

June 2002 Trip Report

During the week of June 24th, 2002, Kathy Gates, Jill Stribling and Rick Thurlow visited SAP headquarters in Walldorf, Germany to:

1. Participate in a customer focus group session;
2. Learn about new reporting tools within Campus Management (CM) and SAP R/3 at large; and
3. Meet with CM developers on issues related to UM's Phase 2 implementation.

Jill and Rick have summarized the findings and outcomes of the FOCUS group session in a separate report. The results of the reporting work and the meetings with developers are outlined here.

Reporting

The longterm reporting solution for CM will be based on Business Warehouse; however, the realization of a CM to BW interface is still several development cycles away. To assist universities with an interim solution, Edgar Meyer has developed a Reporting Cookbook that will be made available in several weeks. As part of this cookbook, he has developed sample selection methods/variants, a sample logical database (RHIQ_STUDENT_LDB), sample infosets, and several sample reports that will be delivered with CM 4.71. Although the sample database and reports won't be available until CM 4.71, all of the tools used to create these are available in CM 4.64. It should be noted that the reporting tools that are being promoted for CM will work with other kinds of SAP R/3 data and could have valuable uses elsewhere in UM's SAP environment. Also, the tools that are described here are not appropriate for all reporting needs. For example, statistical reporting on historical data is best accomplished by other schemes.

Activities

From Monday morning through Thursday afternoon, Kathy worked with CM developers, Edgar Meyer and Armin Weidenschlager, to learn about the new reporting tools in SAP R/3 that are being recommended as a solution for ad hoc reporting in CM. This opportunity was provided to UM in exchange for two developer days. During the week, Kathy set up new reports based on Meyer's sample logical database and also created new selection methods/variants, a new logical database, new infosets, and new reports that operated against the new selection methods and database. She worked through the reporting cookbook, asking for clarifications as needed.

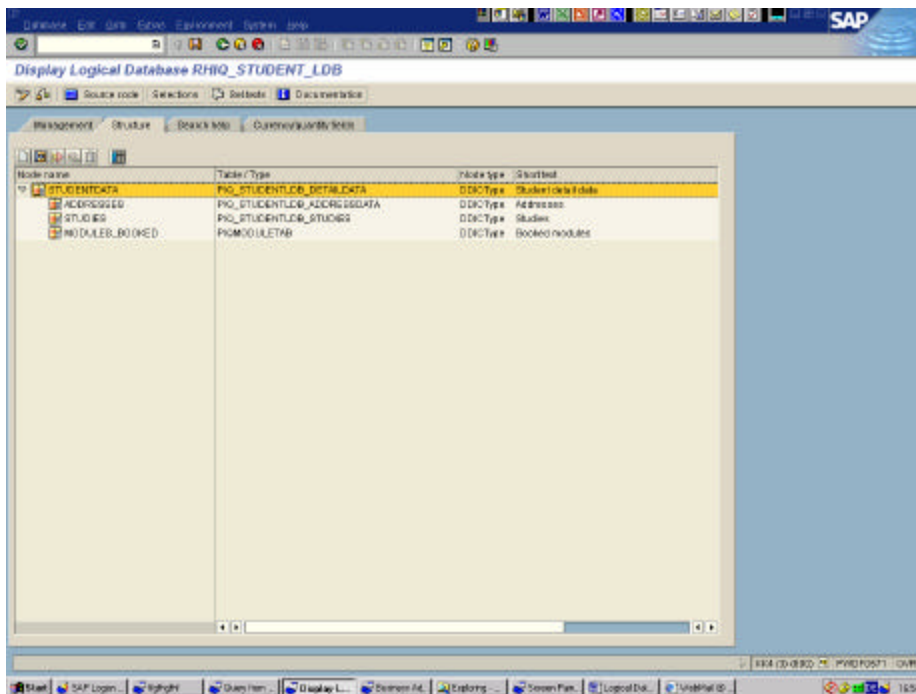
Logical Databases

A logical database allows one to set up a hierarchical organization of data based on a root object, e.g., a student, a program of study or an organization, and its attributes, as well as other objects that are related to the root object in natural ways. For example, Edgar's sample logical database consists of student objects as the root node with related student data as attributes (such as personal data), and addresses, booked modules and studies as sub-nodes to the root node. The hierarchy can be extended indefinitely; however, there needs to be a natural relationship between the levels of nodes.

