

## **Financial Analysis Scope and Data Audits**

This document describes the scope of the Financial Analysis data mart scheduled for delivery in July 2002 and the data auditing issues affecting this scope.

### **Data Warehouse Scope Recommendations**

On October 18, 2001 the Data Warehouse Sponsorship Committee adopted a phased implementation approach that builds upon and integrates with previous phases in implementing the Rensselaer Data Warehouse architecture. Using this approach, the data warehouse will be developed in an evolutionary, one-step-at-a-time fashion, starting with a well-defined and commonly agreed to set of requirements, and expanded it over time.

Identifying scope is critical to defining the subject areas that will be addressed within each phase. During the detailed requirements gathering process for the financial analysis subject area, additional key requirements were identified that although are outside the parameters of the July 2002 deliverables have to be noted and addressed: the need for position control and labor data and research-related activity data.

Although Research was identified as a separate subject area scheduled for development later on, the academic schools focus a great deal of their financial analysis on research related activity. Enabling the academic schools to clearly identify research related budgets and expenditures in the first phase would greatly enhance the value of financial information delivered in July 2002.

Business representatives commonly discussed reporting and analyzing labor budget and actual data as a priority. In addition to reporting by fund, organization, account, program, activity and location (FOAPAL), labor budget and actual data is analyzed by position, job and person. Providing a total picture for planning will require linking to Human Resources data to acquire position control data to help portfolio managers understand the budget impact of committed new hires.

Delivered in July 2002, Financial Analysis data mart implementation will focus on analysis of budget and expenditure activity associated with the fund, organization, account, program, activity and location (FOAPAL) structures. In the following phases, the data warehouse should address the need to integrate position control data along with research information characterized by contracts and Grants and Sponsor Agencies.

The following describes the primary characteristics of phases I – III of the data warehouse:

- **Phase I – Financial Analysis (January 2002 – June 2002)**
  - The financial data from the operational ledger will include budget, expenditure, encumbrance and reservation, while the general ledger data will include debits and credits.
  - Key reporting attributes will include Fund, Organization, Account, Program and Activity. The structured hierarchies within Banner will be incorporated into each data warehouse dimension. Since transaction data is required, attributes such as document type will be included to help end users categorize transaction activity.
  - The data warehouse will contain three years of historical data corresponding to the FOAPAL structures summarized by month, fiscal quarter and fiscal

period. The summarized data will be supported with the current two fiscal years of transaction detail.

- The data warehouse will begin to address fundamental reporting aspects of research related activity by incorporating key Grant attributes such as grant code, description, total amount awarded, grant periods, grant status and sponsor agency.
  - The data warehouse will incorporate key transaction related information such as transaction amount, document code, document type, transaction description. Additional items associated with transactions will be identified and incorporated during the design phase.
  - Unless directed otherwise by the guidelines developed by the Data Policy committee, the information in the data warehouse will be secured by fund and organization, enabling a fund owner to access all activity associated with the fund regardless of the organization. Similar to Banner security, this approach will restrict people to view only their financial data.
  - Data will be refreshed on a daily basis.
  - The data warehouse will preserve historical reporting by ensuring data associated with a fund or organization is not changed as these structures change from fiscal year to fiscal year. Additionally, the flexibility to report on past historical data using current and fiscal year end structures will be incorporated.
- **Phase II – Labor Budget and Actual (July 2002 – September 2002)**
    - The data warehouse will be expanded to incorporate position, job, person and distribution data.
    - The data warehouse group will work closely with the budget office to integrate information with the quarterly forecasting and annual budgeting process.
  - **Phase III – Research Analysis (October 2002 – December 2002)**
    - The data warehouse will be expanded to incorporate sponsored research information. Key areas addressed during this phase will further enhance the analysis of research data by sponsor, time, FOAPAL and Grant PIs.

### **Results of the Financial Data Audit Analysis**

Data Audit effort consisted of identifying data sources, and determining the consistency and integrity of the data. Throughout this process, the data Warehouse group has identified several issues. These issues are logged and will be worked out by the Financial Analysis Implementation team and the Data Warehouse group.

Several issues listed below have a direct impact on the scope for the July 2002 deliverables and therefore have to be addressed and agreed upon:

- ***Financial Statements***

The finance department needs to simplify and reduce the time it takes to produce and distribute quarterly management reports and annual financial statements. Currently, a large number of queries are executed to extract data from the Banner business systems to integrate into local spreadsheets and Microsoft Access database tables. This time consuming process requires many steps to manually integrate and regroup data from various sources into meaningful financial information. Those responsible for the preparation of this information are requesting a single source of integrated, reliable and timely financial information that is interfaced with an easy to use and flexible reporting tool.

