

# Minutes of the Decision Support/Data Warehouse Constituent Group

## EDUCAUSE '99

Long Beach (CA) Convention Center  
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### Overall

Thirty-one attendees signed the DS/DW Constituent Group attendance list (see list at end). Approximately ten others attended the session but did not sign the list. The number of issues raised by the group far exceeded the time available for discussion. Also, the scope of the issues raised underscored the need to discuss issues from design and implementation to maintenance and support of data warehouses. At the EDUCAUSE meeting next year, the Group felt a follow-up session should be scheduled to provide more time to explore issues.

### Discussion Points

The discussion started by going around the table and each person sharing information about their institution's data warehouse. The group struggled with a definition of a data warehouse. Many believe the traditional definition of a "relational database for decision support" was no longer valid given the varied uses of today's data warehouses. Institutions with mature warehouses use them in ways not envisioned by the father of warehousing, or by most chief information officers.

Some institutions operate large data warehouses in terms of users, data stored, and the diversity of applications accessing warehouse data. For example, one school has a warehouse with 150 GBs of stored data and more than 2,500 users! Many institutions were using the Web to deliver decision support applications. However, most of these applications were based on pre-defined queries (however a few schools are allowing users to launch ad hoc queries over the Web).

Some schools were using the warehouse to create operational reports not provided by their legacy systems. These schools are finding that the cost of developing reports in the flexible warehouse environment is less costly than coding reports in the operational environment.

No warehouse had achieved the goal of integrating data at the enterprise level (i.e., the ability to query across the enterprise through a single data model). In effect, most schools are building separate data marts deployed on an enterprise server. Also, mature data warehouses are starting to take on the characteristics of production systems in terms of importance and mission criticality. Yet, CIO's and production managers generally have not recognized this fact. Most of the institutions report their warehouse environment is not as stable as their production environment.

The Group felt strongly about keeping the production and warehouse environments separate (i.e., on separate mainframes or servers). Some vendors are advocating a single ERP solution for both operational and warehousing support through a single model. No one believed this model would work without degrading the benefits of the warehouse.

Half of the attendees reported their institutions were just starting warehousing projects. This is an indication that data warehousing as a technology still has not matured in higher education.

### Questions Asked but Not Explored

1. What is the best way to manage the time dimension in a data warehouse? Since the data warehouse is time based, what is the best way to model time so the information retrieved from the warehouse is always comparable? Or official?

2. How do we balance the needs of operational user with the needs of the decision support user in the warehouse? Are the decision support users being pushed out as the warehouse assumes more operational reporting tasks?
3. How can we capture data warehouse success stories for institutions just starting to develop a warehouse?
4. Vendor tools may be too expensive and sophisticated for most higher education users. How can we best communicate higher education's requirements to vendors?
5. Where is data warehousing technology going?
6. Is there a true object data warehouse in higher education? What are the best design standards for data warehousing?
7. Many successful warehouses rely on user involvement to design, administer, and support the data warehouse, and train new users. Consequently, the resources supporting the warehouse are diffused throughout the institution. How can warehouse sponsors better make the case for resources to support the warehouse in this environment?
8. The data mart model seems to be winning out in higher education. Is the model of building integrated data warehouses at the enterprise level the "impossible dream"?
9. Can we train users to launch "reasonable" ad hoc queries over the Web, or will this ruin warehouse performance?

**Data Definitions for Colleges and Universities** (<http://www.nchems.org/Publications/chessdatadef.htm>)  
 A discussion was held concerning a proposal for EDUCAUSE to take over maintaining and distributing Data Definitions for Colleges and Universities. Published in 1996 by Charles Thomas, Data Definitions is no longer maintained by the Consortium for Higher Education Software Services (CHESS). This proposal was also discussed with the DA Constituent Group. Both groups felt the proposal had merit

Data Definitions includes definitions for 781 data elements. Thirty-eight percent of these elements had standard definitions from sources such as: National Center for Education Statistics (NCES), U.S. Census Bureau, SPEEDE Data Elements, International Standards Organization (ISO), and American National Standards Institute (ANSI). The remaining 62% of the data elements were based on definitions used by fifteen leading institutions.

The consensus of the Group was that these definitions, particularly those with standard sources, would be of value to many institutions. Having a single source for data definitions and the standards of national standards organizations is of high value in higher education. It would also provide vendors a single source to guide software development within the industry. Specific suggestions from the group will be incorporated into a revised proposal.

#### List of Attendees

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