One advantage of using a logical database is that virtually all applications within SAP R/3 can access the database, allowing one to set up the structure and authorizations once and then to reuse this capability in multiple settings. Another advantage of using a logical database is that there is

almost unlimited flexibility in grouping related data items. If function modules are available for getting access to the data, then the data can be easily included in the node hierarchy of a logical database. Moreover, in CM, evaluation paths can be used to access related objects. A possible disadvantage of using logical databases is that they do not perform as well as relational databases.

The first step in defining a logical database is to set up the data structures that will make up the database and the hierarchy of nodes. The second step is to identify the selection methods for the database. Selection methods allow the end user to make initial choices on which objects to include in subsequent queries. For example, it may be desirable to build a selection method of CM that allows one to search for students by name, enrollment status, or program of study. The third step is to write programs that retrieve the data and populate the data structures.



InfoSets

An infoSet can be thought of as a view on a logical database. For example, not all fields of a logical database may be appropriate for all user groups and settings. An infoSet allows one to identify the subset of fields that will be available for different kinds of reporting purposes. Multiple infoSets can be identified to meet varying needs.

Tools for Reporting

Once the logical database and infoSets are created, any number of tools can be used to produce reports. Examples are InfoSet Queries (including ALV Grids), Queries, and Smart Forms. Certain third-party reporting tools such as Crystal Reports allow one to report against infoSets. One question for UM is whether WebFocus supports reporting against SAP R/3 infoSets.

Next Steps

Over the next few weeks, Kathy will set up sample logical databases, infosets, and reports in the CM sandbox and then conduct demonstrations for those who are interested. She will also provide more in-depth technical sessions for IT staff.

The reporting team has just completed a prioritized inventory of current legacy reports. The information gathered this week will be helpful in identifying follow up activities for the reporting team. For example, we need to know which CM objects and attributes are targeted by the reports that have been identified so far. This information can then be used to decide what logical databases will be needed.

In summary, the techniques that are being proposed as part of the CM reporting solution seem to be flexible, powerful and well-suited to meeting many of UM's reporting needs. The opportunity to work directly with developers gave UM a much-needed jump-start in realizing reporting solutions within CM.

Meetings with Developers

Admissions

Kathy met with Bodo von Glahn to review the enhancements to the admissions process that will be available in CM 4.71, some of which will be downgraded to CM 4.64. These enhancements are being provided in response to concerns presented by Rick, Jill and Marlies in January 2002 meetings while participating in CM 4.64 testing. Our understanding is that the following enhancements will be downgraded to CM 4.64:

- The capability to assign different customer-defined workflows to different scenarios for admissions processing,
- The capability to handle automated processing within an admissions workflow, e.g., the evaluation of test scores
- The capability to suspend workflow processing until certain events occur within a workflow, e.g., the application fee has been paid
- The capability to store, edit, and delete admissions data as part of the student file outside of ISR processing (needed for academic history uploads)
- The capability to upload related persons data into appropriate business partners as part of the admissions processing

Another item in this area is the capability to track missing documents. It is an open issue as to whether this will be downgraded to CM 4.64.

Bodo indicated that he thought a visit to UM for a week in September by himself, Thomas Endres and the workflow expert they have been collaborating with would be of great value due to UM's aggressive implementation schedule. We wholeheartedly support this. Setting up an admissions scenario, especially making full use of workflow capabilities, is a challenging and complex task. Ideally, during this visit they could assist IT staff in setting up one or two scenarios with appropriate back-end processing based on the information that is being provided by Larry Ridgeway, Maurice Eftink and William Oliphant on how applications should be routed. Rick and Jill can provide more detail in this area from the Focus group presentation.

