Student Services Transformation (SST)
Data Access Town Hall Meeting

Mark Molnar, Academic Planning & Budget
Gary Pacer, Administrative Computing Services
May 13, 2010
Welcome!
“Begin with the End in Mind”:
Main points from today that you should leave with

- Infosource is not going away
  - Entity / Hierarchy is not going away either
- Can still get to data with Access / other tools
- Data models will change
  - 1st priority is meeting operational needs of functional units by module - data, reports, interfaces
  - Old queries will not work with UBSIS data
  - Data location - some in legacy / some in UBSIS
  - Opportunity to re-model
- Challenge - remodel house while still living in it
- Help will be there
Concerns Regarding the Current Student System

- Lack of system *flexibility*
- Limits of system *functionality*
- Lack of *integration*
- Management of *risk*
- Need for *capacity* to support anticipated growth
Goals

- Improve service
- Manage institutional risk
- Ensure consistency between policy and practice
- Extend real-time access to integrated systems and data
- Implement a more flexible system
  - Current institutional needs
  - Planned institutional growth
Student Systems Assessment

- Launched Spring 2007
- Project Teams formed
- External consultants hired
- Surveys and workshops held to:
  - Understand business processes and needs
  - Assess current system
- Identified opportunities to improve policies and procedures
- Assessed ERP options - selected PeopleSoft Campus Solutions
<table>
<thead>
<tr>
<th>Scope: What’s in?</th>
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<tbody>
<tr>
<td>Academic Advising (Degree Audit)</td>
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<tr>
<td>Upgrade to GrAdMIT</td>
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<td>Admissions</td>
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<td>On-Line Training Tutorials (UPK)</td>
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<td>Financial Aid</td>
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<td>Document Management System</td>
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<td>Student Financials</td>
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<td>Electronic Payment</td>
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<td>Student Records</td>
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<td>Data Warehouse</td>
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<td>Upgrade MyUB</td>
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<td>Interfaces for enterprise systems</td>
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<td>Upgrade to Scheduling (R25 and Schedule 25)</td>
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</tbody>
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Governance

- Executive Steering Committee
- Project Directors Team
- Project Management Team
- Core Project Team
- Advisory Groups:
  - Campus Community Advisory Group
  - Data Access Advisory Group
  - Directors Advisory Group
  - Faculty Advisory Group
  - Student Advisory Group
- [http://www.buffalo.edu/ub2020/sst/membership.html](http://www.buffalo.edu/ub2020/sst/membership.html)
Campus-Wide Commitment

Core Project Team includes representation from:

- Academic Planning and Budget
- Academic Processing Services
- Academic Services, CIO Operations
- Administrative Computing Services
- College of Arts and Sciences
- Division of Athletics
- Enterprise Infrastructure Services
- Financial Aid
- Financial Processing Services
- Graduate Enrollment Management Svcs.
- Graduate School of Education
- Graduate School Student Services
- International Education
- School of Dental Medicine
- School of Law
- School of Medicine and Biomedical Sciences
- School of Nursing
- School of Pharmacy & Pharmaceutical Sciences
- School of Social Work
- Student Academic Records and Financial Svcs.
- Student Advising Services
- Undergraduate Admissions
- University Communications
- Vice Provost of Undergraduate Education
Campus-Wide Commitment

Campus involvement includes:

**Subject Matter Experts**
- Fit/Gap Sessions
- Business Process Redesign
- Configuration
- Data Conversion
- Customization Specifications
- Issue Identification and Resolution
- Modeling and Testing
- Training Development

**Communications/Feedback/Training**
- Stakeholder Advisory Sessions and Groups
- Change Readiness Assessments
- Open communication with existing groups
- Project-wide and area-specific listservs
- UB2020 Website
- Training - Multiple delivery methods
  - Hands-on training sessions
  - Online “on-demand” support
  - Extensive reference documentation
Campus-Wide Commitment

Data Access Advisory team involvement includes representation from:

- Academic Planning and Budget
- Administrative Computing Services
- Business and Reporting Services
- College of Arts and Sciences
- Institutional Analysis
- Office of the President
- School of Engineering and Applied Sciences
- School of Management
- School of Medicine and Biomedical Sciences
- Student Academic Records and Financial Services
Timeline

- Core Configuration began January 2009; Completed January 2010
- Complex Extensions and Environmental Adaptations began July 2009
- Go Live dates for the Summer 2011 semester:

