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US:IT CIO Open Forum

University of Maine System

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US:IT CIO Open Forum

June 27, 2018

2:30 - 4 p.m.

Summary

“Which tech trend will have the greatest impact on higher ed in the next few years.” A live poll of Forum attendees identified Cloud Computing with the most votes.

Strategic Planning Update

David gave another brief overview of the Strategic Plan including purpose, goals and objectives. He also provided a recap of the activities of the US:IT Summit 2018, including a refresher on SMART objectives. Example objectives collected from the Summit were shared in each goal category: Services, Communication, Collaboration, Innovation, Professional Development and Data. Over 100 objectives have been collected and submissions will continue to be accepted until Fri, Jun 29. A draft will be available for public comment some time near the end of July. Final objectives will have assignments/activities with reporting captured in SmartSheet.

Thanks to all that have participated and contributed!

Project Updates

David reports regularly to the Board of Trustees (BOT) Finance, Facilities and Technology Committee on IT projects over \$250,000 and provided a brief update on the following projects:

- **Classrooms for the Future**
 - David provided an update on the project budget, classroom upgrades completed and future targets. Surveys are going out and feedback is being collected.
- **Wireless Infrastructure**
 - David provided an update on the project budget, upgrades completed and future focus. Current resources will likely only get us to about 70% of where we need to be, but having this information to share with BOT will help us get that future funding. Surveys completed have provided positive feedback to date.
- **HR Upgrade**
 - Project COMPLETE! David provided an update on the project budget which included a \$196,000 in additional funding needed for “Testing as a Service.” Go-Live was June 12 and was very successful.

“Which project do you feel will have the biggest impact on student success?” A live poll of Forum attendees identified a close call between Classrooms for the Future and Wireless Infrastructure.

Data Mart Initiative

David provided some background on the initiative and reviewed the purpose for UMS, including expected key outcomes. He explained the differences between the current data warehouse and a new datamart. Past reliance on 3rd party vendors did not provide UMS the opportunity to develop internal knowledge on how the data warehouse was constructed, so the relationship with the vendor had to be maintained in order to incorporate updates or changes to the warehouse. Creating a series of reporting datamarts will help UMS understand how to better manage data as a strategic asset.

An overview of the initiative was shared, including achievements/milestones to date. A lot of activity is expected in the next 3-4 weeks with the hope to have something in place by the end of the fall semester for use/testing.

“Is there any downside to using a Datamart instead of a Warehouse?”

Limitation is that in a warehouse, everything is in one place. In a datamart, you may need to do some work to get information together from individual datamarts. Constructing datamarts will not be cost prohibitive.

“What will be the biggest systemwide impact of the datamart initiative?”

Providing greater access to data.



CIO Forum


US:IT
June 27, 2018




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University Services
Information Technology



US:IT Strategic Plan




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• Purpose:


- Creation of 3-5 year roadmap
- Clarify priorities
- Support for budget and resource planning
- Discrete annual deliverables

Strategic Planning Cycle



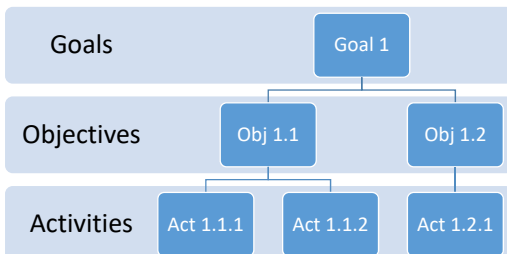








US:IT Strategic Plan



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- **Goals and Objectives**
 - Serve to transform Mission and Vision into specific, actionable targets
 - **Goals:**
 - Broad, ambitious outcome statements
 - Inform/direct implementation strategy
 - Each Goal may have multiple associated Objectives
 - **Objectives:**
 - More detailed statements describing HOW goals will be accomplished
 - Each Objective may require multiple Activities for completion
 - **Activities:**
 - Detail, discrete deliverables required to fulfill objectives



```

graph TD
    G[Goals] --> G1[Goal 1]
    G1 --> O1[Obj 1.1]
    G1 --> O2[Obj 1.2]
    O1 --> A11[Act 1.1.1]
    O1 --> A12[Act 1.1.2]
    O2 --> A21[Act 1.2.1]
  