Event Migration

Joe Norman, Kathy and Rick have been working on a strategy for the migration of legacy event planning data. We anticipate having campus users build the Spring 2003 course offering in the legacy system and then migrating this information to CM in February 2003 to prepare for priority registration in Spring 2003. Kathy, Jill, Rick, and Marlies met with developers involved in event planning (Volker, Michael, and Udo Pieleles) plus Joachim Plumbaum to discuss strategies for performing the migration. Two options were presented: using HR batch upload capabilities or developing custom programs that call the “create event” and “create event package” RFCs (HRIQ_CREATE_EVENT and HRIQ_CREATE_EVENT_PACKAGE) and associated functions to establish relationships. In the latter case, they suggested that we study the CM IQ-COPY “roll-forward” transaction for hints on what should be called and in what order. They confirmed that we will need to upload resource data first (locations and instructors), we will need to upload all courses (SM’s) including deleted courses, and we will need to upload events and event packages (event packages before events). They also confirmed that historical event details are not required for the upload of student academic history data. When uploading event packages and events, we will need to map legacy data items to corresponding CM objects. There was some discussion on using alternate title capability when uploading historical courses with name changes. We asked about suggestions on how many transactions to attempt at a time per upload, and they suggested 200 as a reasonable starting point. They confirmed our hunch that much of the activity could be automated, but that some manual processing would likely be required. The outcome of this meeting was that UM would go the next step in defining a technical plan for performing the upload and present this to CM developers for further review and feedback.

Academic History

Kathy, Jill, Rick, and Marlies met with Udo Pieleles, Banko (sp?) and Joachim Plumbaum about plans for downgrading RFCs to support the migration of academic data. We agreed upon the following schedule:

- Documentation describing the overall technical approach for migrating academic history data: 7/20
- Documentation on the interfaces (similar to the Financial Aid specification) and documentation on the booked modules table in CM (so that UM can prepare for transcript production and begin developing legacy extracts): 7/31
- The majority of the academic history RFCs (at least 2/3): the early September CRT with the remaining RFCs in the next available CRT
- The expert interface to manipulate academic history data within the student file: end of October

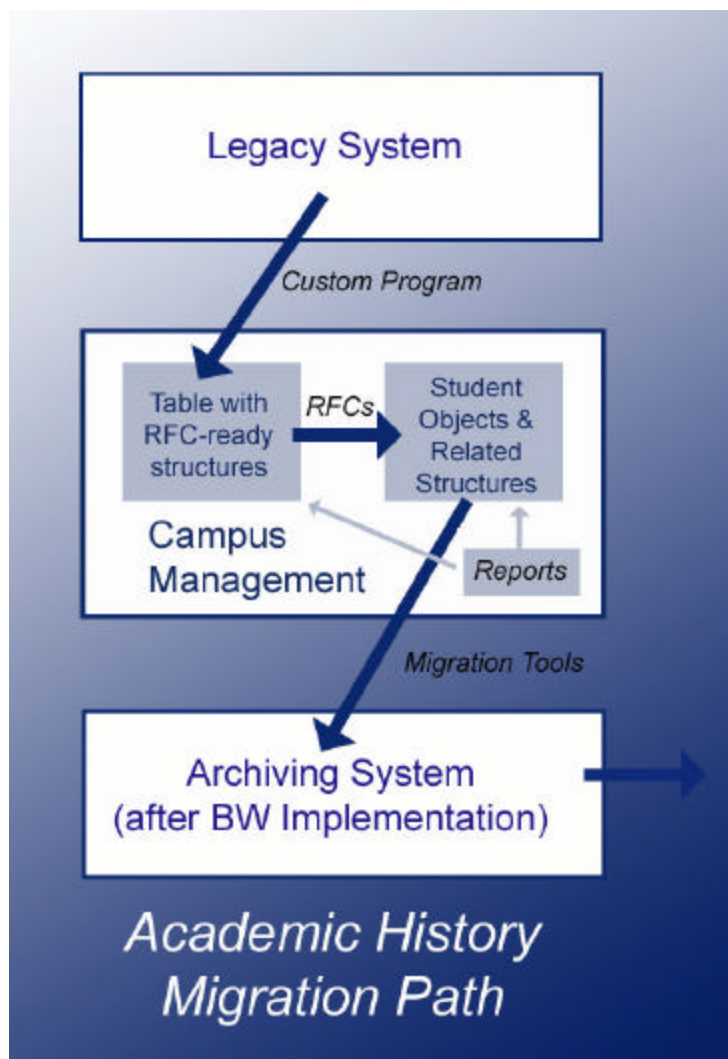
Plumbaum agreed to take as an action item the task of checking on the delivery of a sample transcript report (as part of correspondence with SAP Script).