<table>
<thead>
<tr>
<th>Go Live #</th>
<th>Description</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>#1</td>
<td>Student Records - Course Catalog</td>
<td>February 2010</td>
</tr>
<tr>
<td>#2</td>
<td>Campus Community, Admissions, Student Records - Schedule of Classes, Portal</td>
<td>August 2010</td>
</tr>
<tr>
<td>#3</td>
<td>Financial Aid</td>
<td>February 2011</td>
</tr>
<tr>
<td>#4</td>
<td>Student Records-Registration</td>
<td>March 2011</td>
</tr>
<tr>
<td>#5</td>
<td>Student Financials</td>
<td>May 2011</td>
</tr>
<tr>
<td>#6</td>
<td>All remaining Student Records items and Academic Advising/Degree Audit</td>
<td>July 2011</td>
</tr>
<tr>
<td>Student Records</td>
<td>Course Catalog - Central Scheduling only Ahead of schedule and under budget</td>
<td>February 2010</td>
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<tr>
<td>-----------------</td>
<td>-----------------------------------------------------------------------------</td>
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</tr>
<tr>
<td>Portal</td>
<td>Look and feel updates - Students, Faculty and Staff</td>
<td>May 2010</td>
</tr>
<tr>
<td>Admissions</td>
<td>Applications for Summer and Fall 2011</td>
<td>August 2010</td>
</tr>
<tr>
<td>Portal &amp; Campus Community</td>
<td>MyUB; Biographic and demographic information for Summer and Fall 2011 incoming students</td>
<td>August 2010</td>
</tr>
<tr>
<td>Student Records</td>
<td>Schedule of Classes - Department Schedulers</td>
<td>August 2010</td>
</tr>
<tr>
<td>Financial Aid</td>
<td>ISIR Loads - Summer and Fall 2011</td>
<td>January 2011</td>
</tr>
<tr>
<td>Academic Advising</td>
<td>Degree audit reports for Fall 2011 incoming undergraduate transfer students</td>
<td>January 2011</td>
</tr>
</tbody>
</table>
## Detailed Timeline

<table>
<thead>
<tr>
<th>Category</th>
<th>Activity</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Admissions</td>
<td>Decision processing for Summer and Fall 2011 applicants</td>
<td>January 2011</td>
</tr>
<tr>
<td>Admissions</td>
<td>Matriculate students</td>
<td>March 2011</td>
</tr>
<tr>
<td>Campus Community</td>
<td>New Student Information System becomes system of record for all UB students</td>
<td>March 2011</td>
</tr>
<tr>
<td>Portal</td>
<td>Updates to MyUB for all Faculty, Staff, and Students</td>
<td>March 2011</td>
</tr>
<tr>
<td>Financial Aid</td>
<td>Packaging for Summer and Fall 2011</td>
<td>March 2011</td>
</tr>
<tr>
<td>Student Records</td>
<td>Registration for Summer and Fall 2011</td>
<td>March 2011</td>
</tr>
<tr>
<td>Student Financials</td>
<td>Cashiering; refunding; tuition calculation; and self-service</td>
<td>May 2011</td>
</tr>
<tr>
<td>Financial Aid</td>
<td>Direct Loan processing</td>
<td>June 2011</td>
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</tr>
<tr>
<td>Student Financials</td>
<td>Billing for Summer 2011; Late fee processing</td>
<td>June 2011</td>
</tr>
<tr>
<td>Student Records</td>
<td>Grade entry and grade posting; transcript generation; end of term processing</td>
<td>June 2011</td>
</tr>
<tr>
<td>Financial Aid</td>
<td>Disbursement of Summer 2011 aid</td>
<td>July 2011</td>
</tr>
<tr>
<td>Student Financials</td>
<td>Billing for Fall 2011; Collections</td>
<td>July 2011</td>
</tr>
<tr>
<td>Academic Advising</td>
<td>Degree audit reports for all undergraduate students; some graduate students</td>
<td>July 2011</td>
</tr>
<tr>
<td>Financial Aid</td>
<td>Disbursement of Fall 2011 aid; TAP certification</td>
<td>August 2011</td>
</tr>
</tbody>
</table>
## Detailed Timeline

<table>
<thead>
<tr>
<th>Student Records</th>
<th>Posting degrees</th>
<th>September 2011</th>
</tr>
</thead>
<tbody>
<tr>
<td>Student Financials</td>
<td>1098T processing</td>
<td>October 2011</td>
</tr>
</tbody>
</table>
Information Evolution – analogous to Darwinian evolution

