

CDM RuleFrame

*The Business Rule Implementation Framework
that saves you the work!*

Implementing business rules is a tedious task in application development. Business rules are often ambiguously defined and are usually not very well recorded. This leads to a design phase that is hard to estimate and designers that have to make their own interpretations. A business rule implementation framework is missing, which may lead to duplication of code, jeopardizing your server robustness and code that is difficult to maintain.

In the Internet age this becomes even more important because speed of implementation and flexibility to adapt to changing business requirements are key requirements. Absence of a business rule implementation framework results in a situation where these requirements cannot be fulfilled. Eventually leading to missed business opportunities, high risk of errors, and employees that are not motivated.

CDM RuleFrame offers a business rule implementation framework that addresses all issues mentioned above.

What is CDM RuleFrame?

CDM RuleFrame is a powerful framework for structured implementation of business rules, that supports the development of logical three-tier internet applications. While the Oracle Server takes care of the data tier and the Development Tools create the presentation tier, CDM RuleFrame implements the business logic tier. It is a combination of concepts, a process, a sophisticated software architecture and utilities that boost productivity.

The Internet Age

If you want to bring your systems to the internet, you require that these can be accessed through different front ends; a sophisticated front end (such as WebForms) for the internal power users, and a simple and easy to use front end (HTML based) for other users. The business logic should be reusable across these different front ends. In addition, you need implementation of these systems @ iSpeed. You also require a flexible architecture that makes it easy to maintain and extend business logic, because your business requirements are continuously changing. CDM RuleFrame not only supports the reuse of business logic over different front ends, but also makes it very easy to implement and maintain business logic.

Issues Implementing Business Logic

Analyzing, designing, implementing and maintaining business rules is one of the most difficult tasks in application development. Issues include

- business rules are hidden in entity or business function descriptions and often phrased ambiguously
- estimating the design phase is difficult, because it is not clear what needs to be implemented
- complex rules involving multiple entities are often only partially implemented (at one entity side)
- if rules are only implemented in the front end server robustness may be lost when adding another front end
- completeness cannot be verified, because there is no mechanism to trace back to the approved analysis documents

You can imagine what that means for the maintenance of your business rules. It will probably cost you a lot of money to implement changes and certainly lead to a long time to market. The need for a powerful framework for the analysis, design and implementation of business logic is clear.

CDM RuleFrame Framework

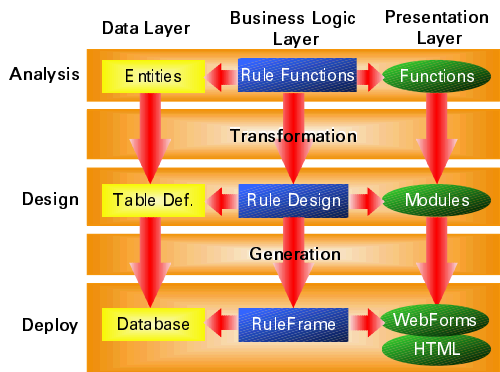
CDM RuleFrame provides a framework for the analysis, design and implementation of business logic. It clearly describes how to record business rules as a separate element in Oracle Designer. Relations with the data layer (entities) and presentation layer (functions) are very clear which makes impact analysis easier.

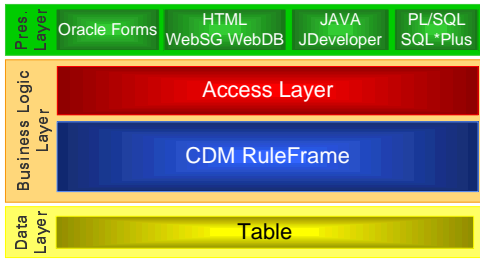
After you have recorded the business rules, CDM RuleFrame transforms these rules to business rule design definitions, in a similar way as Oracle Designer transforms entities to tables and business functions to modules. For some types of rules, CDM RuleFrame automatically generates the validation code for the rule. For other rules it offers standard services that make rule coding easier and considerably reduce the number of lines of code. When you have coded all your rules you can generate the deployment packages of your business logic layer.

