The SQL99 UML Model CIM Grid Schema (CGS) Working Group

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March 2005

Agenda

- Overview and Motivation
  - The CIM Grid Schema Group
  - The DMTF
- The SQL99 Model
  - What is it
- The model to be submitted for standardization
  - The model staging
  - The rollout dates
- References and To do List

Overview and Motivation

- The Activity:
  - Produce a UML representation of the SQL99 model the GGF (Global Grid Forum) and DMTF (Distributed Management Task Force) groups for standardization
- Benefits of Activity:
  - A single model for relational databases can be used across various efforts, e.g. access and management
- Observations:
  - A DMTF CIM (Common Information Model defined by the DMTF) model for databases will be created:
  - DMTF CIM models are the basis for management activities including WSDM (Web Services Distributed Management) group in Oasis (a standards consortium), as well as in the DMTF and GGF

The Standardization Effort: The DMTF

- Distributed Management Task Force defines models for many aspects of computing
  - **http://www.dmtf.org/home**
- You can see the CIM model for database here:
  - **http://www.dmtf.org/standards/cim/cim_schema_v28/CIM_Database28-Final.pdf**
- You can see the CIM white paper for databases here
  - **http://www.dmtf.org/standards/published_documents/DSP0133.pdf**
- Notes
  - The CGS group have been communicating with the following people in the DMTF on database extensions
    - Todd Guay, Oracle
    - Roger Reich, Veritas
    - Andrea Westerine, Cisco

The Standardization Effort: The GGF

- The Global Grid Forum defines standards related to grid environments, e.g.,
  - **CGS**: CIM Grid Schema
  - **DAIS**: Data Access and Integration
  - **INFOD**: Information Dissemination
  - **OGSA Data Design Team**: Open Grid Services Architecture Data Architecture
    - Try to get SQL99 CIM model to be considered in the Data Profile
  - **File Access and Integration**: (In formation?)

The Standardization Effort: The GGF

- The CGS group is collaborating with the DMTF
  - For example they defined a CIM model for job submission
    - **https://forge.gridforum.org/projects/cgs-wg/document/JSIM_Specification_8-Sep-2003_Update/en/1**
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The Standardization Effort: The GGF

- The DAIS group asked the CGS group to extend the CIM model for databases in collaboration with the DMTF. The DAIS Group produced this document:

  - **CIM Database Model for Data Access and Integration Services: Scenarios**
    https://forge.gridforum.org/docman2/ViewCategory.php?group_id=49&category_id=517

The SQL99 model : What is it

- You can see the SQL99 model at the CGS Website
  - Move the model to DAIS Website
- The SQL99 model is a UML model describing database entities such as tables, columns, data types etc based on ANSI/ISO SQL99 standard
  - Rational Rose is used to build the model
- Goal:
  - To create a single model for use by various relational tools and interfaces
- Scope:
  - Physical and Logical schemas,
  - Later: ETL, Federation and OLAP could be incorporated
- The model is organized in packages
  - Click on URL above then LogicalView, then SQLModel, then Main to see the packages
- Tools can use XMI serialization of the model

The Proposed Model Staging

- The model is organized in packages.
  - Access Control, Schema, Constraints, Tables, Data Types, Statements, Routines, Expressions
- The model is being delivered to GGF in packages as the output from Rational Rose Web published model
- **Stage 1:**
  - Schemas (includes database), Tables (includes columns and triggers), Data Types
    - Triggers point to expressions - we need to consider how they fit
  - The root needs to be revised to tie in with CIM DMTF
- **Stage 2:**
  - Routines (includes stored procedures, functions) Constraints (includes foreign keys, indexes)
- **To consider for subsequent stages:**
  - Access control, Expressions and Statements

Rollout Dates [1]

- July 2004
  - Release Stage 1 of the model to the CGS working group at GGF

- Work Items
  - Handle dangling references
  - Adjust root to CIM DMTF root
  - Use CIM method for vendor specific extensions
  - Produce visio and MOF formats of the model (CGS working group)
  - Work with the GGF DAIS (Data Access an Integration Working Group) to produce appropriate XML schemas (tables, columns etc)

Rollout Dates [2]

- 22-25 September 2004 GGF12
  - CGS:
    - Present the model to the GGF community
    - Determine next steps
- 4Q2004 / 1H2005
  - Prepare Stage 2 of the model
  - DAIS:
    - Work on revised XML schemas for relational access to the GGF community
- 1Q2005 GGF13
  - Present Stage 2 *(in reality Stage 1.5)*

References and Tools

- DAIS Paper (Software Resource Information Model)
- Tool to generate MOF
- To Do List for completing the effort
  - Complete SQL 99 compliance review
  - Move the model from CGS to DAIS WebSite
  - Update the model to incorporate Stage 2 of the model
  - Establish the procedure for delivery of the model to DMTF
    - I will be on a call with the DMTF on Monday 21 March 2005
  - Complete the SQL99 model paper to complement the DMTF database paper (under the auspices of the DAIS group)
    - GGF Informational Document – 1 month
      - Start DAIS review end of April 2005 of completed document
      - Submit end of May 2005 to GGF Editor and Area Directors
  - Consider OGSA socialization of the model particularly with the Data Design Team (which may become a working group), e.g., the model could be considered for the data profile