**Issue:** Currently the data as it is collected in Banner does not correspond to the formal presentation categories utilized in the annual financial statements. The finance office must first take the necessary steps to analyze and identify how the financial statements prepared before the data warehouse can incorporate the formal production of financial statements.

Furthermore, the data warehouse must incorporate a mechanism to integrate Rensselaer Technology Park year-end summarized financial data for the production of annual financial statements.

**Resolution:** Finance has to analyze and determine the new reporting structure of the financial statements. Once the structure is determined, the implementation approach needs to be developed, through Banner or the Data Warehouse.

In addition, the DW group will need access to the Technology Park financial data.

**Timing:** To be included in the July 2002 deliverables, the financial statements reporting structure has to be designed by the end of February 2002 at the latest. Otherwise, it will be scheduled for a later delivery date.

**Follow-up notes:** On February 26, 2002 the Data Warehouse Steering Committee has approved the exclusion of the financial statements from July 2002 deliverables. Once the Financial Statements reporting structure is implemented in Banner, the committee will re-visit this issue.

- ***Principal Investigator's and Multidisciplinary research data.***

There is a requirement to be able to report and analyze Research expenditures and budgets data based on the attributes of all Principal Investigators associated with the Grant and have better information available on the Multidisciplinary research.

**Issue:** Currently within the Banner Research module we are capturing only information about one Principal Investigator.

**Resolution:** Multiple PI's data has to be captured in Banner to provide a single and reliable source of information.

**Timing:** Has to be implemented by October 2002 before the implementation of the Research Data Mart.

**Follow-up notes:** Since the multiple PI's data is currently not available, the Data Warehouse Steering Committee has decided on February 26, 2002 to exclude it from July 2002 deliverables. Multiple PI's data will become available through the implementation of the Research data mart.

- **Capital Projects**

Currently there is a requirement for analyzing, tracking, and reporting Capital Projects information by the associated Project Managers.

**Issue:** Unfortunately the information regarding Project Managers is not stored anywhere.

**Resolution:** We either identify how to store it in Banner or decide that we will not meet this requirement.

**Timing:** N/A

**Follow-up notes:** Since the information is not available, the Data Warehouse Steering Committee has decided on February 26, 2002 to exclude it from July 2002 deliverables.

- **Technology Park financials**

Currently, the Rensselaer Technology Park data resides in a local business system and is manually integrated into the annual financial statements.

**Resolution:** The Rensselaer Technology Park financial data will need to be loaded in summary either into Banner or into the data warehouse.

**Timing:** If the Financial statements not included in July 2002 deliverables, there is no compelling reason to load the Technology Parks financials into the Data Warehouse. Otherwise the DW group needs access to the data by mid February.

**Follow-up notes:** On February 26, 2002 the Data Warehouse Steering Committee has approved that the Technology Park financials will be re-entered into Banner by the Finance office using the appropriate FOAPA structure that will allow clear separation of the Technology Park financial data. Summarized Technology Park financials will be loaded into the Data Warehouse in the same fashion as Troy and Hartford data.



- **Salaries encumbrances**

As identified by DecisionWorks Consulting in the 'Data Warehouse Requirements Analysis and Prioritization Findings and Recommendations' document:

*"Implementation of data to support financial analysis in the data warehouse will provide the portfolio managers with more robust tools to support the new budget and planning processes and provide better control over their current spend rate. They will be better equipped to justify their expenditures, identify available budget monies, and react more quickly to negative variances.....The feasibility of implementing this opportunity is moderate. ....However, implementing salary encumbrances in Banner is a key prerequisite to supporting this requirement in the most meaningful manner. This prerequisite pushes the feasibility of this opportunity to the moderate range. ....Financial analysis was determined to be one of the highest priority requirements, in spite of the feasibility challenges described above. On October 18, financial analysis was selected as the initial phase for the data warehouse project. ..."*

**Issue:** There is no system in place that captures salaries encumbrances. To include any outside Banner solutions, we will need access to the design of the sources by the end of February 2002.

**Resolution** Once a Salaries encumbrances solution is identified and implemented, the DW group will make plans to load this data into the Data Warehouse.

**Follow-up notes:** Due to the lacking data, on February 26, 2002 the Data Warehouse Steering Committee has approved the exclusion of the Salary Encumbrances data from the July 2002 deliverables.