduces risk through single id access

URI is the custodian of both FERPA and HIPAA Data
  – FERPA Data
    • Breaches can result in the university’s loss of federal funds
  – HIPAA Data
    • HIPAA Breaches cost average = $406 cost per record breached
      – (hipaajournal.com 2016 study)

HIPAA Data at URI
  – URI is a HIPAA Business Associate
    • Dataspark Acquisition maintains data from Health and Human Services
  – URI is a Hybrid HIPAA organization
    • Provides billable healthcare services
      – $650K fine at UMASS for malware on a workstation in one clinic in 2013
        » databreaches.net/umass-settles-potential-hipaa-violations-following-2013-malware-infection/
Three Phase Implementation Proposed

Phase I
- Microsoft License Review
  - URI is not properly Licensed for Microsoft Products
  - $170K Annual Microsoft Licensing Fees
  - $330K Consulting/Implementation Services

Possible Phase II (Future One-Time Request)
- Enterprise Directory Services Rollout to URI Colleges and Departments

Possible Phase III (Future One-Time Request)
- Full Utilization of Enterprise Directory
  - Identity Access Management
  - Single Sign-On
  - Portal Services
Directory Service – Support of Proposal

• **URI Commissioned Studies on IT Services**
  – 2013 – AMRC
  – 2015 – Phil Goldstein IT Governance
  – 2016 – Berry Dunn IT Assessment and IT Strategic Plan
    • Centralized Services for ITS Direction; Coordination and Security

• **IT Governance Committee**
  – Prioritized Submission to SBPC

• **Supports the URI Academic Strategic Plan**
  – Goal 5 on process streamlining and efficiency
  – Goals 1-4 and 6 by providing current-day foundation services for future services

• **Supports the URI IT Strategic Plan**
  – Goals 1, 2, 4, 5 and 6

• **University Technology Network (Distributed IT staff outside of ITS)**
  – Engaged in April 2017 to provide input to proposal
  – Identified 9 Additional Directories within the university
    • More likely exist and require analysis
Directory Service – Risks of NOT Doing

- Failure to protect data privacy for faculty, staff, students, alumni, donors, research records, etc.
- Failure to address licensing compliance issue with Microsoft
- Failure to add and remove access to University data via a central authoritative Directory
  » In sync with the University’s e-Campus Student, HR, and Financial systems
- Failure to comply with secure, best-practice services for FERPA and HIPAA
  » URI now houses about 1 million HIPAA protected records
- Failure to implement secure, best-practice services
  » In compliance with RI law and AIG cyber-security insurance
    » RI Law fine = $100 to $200 per individual breached

Biggest Risk: Damage to URI’s reputation
• URI is NOT in compliance with the 2015 RI Identity Theft Protection Act
• URI is required to have a Risk Based Information Security Plan
• Requires reasonable security procedures appropriate to:
  - Size and scope of the organization;
  - the nature of the information;
  - the purpose for which the information was collected.
• URI faces increasing cyber threats from across the globe
  - 170,000 attempts on June 9, deemed threats in current Security
  - That’s approximately **1 million a week**
• Information security is the #1 issue on the EDUCAUSE Top 10 IT Issues list – Higher education is a prime target for cyber criminals

A breach or intrusion on URI data and infrastructure would result in loss of computer facilities, imposition of fines and, most importantly, damage to institutional brand and reputation.

This proposal is a companion to the Single Directory Structure proposal because the implementation of an ITS Security Infrastructure is supported by a single authoritative directory.
University-wide Information Technology Security Infrastructure

- **Implement Vulnerability Assessment and Remediation Program**
  - Patch Management System for Operating Systems and Applications
    - One of the strongest defenses against cyber security attack
  - Security Configuration Controls and Management
  - Vulnerability / End-Point Management for Security Compliance
    - The absence of vulnerability and security patches leaves URI at risk for satisfying compliance requirements (PCI, HIPAA) and increases university wide LIABILITY.

- **Develop a Risk Based Information Security Program**
  - Required as part of The Rhode Island Identity Theft Act of 2015
  - Centralized repository of documented policies procedures which will allow employees to clearly understand their roles and responsibilities when it comes to safeguarding university data.
    - Begin building a Business Continuity Plan
    - Conduct Risk Management Assessments
      - 68% of Peer Higher Ed Institutions have completed a Risk Assessment (Educause)
      - URI has **not** engaged a consultant to conduct a Risk Assessment
University-wide Information Technology Security Infrastructure - Costs

Components of Security Infrastructure One-time Funding (FY2019)

* NOTE – Pricing is as of April 2017.

- **Patch Management**
  - IBM BigFix Compliance MVS Unit Licenses $39,400
  - For Servers + SW Subscription & Support 12 Months
  - IBM BigFix Compliance Client Licenses $59,360
  - SW Subscription & Support 12 Months
  - Professional Services $14,000
  - One time funding cost $112,760

  Included in numbers above which would normally be base budget
  FY2019 maintenance cost bundled and discounted = $20,000
  
  *Note: all licenses are perpetual

- **Real Time Vulnerability Management**
  - Tenable Security Center Continuous Vulnerability Mgmt $134,876
  - Professional Services $11,124
  - One time funding cost $146,000

  *Note: all licenses are renewed yearly

**Total One-time Funding request for FY2019** $258,760

**Annual Funding request for maintenance beginning FY2020** $87,438
From Hanover Research (May 2017):

- URI is the lowest funded in its cohort
- $3.2M annual shortfall as compared to 2nd lowest school
Thank you

The ITS Team also wishes to thank:
G. Faye Boudreaux-Bartels, Ph.D
Adam Quinlan
for their feedback and guidance with this presentation
Before (Now) – Directory Services

De-central / non-ITS Directories (Manually updated)

University / ITS Directories
(Updated through automatic data feeds)

- e-Campus
- ITS - LDAP
- ITS - AD
After (Goal) – Directory Services

Colleges, Departments and Cloud Services use central services, assigning roles within their units.
Components of Security Infrastructure One-time Funding (FY2019)

- Patch Management
  - IBM BigFix Compliance MVS Unit Licenses $39,400
  - For Servers + SW Subscription & Support 12 Months
  - IBM BigFix Compliance Client Licenses $59,360
    - SW Subscription & Support 12 Months
  - Professional Services (one time cost) $14,000
    *Note: all licenses are perpetual*

- Real Time Vulnerability Management
  - Tenable Security Center Continuous Vulnerability Mgmt $134,876
    - Based on 2 year prepaid pricing saves the university $84K
  - Professional Services (one time cost) $11,124
    *Note: all licenses are renewed yearly*

Total One-time Funding request for FY2019 $258,760