V. Infrastructure Software Development and Architecture

ISDA Headquarters
The IS&T Website project moved from the development phase to the migration phase of the project.

- ISDA has delivered a production ready content authoring application built on drupal
- OIS has built the production environment in preparation for migration
- The team began developing scripts to move content from the old site into the new site

Kerberos Consortium
The team released Kerberos 1.7a, a new version of MIT Kerberos, which incorporates an independent implementation of the Microsoft protocol extensions. In addition, the team:

- Publicly released a significant new working paper entitled "Towards Kerberizing Web and Identity Services"
- Held the fourth Executive Advisory Board meeting of the Kerberos Consortium at Microsoft in late March
- Held its first Interoperability Plugathon, hosted by Microsoft, with 14 attendees from six different organizations
- Initiated a new collaboration with Red Hat, Ubuntu and Sun, to create a bundle of open source components whose combined functionality approximates that of a Microsoft Active Directory server

Content and Collaboration Software Services
Thalia was officially released to the community on January 21, 2009. Since opening its doors, eight of the 11 pilot sites were retained and five new domains have been provisioned, with a 20% growth in storage usage over the quarter. In addition:

- Thalia was integrated with MIT's Touchstone single sign-on service for authentication

Stellar 2.2.1 was released on January 20, 2009 for the Spring term. Stellar's peak usage reached 1161 concurrent users on February 9, 2009, breaking a previous record set in Q2 on October 15, 2008 of 1091 users. The average number of users over the two Spring (term) months amounted to 457 (330 users, including IAP). Stellar is currently hosting 889 Spring 2009 sites and 703 project sites. Over 85% of Institute subjects use Stellar. Accomplishments for Q3 include:

- Updates to the Gradebook included spreadsheet upload, section-based filtering and role-based access
- Materials management was made easier with topic reordering (drag/drop), topic collapse/expansion, a more streamlined upload form and added ability to upload larger files

- MIT Touchstone became the sole method for managing and authenticating non-MIT users via Collaboration Accounts
- In January 2009, the Physics and Math departments switched completely from a course grade management application (run solely out of the Physics department since 2003) to the Stellar Gradebook. Math and Physics have a combined 38 classes in Spring 2009 term

The MIT Wiki Service was hosting a total of 1296 wiki spaces at the end of Q3, up from 1094 in Q2 2009 (18% increase). 202 were newly provisioned and comprised 103 class-related (i.e. linked to Stellar class sites) and 99 non-class-related spaces. In addition:
- The Electrical Engineering and Computer Science department, MIT Libraries and IS&T remains the most avid departmental users of the Wiki service
- The Wiki service was upgraded to Confluence version 2.7.3 in February

Data and Reporting Services
677 unique users across campus accessed the Data Warehouse in Q3, representing 128 departments. The Data Warehouse team accomplished the following for Student Systems:
- Reviewed Functional Specs and Technical Documentation prepared by SAIS-SSIT for double majors, ethnicity, and WTW projects
- Analyzed and designed data, built data extract, translations and load processes, updated existing and created new metadata, and created new and modify existing tables and views in support of
    - The new student ethnicity policies and data requirements
    - The new student double major phase II requirements
- Enhanced faculty profile by CIP data (add FTE counts and related data)
- Changed the detail level of Student Degree Access Control table to username and mit_id (ie. all the individual students the user has been granted access to see)
- Created a new error checking routine to check to see if STUDENTFULL's BAD is due to no data file sent from MITSIS
- Analyze and design data, build data extract, translations and load processes for
    - Student grade data
    - Adding Undergraduate Time to Degree data

The Data Warehouse team accomplished the following for Finance:
- Created problem-checking script reporting Purchase orders with non-standard currencies: SING not SGD and others not USD
- Create new problem checking script to report to CAO closed (Term code '3') cost objects with balance not equal to zero

The Data Warehouse team accomplished the following for Benefits:
- Analyzed and designed data, build data extract, translations and load processes, updated existing and created new metadata, and created new and modified existing tables and views in support of Benefits Eligibility Historical data

The Data Warehouse team accomplished the following for Payroll:
- Worked Lisa Allen in CAO to fix discrepancy/problems in Payroll Fiscal Period Salary Distribution data
- Created a new problem checking script identify people not in PAYROLL_PERSON but with payroll results, postings, or distributions
- Created a problem checking script that checks for Payroll super users who also exist in other Payroll access control tables
- Implemented the revised/new process of loading Payroll EDACCA access control
- Modified the Payroll Edacca load script to capture the "real" cost objects used in EDACCA

The Data Warehouse team accomplished the following for Training & Events:
- Analyzed and designed data, built data extract, translations and load processes, created metadata, and created new tables and views for
    - Training and Event Qualifications
    - Training and Event Registration and Wait List (current and historical)
    - Training and Events Catalog