- Drivers for change
  - Data required for planning purposes
  - Difficulty getting data out of system - screen scraping, Mapper Rids, etc...
  - Datacom Database does not allow end user access
  - Disparate nature of systems involved in processing; difficulty collating data
UB Infosource (est. 1995)

- Series of relatively easy to use tables
- Resource commitments to support initiatives
- User groups
- Metadata / User sessions to assist users writing their own queries
- Two types of users: report runners / “BIG” users
- Standard reports on web (IS Online)
- Iterative development
- Seems like it works...... UB ahead of curve
Downside of Infosource

- Mature in this area
  - Increased expectations
  - Increased data needs
SIRI (Strategic Information Reporting Initiative)

- Strategic and Operational data needs - reconfigure data to answer policy questions
- Initial phase addresses operational needs using human resource, financial and procurement information
UBSIS / Infosource Collision: “Remodeling House while still living in it “

- Problem Statement: “How to provide data to current customers when source systems are being replaced?”
- Infosource is not going away!
- Business Re-engineering efforts will trigger new processing, data , etc
- Where do you start? -THE FOUNDATION
The Supporting data must change

- Systems (new and legacy) do the same things but in different ways; their parts are not interchangeable (e.g. Chevy parts in a BMW)
- Data Architecture different - tables, transactions, etc...
New Concepts and Terminology:

- **Divisions** are Careers
- **Majors and minors** are Plans
- **Concentrations** are Sub-plans
- **Semesters** are Terms
- **Credits** are Units
- **Department Offering a course** is now called an Academic Organization
- See list at http://ubsistraining.buffalo.edu/pdfs/glossary.pdf
Examples

- **T-Score**
- **Naming Conventions** - reporting = transactional system
  - Student Number / Person Number / Empl ID
- **Data Definitions**

<table>
<thead>
<tr>
<th>TERM</th>
<th>PLAN</th>
<th>PROGRAM</th>
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<tbody>
<tr>
<td>2008 Fall</td>
<td>Medical Technology INT BS</td>
<td>Biomedical Sci Bachelor</td>
</tr>
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</table>

**VS.**

<table>
<thead>
<tr>
<th>SEMESTER_FMT</th>
<th>MAJOR_ABBREV</th>
<th>MAJOR_ENTITY</th>
<th>MAJOR_SCHOOL</th>
<th>MAJOR_HIERARCHY</th>
</tr>
</thead>
<tbody>
<tr>
<td>FA/2008</td>
<td>MT</td>
<td>0452</td>
<td>0812000000</td>
<td>0812300400</td>
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Challenge

- Assume the need for Infosource remains
- Move Infosource forward along with the new systems
- 15,000 tables UBSIS - how to replace representative data?
- How to pull the right information from the right tables to result in useful info?
Why is it so difficult getting information from Higher Education ERP Systems?

```sql
SELECT b.EMPLID, b.ADMIT_TERM, b.PROG_ACTION, b.PROG_REASON, b.ACAD_LOAD_APPR
FROM PS_ADM_APPL_DATA a inner join PS_ADM_APPL_PROG b
  on a.EMPLID = b.EMPLID and
    a. ACAD_CAREER = b.ACAD_CAREER and
    a. ADMIT_TERM = b.ADMIT_TERM
WHERE b.ACTION_DT = (SELECT max(ACTION_DT) as ACTION_DT FROM PS_ADM_APPL_PROG)
WHERE EMPLID = b.EMPLID and
  ACAD_CAREER = b.ACAD_CAREER and
  ADMIT_TERM = b.ADMIT_TERM) and
b.EFFSEQ = (SELECT MAX(EFFSEQ) FROM PS_ADM_APPL_PROG)
WHERE EMPLID = b.EMPLID and
  ACAD_CAREER = b.ACAD_CAREER and
  ADMIT_TERM = b.ADMIT_TERM and
  ACTION_DT = b.ACTION_DT)
```
What have we done?

- Talked to other schools

Boise State University

“To summarize, I guess I would say that there really wasn't much in the way of comprehensive planning as to what reports were most needed, who would create them, what tools would be used, etc. We've just kind of muddled along.”
What have we done?

- Talked to other schools *(continued)*

**Colorado University**

“I’d love to answer all these questions, except - we don’t have many answers yet. “
What have we done?

- Talked to other schools *(continued)*

**Towson University**

“After about a year, they started a project to extract PS data into datamarts. Admissions took them 2 years (2 developers and 6 functional resources) to complete.”
What have we done?