```









US:IT Strategic Plan



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- **US:IT Summit Recap**
 - **Development of SMART objectives aligned with Prioritized Goals**
 - Specific
 - Measurable
 - Attainable
 - Relevant
 - Timely


















US:IT Strategic Plan




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• Strategic Goal Categories

1. Service		
2. Communication		
3. Collaboration		
4. Innovation		
5. Professional Development		
6. Data		










US:IT Strategic Plan










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1. Service (4 Goals)



- 1.1 US:IT will be a trusted and preferred service provider for the University of Maine System
- 1.2 US:IT will be a customer-focused IT solution provider that ensures unparalleled customer service
- 1.3 US:IT will achieve consistency in the scope and delivery of system-wide services
 - 1.3.1 *By December 2018, US:IT DBA team will ensure that all Oracle Databases are leveraging centralized tools for efficient monitoring and maintenance.*
- 1.4 US:IT will foster a culture that promotes reliable technology solutions and robust information security

US:IT Strategic Plan




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2. Communication (2 Goals)

2.1 US:IT will establish an environment that promotes transparency through a commitment to effective, robust internal and external communication


2.1.1 By 6/30/19, US:IT will establish at least 5 cross-departmental Service Delivery Teams, with the number increasing by at least 100%, year over year, through 6/30/21.

2.2 US:IT will embrace a customer-centric communication focus



US:IT Strategic Plan



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3. Collaboration (4 Goals)


3.1 US:IT will promote active collaboration with stakeholders to optimize alignment of IT activities and prioritize services to support System and Campus strategic initiatives


3.2 US:IT will partner with stakeholders to establish a supportable and sustainable technology baseline designed to meet the needs of campus communities


3.3 US:IT will actively pursue opportunities to actively contribute to the mission of the University



3.3.1 The ACG will increase the number of proposals for research grants in which we are actively involved by 10% per year through 2021.

3.4 US:IT will become an organization that provides solutions designed to empower stakeholders








US:IT Strategic Plan



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4. Innovation (2 Goals)

4.1 US:IT will be a leader of innovation within the University of Maine System


4.2 US:IT will provide innovative, accessible solutions designed to meet the needs of the UMS community

4.2.1 By leveraging a 3rd party toolset, Custom Enterprise Solutions (CES) will deliver a contemporary mobile friendly Campus Solutions (CS) self service interface for faculty and students by the start of the Spring 2019 semester.



US:IT Strategic Plan



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5. Professional Development (4 Goals)


5.1 US:IT will attract and retain a highly talented and efficient workforce


5.2 US:IT will become a recognized leader in Higher Education IT support and service

5.3 US:IT will become an organization that develops and empowers employees


5.3.1 Beginning in September of 2018, US:IT will consider proposals for up to 80 hours per staff member/FY for exploration of a relevant topic(s) of interest that aligns with the missions of the University of Maine System including methods for sharing outcomes. Managers will annually track and report to their managers the submissions, approvals, and outcomes.

5.4 US:IT will establish an information hub for IT training and documentation





US:IT Strategic Plan




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6. Data (1 Goal)


6.1 US:IT will engage with the University community to establish a culture of data-driven and responsive decision making



6.1.1 The Data Governance communications team will create an inventory of resolved data consistency issues and success stories on a public-facing data governance website by October 2018




Next Steps



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- US:IT Leadership Team will continue to review submitted SMART Objectives
 - Submitted SMART Objectives will be collated, shared for feedback
 - Final Objectives will be assigned to teams to develop discrete Activities for completion in July
 - Timeline
 - Accountability
 - Metrics
 - Resources