For MDS OME (Managed Data Services pilot), the team:
- Completed design and build of the managed data service test/development and production databases
- Added appropriate indexes and generated statistics to provide the DCAD Filemaker application with better performance
- Turned the Oracle audit on for testing and analyzed and reviewed results
- Built trigger (stored procedures) to update OME_STUDENT_ACL dynamically to keep track of the students in each Program Coordinator's program
- Set up a Change Password web application/process for OME users to change/setup their Oracle passwords as the Filemaker ODBC drivers do not work with Radius
- Generated and maintained metadata in support of the data extract, load and verification processes
- Designed and implemented a production process to grant Oracle roles in OME/MDS based on authorizations set up in Roles DB
- Designed and created OME access control tables
- Analyzed and designed data, built data extract, translations and load processes, updated existing and created new metadata, and created new and modified existing tables and views in support of Interphase Student data requirements
- Added OME-maintained emergency data and set up field level access (including update) appropriately
- Analyzed, designed, and implemented Interphase Cluster functionality for non-academic groups/clusters and subgroups

Other accomplishments include:
- Automated assignment and revoking of additional roles data (EHS Training)
- Continued to enhance end user metadata (add OSP/COEUS Data Models, Payroll user metadata)

- Created, tested, and moved to production new problem-checking scripts to identify pernrs in dacca or payroll results but not in PAYROLL_PERSON table
- Created, tested, and scheduled a data feed for MIT Mobile which contains MIT IDs and Kerberos data
- Added a process to delete left-over card records in whcard_picture_text for MIT Card Data
- Developed Test Cases (for QA) for all Data Warehouse Feeds and Extracts

The Reporting team accomplished the following in Q3:
- Review and modification of existing report templates to make use of the new ethnicity data
- Review and modification of existing report templates to make use of the new Double Major data
- Redesign the Financial DTR Template
- Created OSHA Headcount/EFT report template
- Revised EHS Inspections report templates to reflect changes being made in how they enter and classify inspections in SAP
- Researched, installed, and began evaluating new web-based reporting tools (Jasper Reports, Pentaho, and Oracle Business Intelligence Enterprise Edition (OBIEE)
- Continued working with Software Release Team to finalize new requirements for Oracle 11 Client Installer
- Worked with ISDA AMIT and Oracle to resolve issues with Kerberos / Radius authentication with Hyperion Intelligence
- Created a report template for Jean Dzgeneleski (support for Asst Deans) to identify people paid 100% from research accounts in the last two fiscal years
- Worked with Jean Dzgeneleski to document the Assistant Deans reporting requirements
- Created a report template for Headcount and EFT comparison of positions for Budget, Finance and Treasury Office
- Created a report template detailing maintenance contracts and repairs across the Institute
- Created a IPEDS report template for HR
- Worked with the Hass office to create report template specs to meet their HASS minor data needs
- Created a TNSC Reporting Package for IS&T

Highlights for AAUDE include:
- Backloaded IPEDS Completion data for 2003 and 2004
- Created a mapping of AAMC Institutions to AAUDE Institutions

For the MITBI project, the team accomplished the following:
- Completed requirements gathering MITBI CSAIL
- Made decision to stop project as current version of Microsoft Performance Point does not meet CSAIL's current requirements
- Completed requirements gathering for MITBI IS&T

- Made decision to stop project based on Microsoft's announcement to stop development of the Performance Point product
- Completed phase I (Requirements Gathering) for MITBI ISN
- Presented status and future plans (cost, resources, and timeline) for MITBI projects (MITBI-CSAIL, MITBI-IS&T Finance, MITBI-ISN) to ASPCC

Roles authorizations grew 5% in this quarter, adding 25 new functions and 180 new users. The ROLES team accomplished the following for the Roles Database:
- Upgraded production and databases to Oracle 10g
- Added enhancements to the authorizations table triggers (stored procedures) that record all authorization inserts, updates, and deletes in the table AUTH_AUDIT

For the new Roles User Interface currently under development, the team:
- Fixed known bugs and issues in test and moved to production in preparation for Usability testing
- Completed Usability Test
- Analyzed results of Usability Test and prepared a plan to fix issues/bugs found

For PerMIT, the team:
- Continued documenting current Roles functionality, stored procedure/triggers, scripts, etc.
- Reverse engineered the RolesDB schema to be used in the creation of a new mySQL database for permit
- Worked to design and develop an open source version of Roles

Some of the commitments for Q3, FY09 include:

ISDA Headquarters
- The IS&T Website team, lead by CSS Publication team members, will complete migration from the current website to the new website with an anticipated go live date of June 26, 2009

Kerberos Consortium
- The team will make progress toward combined functionality approximating that of a Microsoft Active Directory server through the development of requirements and specifications with external parties
- A recent reduction in sponsorship fees has generated renewed interest in joining the Consortium and the team will work towards bringing new members on board

Content and Collaboration Services
- Thalia will have a patch release to address remaining usability issues
- Stellar will make recommendations on the future LMS and begin the first pilot implementation
- Beginning April 9, 2009, the Wiki service will be relying solely on MIT Touchstone as the system for managing user logins

Data and Reporting Services
- The team will continue evaluation and make recommendation on web-based reporting tools (Jasper Reports, Pentaho, and Oracle Business Intelligence Enterprise Edition (OBIEE)
- Managed Data Services Office of Minority Education pilot will go live
- The new Roles User Interface will be rolled out to the community

Selected Metrics

Thalia Image Growth FY2009

Thalia User Growth FY2009

Thalia Storage Growth FY2009

Stellar Peak Usage FY2009

Stellar Average Usage FY2009

Wiki Site Growth FY2009

Wiki User Account Growth FY2009

Number of Unique DW Users FY2008 through FY2009

DW User Sessions FY2009

Roles Authorizations Growth FY2009