- Talked to other schools *(continued)*

**California State University**

“Quickly found that the functional people needed to configure product were too busy implementing core ERP system so we basically did nothing until people complained; this cut off service to a population of people doing their own reports via an reporting data warehouse.”
What else have we done?

- Looked at products
- Looked at home grown development
- Conclusion - buy product built on Peoplesoft experience; Higher Ed orientation
- Issued RFP
- Purchased Higher Ed Analytics from iStrategy
HigherEd Analytics Overview

- Intuitive **self service** access to reliable information ("single version of the truth")
- Single DW solution for casual and power users
- Rich library of higher education **performance metrics**
- Powerful **analytic capability** to support decision making and management information needs
- "**Out-of-the-box integration** to leading ERP vendors"
- An **open technology platform** that is easily extensible
- **Rapid deployment** capability

<table>
<thead>
<tr>
<th>Analytic Application</th>
<th>Personalized Dashboard</th>
<th>Guided Analysis</th>
<th>Interactive Reports</th>
</tr>
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<tr>
<td></td>
<td>OLAP Cubes</td>
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<thead>
<tr>
<th>Dimensional Data Warehouse</th>
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<thead>
<tr>
<th>ETL Modules</th>
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<tr>
<td>ERP</td>
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<td>Other Data Sources</td>
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</table>
### Student Model

#### Dimensions

**Admissions:**
- Application Method
- Applicant Zip Code
- Applicant Fin Aid Interest
- Applicant Housing Interest
- Applicant High School
- Recruiting Category
- Applicant Status
- Admit Category
- Applicant SAT Band
- Applicant HS GPA Band
- Applicant HS Rank Band
- Applicant Age Band

**Faculty Attributes:**
- Faculty
- Faculty Rank
- Highest Education Level
- Tenured Status

**Graduates:**
- Graduate Apply Status
- Degree
- Years to Graduate Band

#### Fact Areas

- **Admissions**
- **Student Term**
- **Student Plan**
- **Class Schedule**
- **Class Instruction**
- **Registration**
- **Degree Awards**
- **Student Financials**

#### Dimensions

**Institutional:**
- Term
- Career/Plan
- Academic Org
- **Student Term:**
- Academic Level
- Academic Standing
- Cohort/Cohort Type
- Student Term Status
- FT/PT; Credit Hour Band

**Class/Grade:**
- Subject/Class
- Course Level
- Class Type
- Grade
- GPA Band

**Student Attributes:**
- Student
- Student Citizenship
- Student Ethnicity
- Student Gender
- Student Geography
- Student Age Band
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<thead>
<tr>
<th><strong>Student Services Transformation</strong></th>
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</table>

### Library of Student Metrics (Partial List)

#### Student Term
- Student Count
- Enrolled Student Count
- New Enrollee Count
- Num Student Withdrawals
- Prior Year Student Count
- % Change in Enrollment PY
- Change in Student Count PY Avg
- Credit Hours
- Avg GPA Cumulative
- Avg GPA Term
- Avg Student GPA Change
- Prior Term Cumulative GPA
- Credit Hours Cumulative
- Credit Hours Term
- GPA Cumulative
- GPA Term
- Grade Points Cumulative
- Grade Points Term
- Cohort Retention %
- Term Retention %
- Academic Year Retention %

#### Student Plan
- Student Count
- Plan Count
- SubPlan Count

#### Class Registration
- Student Count
- Registered Class Count
- Enrolled Class Count
- Drop Count
- Dropped %
- Avg Class Grade
- Avg Classes Per Student
- Avg Credits Per Class
- Avg Credits Per Student
- Avg Enrollment Per Course
- Avg Enrollment Per Section
- Credits Taken
- Credits Earned

#### Class Schedule
- Num Courses Offered
- Num Sections Offered
- Avg Section Capacity
- Avg Course Capacity
- Avg Sections Per Course
- Course Utilization %
- Section Utilization %
- Faculty Count
- Student to Faculty Ratio

#### Admissions
- Applicant Count
- Pending Count
- Admitted Count
- Matriculated Count
- Enrolled Count
- % Admitted
- % Admitted Enrolled
- % Applicants Enrolled
- Avg SAT Math Score
- Avg SAT Total Score
- Avg SAT Verbal Score

#### Faculty Term
- Average Years of Service
- Faculty Count
- New Faculty Count
- Years Employed

#### Graduates
- Degrees Count
- Graduation Rates
- Average Credit Hours
- Average GPA
- Average Years to Graduate
How are we going to deploy this at UB?