Strategic Planning Cycle

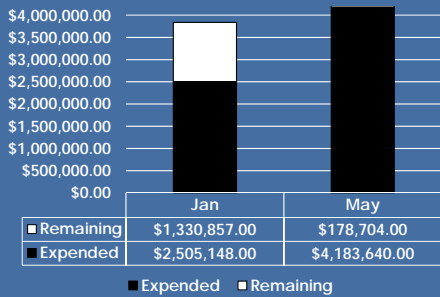


Goals	Goal 1		
Objectives	Obj 1.1	Obj 1.2	
Activities	Act 1.1.1	Act 1.1.2	Act 1.2.1

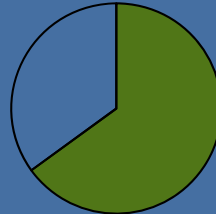
US:IT PROJECT REVIEW

▶ Classrooms for the Future

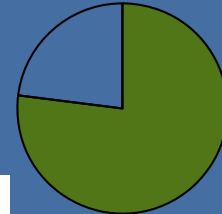
Project Budget - \$4.362M**



65% Complete (Jan)



77% Complete (May)



Overall status: ■
 Budget status: ■
 Schedule status: ■

Initiation Date	Sponsor	Original Estimated Completion	Current Estimated Completion Date	Estimated Budget	Budget Committed to Date	Budget % Committed	Project % Complete
4/2016	David Demers	12/2018	12/2018	\$4,362,345	\$4,183,640	96%	77%



US:IT PROJECT REVIEW

▶ Classrooms for the Future

▶ 2017 & 2018 Classroom Upgrades

Campus	May
UMA	82%
UMF	89%
UMFK	78%
UMM	81%
UM	79%
USM	74%
UMPI	58%



US:IT PROJECT REVIEW

▶ Classrooms for the Future

▶ Summer '18 Vendor/Facilities walk-throughs completed

▶ Equipment orders complete; installations scheduled for all campuses

▶ Summer '18 Classroom Targets (87 Classrooms)

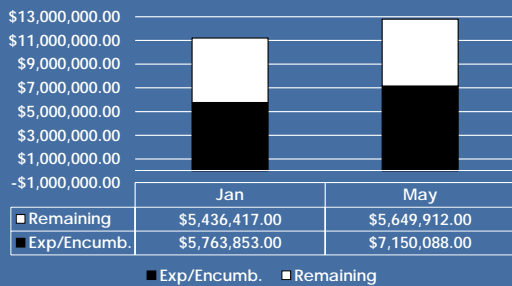
▶	UM	21	UMM	5
	UMA	18	UMPI	9
	UMF	4	USM	21
	UMFK	9		



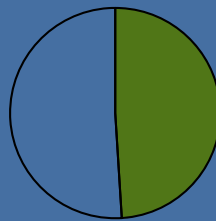
US:IT PROJECT REVIEW

▶ UMS Wireless Infrastructure

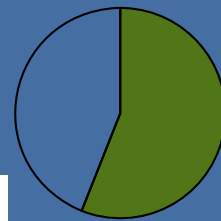
Project Budget - \$12.80M**



49% Complete (Jan)



56% Complete (May)



Overall status: ■
 Budget status: ■
 Schedule status: ■

Initiation Date	Sponsor	Original Estimated Completion Date	Current Estimated Completion Date	Estimated Budget	Budget Expended to Date	Project % Complete
4/2016	Jeffrey Letourneau	12/2018	12/2018	\$12,800,000	\$5,830,691.62 (\$559,507.55 encumbered)	56%



US:IT PROJECT REVIEW

▶ UMS Wireless Infrastructure

▶ % Budgeted/% Completed by Campus

Campus	Apr (% Budgeted)	April (% Complete)
UMA	100%	94%
UMF	100%	94%
UMFK	100%	94%
UMM	100%	74%
UM	97%	54%
USM	93%	37%
UMPI	100%	86%



US:IT PROJECT REVIEW

▶ UMS Wireless Infrastructure

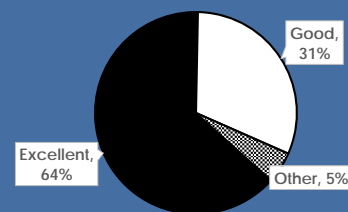
▶ Feedback

▶ 217 survey responses

▶ *"...a very noticeable difference..."*

▶ Summer Focus:

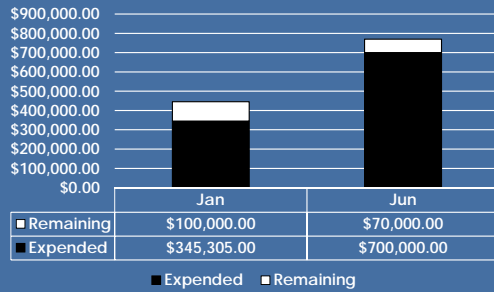
- ▶ Residence Halls (UMF – Scott N-W-S; UMM - Dorward, Sennett)
- ▶ UMFK - Blake Library
- ▶ UMPI - Wieden Hall
- ▶ USM – Science Building, Glickman Library



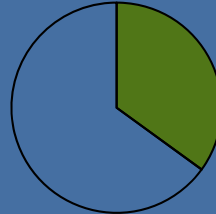
US:IT PROJECT REVIEW

► HR Upgrade

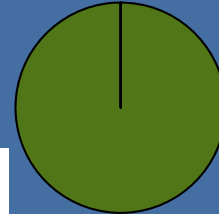
Project Budget - \$769K*



35% Complete (Jan)



100% Complete (Jun)



Overall status: ■
 Budget status: ■
 Schedule status: ■

Initiation Date	Sponsor	Original Estimated Completion Date	Current Estimated Completion Date	Estimated Budget	Budget Expended to Date	Project % Complete
6/2017	David Demers/ Mark Schmelz	May 2018	May 2018	\$769,230 (Upgrade)	\$566,577	90%
				\$480,000 (HR Enhancements)	\$108,039	



US:IT PROJECT REVIEW

► HR Upgrade


► Go-live COMPLETED 6/12

- Notification and information provided to UMS community
- Training materials available


► Project Budget:

- Additional \$196K to cover project shortfall and 'Testing as a Service' subscription






Datamart Initiative




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- What is a 'Datamart'?
- Why use Datamarts?
- Purpose/Outcomes
- Initiative Overview/Status
- Remaining Tasks




Datamart Initiative




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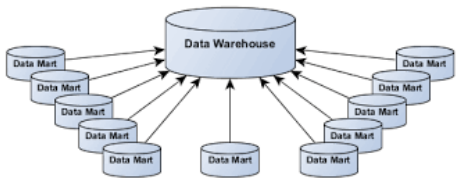
- What is a Datamart?
 - Data Warehouses and Datamarts are both repositories where data is stored and managed until it is needed.
 - Data warehouses built to contain all/large subset of information
 - Datamart built to isolate/partition a smaller set of to serve reporting needs of a specific unit or function.
- Benefits of Datamarts:
 - Smaller in scope
 - Fewer datasources
 - Faster to implement
 - Easier to validate/support/maintain
 - Supports 'bottom-up' DW development
 - Multiple datamarts merged to create single DW










"Hello, I'm a data warehouse."




"And I'm a data mart."




Datamart Initiative




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• Why Datamarts?








- The UMS Datamart Initiative has been proposed to:
 - Clarify and expand access to critical data to inform campus and system-wide strategy
 - Expand analytics capacity to assist with campus and system-wide student recruitment and success goals
 - Shift burden for data integration and cross-institutional analysis from ERP reporting tables to underlying datamarts
 - Reduce campus and departmental dependency on various shadow information systems while improving data integrity
 - Systematize processes for data access requests and new or amended definitions of data elements through data governance




"Hello, I'm a data warehouse."



"And I'm a data mart."

