

Comset Data Integration Toolkit

Accelerate the development of your reporting data warehouse

OVERVIEW

A reporting data warehouse provides a central data management platform optimised for the management information needs of a business. By being independent of the underlying operational business systems, the data warehouse makes available a consistent, consolidated and integrated view of the business, structured in a way to specifically address reporting and analytic requirements. The data warehouse maintains a greater depth of historical information than is possible in the business systems, and so enables functions such as sophisticated data versioning and snap-shot comparative reporting.

The data warehouse provides a consistent and integrated data model for all data of interest, regardless of its source. This makes it easier and quicker to report and analyse business performance at all levels.

DATA WAREHOUSE DESIGN

A reporting data warehouse needs a very different structure to a transaction-oriented operational database. It needs to be designed for ease and speed of data retrieval and navigation to meet reporting and analysis requirements, rather than speed of processing transactional data.

The dimensional modelling design technique that Comset consultants use seeks to present the data in a standard, intuitive framework that allows for high-performance query access. It is readily understood by query tools and is extensible to accommodate new data elements as the business itself evolves.

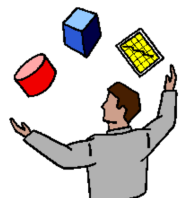
DATA WAREHOUSE DEVELOPMENT

Building on the experience of many data warehouse implementations, Comset have compiled a package of templates and processes to help ensure rapid and cost-effective development. The **Comset Data Integration Toolkit** includes processes and procedures to manage these four key areas:

Dimension Maintenance

- Automatic Updates from source systems – Data is extracted direct and used to update the data warehouse (or raise errors);
- Manual Updates – Data is updated either using manually maintained files such as Excel spreadsheets or through an application to allow updating of the database tables. The technique can be used for both full maintenance and problem correction;
- Data Bridge: Transformation / Mapping – This function supports the mapping of data from source systems to different dimensional structures, and can include defaults or rejections for error conditions such as unknown members;
- Support Multi-Level Hierarchies – The maintenance process allows the creation of even and ragged dimensional trees;
- Time Dimension Support – This handles time logic and automatic dimension updating.

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Measure Loading

- Aggregation – The data warehouse can store data at the aggregated level required for reporting not necessarily at the full transactional level (which is maintained in the source system but can also be held in other tables in the data warehouse);
- Calculated Measures – These can either be defined in the reporting system for generation at the point of reporting/extraction or held in the data warehouse, in which case they are calculated during loading of the data warehouse (which option is selected depends upon requirements and properties of the measures).

Versioning & Snapshots

- Historic Querying – This enables you to query the data as it was at a particular point in time (rather than the current version);
- Rollback – This function enables you to roll the data warehouse back to a previous state. Consideration needs to be given to how far back this should be allowed, as the update data needs to be available in order to reload the history.

Logging & Auditing

- Tracking – This process maintains data about load success, issues, data volumes, etc;
- Validation – This handles checking the data for problems and recording the issues (if rejecting data then this allows for subsequent updating and reloading).

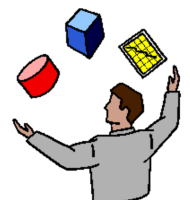
SUMMARY

The Comset Data Integration Toolkit complements the functionality of your chosen database technology. It enables us to deliver robust, responsive reporting data warehouses and the supporting data transfer processes quickly and cost-effectively.

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