- **Requirements - what are they?**
  - We can’t wait to determine what we want; we need to provide solutions for existing customers with priority to the functional needs of support units.

- **Replicate Current Infosource content** as much as possible - subjects areas / reports

- Because systems do things differently, content will change

- New elements, eliminated elements, values, concepts
How are we going to deploy this at UB? *(continued)*

- Understanding that new system will trigger new needs - iterative development
- Piggyback on module “Go-Lives”
  - stage deployment of new views to module rollout schedule
  - Data Access efforts highly dependent on module configuration and implementation; we’re just behind!
A closer look at the process.......
Extra Challenge

- In September 2010:

  - Admission’s data for Semesters Fall 2010 and Spring 2011 will be in current format in current view

  - Admission’s data for Semesters Summer 2011 and Fall 2011 will be in new format in new view

The splitting of data will continue throughout the project.
Extra Extra Challenge

- For views constructed with data from multiple subject areas, how to build new ones if module implementation dates are staggered?
Reports

- Integration with SIRI
  
  *(for now, think Infosource for access to data; SIRI for access to reports)*

- Infosource Online style reports migrated to SIRI

- Standard reports available from our purchased package can be found there too
What you will see:

- New data models
  - Some things are not transferable; some things are new
- New data elements
  - Some things are not transferable; some things are new
- New reports in a new location
  - Rewrites of old favorites
  - Standard reports provided from a tool we’ve purchased
- Selective existing Infosource models will remain...as is
  - Staggered implementation necessitates this
  - Some may not be refreshed

and when will you see it!
What this means for -

- **query writers** - some pain
- **report runners** - new location
- **everyone** - new interpretation
Prepare for Deployment

- Consulted with Admissions personnel, Advisory Group
- Start with Admissions Active content; effort in Course and Person also
- Some fields not brought over
- Some fields change in meaning
- Converted data determined by need
- Some data only in UBSIS / some only in legacy
What should I be doing now?

- Communication - stay in loop and keep others in the loop (your unit)
- Review internal information needs against go-live schedule (begins 8/1)
- Advisory Group plans - how peers will attack this issue
Example *(Courtesy of School of Management)*

1. Know what's being converted: first we would need a list of the tables by their actual Infosource table names and what are their associated new tables. We would need a listing of the fields, along with the field description, for each of the tables.

2. We would need an understanding of the new system from the standpoint of the entity codes and division no longer being in the tables/system. We would need to understand the plan and how to retrieve just Management data.

3. MS Access: review the databases that utilize the Infosource tables in question and determine how many queries and reports need to be reviewed and recreated using the new tables. We would probably prioritize the list of items too.
Example *(Courtesy of School of Management)*

4. **MS Access:** we would link the new Infosource tables in the Access database. Next we would make a copy of the long standing query(s) that we've used, leaving the existing query(s) in place. We would change the query to utilize the new table(s) and fields. We assume there might be some issues with joining tables, either in-house tables or "old" Infosource tables.

5. **Balance or validating integrity of reports:** the most important step will be to confirm the integrity or accuracy of the reports. It would be great to balance or compare the results to something. It would be nice if the old tables and new tables contained the same information for at least one semester which would provide an opportunity to "balance" the new query(s).

6. **Support:** finally it would be great if there was someone to call or email with questions about the new table structures, using the new data, understanding the new fields, comparing the old and new data, etc.
What Assistance will there be?

- Metadata
- Cross walk (“field was / field is”) - where applicable
- More Town Hall sessions
- Listserv
- User Groups - Directed presentations
- Other possibilities....
Communications

- SST Website at www.buffalo.edu/ub2020/sst
- “SST This Month” updates
- Reporter and Spectrum Articles
- Specific Go-Live Communications
- Two-Way Communications
  - Change Readiness Assessment Surveys
  - Focus groups
  - Feedback to us at ub-sst@buffalo.edu
“And for the sixth time....”

- Infosource is not going away
  - Entity / Hierarchy is not going away either
- Can still get to data with Access / other tools
- Data models will change
  - 1st priority is meeting operational needs of functional units by module - data, reports, interfaces
  - Old queries will not work with UBSIS data
  - Data location - some in legacy / some in UBSIS
  - Opportunity to re-model
- Challenge - remodel house while still living in it
- Help will be there
Thank you!

Questions and Discussion

The public website for the project is located at: http://www.buffalo.edu/ub2020/sst

We welcome your feedback!
Please email questions and comments to: ub-sst@buffalo.edu