All business rule meta data resides in the Oracle Designer Repository allowing complete (re-)generation of the business logic tier.

CDM RuleFrame Deployment Architecture

CDM RuleFrame is based on mature and proven technology. It is deployed in the Oracle8i database server using PL/SQL, with all its inherent advantages, such as security, scalability and availability. A common access layer allows Java based technology such as Servlets and JSP's to leverage the power of CDM RuleFrame. In other words you can use CDM RuleFrame with all front ends that you can create with the Oracle Development tools (Oracle Forms, WebDB, JDeveloper, PL/SQL).





A schematic overview of a logical multi-tier architecture and the place of CDM RuleFrame

Benefits

The most important benefits of CDM RuleFrame include the following:

1. Fast and Easy Implementation of Business Rules

CDM RuleFrame enables fast and easy implementation of business rules by:

- Using a Utility that transforms the rule analysis information into design elements
- Providing standard services that make coding of rule validations simple
- Using Utilities that generate the complete business rules including the validation code of some patterns of rules
- Using a Utility to generate the business logic deployment packages for each table
- Enabling the automation of rule implementation

2. Fast and Easy Maintenance of Business Rules

CDM RuleFrame enables fast and easy maintenance of rules by:

- Making it easy to locate the rule by using a separate element type in Oracle Designer
- Using OO principles like information hiding and encapsulation; RuleFrame encapsulates the data layer with the business logic layer and hides the complexity of the data structure for other procedures that need that data
- Using the same CDM RuleFrame Utility for creation as well as maintenance

3. Traceability of Business Rules

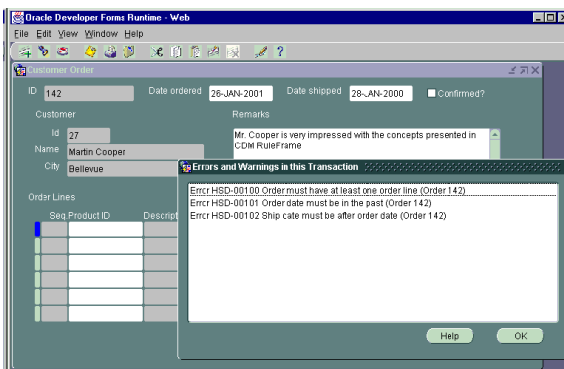
By recording business rules as separate elements during analysis and design, these elements can be linked to each other in Oracle Designer. This link tells you if and how the rules, as approved in analysis documents, are implemented. During acceptance test and project audits this information is very valuable to verify completeness.

4. Transaction Level Enforcement

Transaction level enforcement is a key concept within CDM RuleFrame.

Transaction level enforcement:

- Allows you to place rules in the server which previously could only be implemented in the client (like mandatory master detail relationships)
- Provides more flexibility to the end user by allowing the user more freedom, since only at the end of the transaction business rules are enforced
- Reports all errors back to the end user in one go, reducing network round trips and optimizing user feedback.



Error messages are reported at once, reducing network round trips and optimizing user feedback

5. Front End Independence - Reuse of Business Logic

Front End independence means no matter which front end you use, the business logic and the data do not have to change because of using another front end. Using multiple front ends becomes quite common; a simple HTML based application for the web and a rich UI (for instance Oracle Forms) for internal applications. CDM RuleFrame fully supports reuse of business logic over multiple front ends, since rules are implemented in a logical middle tier.

6. Data Layer Independence

Data independence means that you are able to change the underlying data source and its rules without having to change the front end. When you are integrating your departmental systems, you are able to merge your data sources together and use the same front end. By using the same interface you save development and end user training time.

Packaging

CDM RuleFrame is not available as a separate component. CDM Advantage, Oracle's method toolkit for application development, includes the concepts, the process and a description of the software architecture. Headstart Oracle Designer 6i and Headstart for Oracle Apps 11i, both include the software to set up the architecture and productivity boosters to implement the rules in the framework. These packages are part of the Oracle iDevelopment Accelerators bundle and is available through Oracle Consulting. For more information log on to OTN (<http://otn.oracle.com> choose consulting) or ask your local Oracle Consulting representative.

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