A large part of the meeting was spent discussing options for storing academic history data that ultimately will be part of Business Warehouse but which must be moved off the legacy mainframe in the short term. There is a need to both store this data and report on this data. CM development advised against bringing over many more students than the active set until we know more about the performance capabilities of CM in a loaded environment. If we are to follow this

advice, then we will need to store a substantial portion of legacy student data somewhere and build the ability to create a student from this data as needed, e.g., to produce a transcript.

The resulting concept was to set up a table (not an infotype) in SAP R/3 with structures that feed into the academic history RFCs. We anticipate that the ultimate archiving solution will only operate on students in CM, so this sets up nicely for BW. That is, before we can archive student data, there must be a corresponding student object in CM. By storing student data in a format that can be fed into the academic structure RFCs, we will be set up for migration to BW.

It should be noted that all of the reporting capabilities that have been presented here can be used to report on tables as well as infotypes, i.e., we can do ad hoc reporting on legacy data that is stored in this “temporary” table. Related open items include how to deal with prospect data and how to migrate student data out of CM back to a holding area if necessary.



Booking: RFCs to Support Web Registration and Outstanding Issues

Kathy, Jill, Rick, and Marlies met with Volker, Henning, Michael, Chris (student intern) and Joachim Plumbaum to discuss the RFCs that are available to support Web registration. Prior to this meeting, UM had provided a blueprint for web registration that attempted to identify gaps in this area. During this exercise, we discovered that the all of the RFCs necessary to implement web registration were not included in CM 4.64. There was confusion over how they should be called, documentation was incomplete, they were not marked as released, and so on.

During this meeting, CM developers identified the RFCs that would satisfy the requirements. These have been developed but currently are only available with CM 4.71. CM development agreed to downgrade these for the early August CRT. Kathy has documentation on a sample scenario developed by Chris that describes a possible order in which to call these RFCs and will pass this information on to Jason Ferguson and Veena Mantena. CM developers confirmed that it was their intention for the RFCs to check holds and perform bookings to return messages that provided enough information for the student to know how to correct the situation and to let them know if we found that this was not the case.

Earlier in the week, Kathy met with Volker to discuss the RFCs for pulling data from the academic structure. He explained that it was his intention for universities to build other RFCs that called his RFCs in sequence to accomplish special tasks. He identified RFCs that could be used to get certain kinds of data, e.g., a student's current schedule. The ability to search by instructor and location is not possible with the current RFCs; however, we discussed alternatives that provide comparable functionality. Specifically, we could use the HR BAPIs to present instructors and locations. Once the user selects one, and the object ID is known, we can call existing academic structure RFCs to perform the search.

In summary, with the downgrade of the booking RFCs and the additional information on how to call the RFCs, we think we have what we need to implement web registration. Joachim agreed to send us screen shots (import, export and tables) of the RFCs that will be downgraded.

Following this discussion, we moved on to several other issues related to booking. First, we discussed the one-way co-requisite issue. CM developers suggested a customer-defined relationship. We are satisfied with this recommendation. Specifically, it allows us to show students one-way co-requisite relationships in the web view of the academic structure as well as build rules for enforcement. The next issue that we discussed was how to handle pending pre-requisites in booking. CM development will not be able to provide a solution for CM 4.64 but is pursuing a solution for future releases, most likely centered around the idea of "pending bookings". For the short term, UM will need to directly modify the booking programs to alter the rules for prerequisite checking.