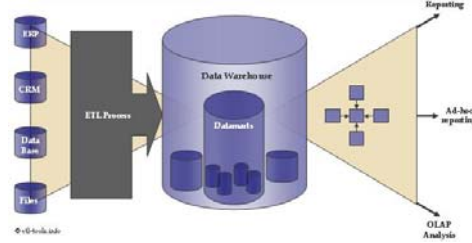
Datamart Initiative




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• Purpose


- Allow UMS to:
 - Construct data integration and business intelligence strategies leveraging contemporary tools
 - Facilitate professional development of staff and stakeholders
 - Explore best practices in the development of discrete, targeted reporting datamarts
 - data extraction
 - data integration
 - data transformation
 - data management
 - Build capacity while building toward development of a viable, iterative enterprise-wide data warehouse



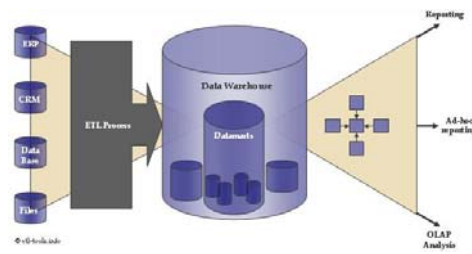
The diagram illustrates the data flow from source systems (ERP, CRM, Data Base, Files) through an ETL Process into a central Data Warehouse. From the Data Warehouse, data is distributed to various Datamarts. These datamarts are then used for Reporting, Ad-hoc requests, and OLAP Analysis.




Datamart Initiative




- Purpose
 - Key Outcomes: Metadata
 - Capture of 'metadata' pertaining to all data elements will occur in an electronic repository ('data dictionary')
 - Data Dictionary will provide information on:
 - Source of data
 - Data owner/steward
 - Query/transformation logic
 - Index of queries/reports referencing included data elements












Datamart Initiative




- Initiative Overview:
 - Designed to follow traditional *Scope-Design-Build-Test-Deliver* framework

Milestone	Time Required	Status	Decision Notes
Determine datamart administration architecture <ul style="list-style-type: none"> • DBMS • Security • Infrastructure (on-prem; cloud) • Maintenance/Backup strategy 	2 Weeks	COMPLETE	<i>Microsoft SQL Server</i>
Determine data transformation and metadata strategy <ul style="list-style-type: none"> • Data Integration (DI) tool selection • Change management • Training/PD needs 	2 Weeks	COMPLETE	<i>Talend Open Studio</i>

Datamart Initiative










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Initiative Overview:

- Designed to follow traditional *Scope-Design-Build-Test-Deliver* framework

Milestone	Time Required	Status	Decision Notes
Identify internal reporting table(s) to re-engineer as a datamart <ul style="list-style-type: none"> • Data elements • Dependencies • Query/View logic 	2 Weeks	COMPLETE	<i>Student Applicant View</i>
Determine data dictionary strategy <ul style="list-style-type: none"> • Platform • Structure • Design • Metadata schema • Hierarchy • Training needs 	4 Weeks	PARTIALLY COMPLETE	<i>Pursuing iData Data Cookbook platform</i>

Datamart Initiative










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Initiative Overview:

- Designed to follow traditional *Scope-Design-Build-Test-Deliver* framework

Milestone	Time Required	Status	Decision Notes
Determine data access strategy <ul style="list-style-type: none"> • BI tool selection • Access roles • Permissions • Report/Dashboard publication destination 	4 Weeks	In-Process	<i>Pursuing Microsoft PowerBI solution</i>
Determine Datmart Infrastructure Requirements <ul style="list-style-type: none"> • vCPU • Networking config • Storage requirements 	1 Week	Pending	

Datamart Initiative










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Initiative Overview:

- Designed to follow traditional *Scope-Design-Build-Test-Deliver* framework

Milestone	Time Required	Status	Decision Notes
Provision Infrastructure <ul style="list-style-type: none"> • VM/Cloud • Networking • OS/DBMS Installation • Configuration 	3 Weeks	Pending	
Procure Data Dictionary Tool	4 Weeks	Pending	

Datamart Initiative



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Remaining Work

- Install, Connect, Configure DI Tool
- Define primary data sources
- Establish logic for initial source data extraction
- Create DBMS objects for initial load and testing
- Establish data dictionary elements
- Convert business queries to SQL against logical datamart model
- Modify DBMS/DI design as necessary