

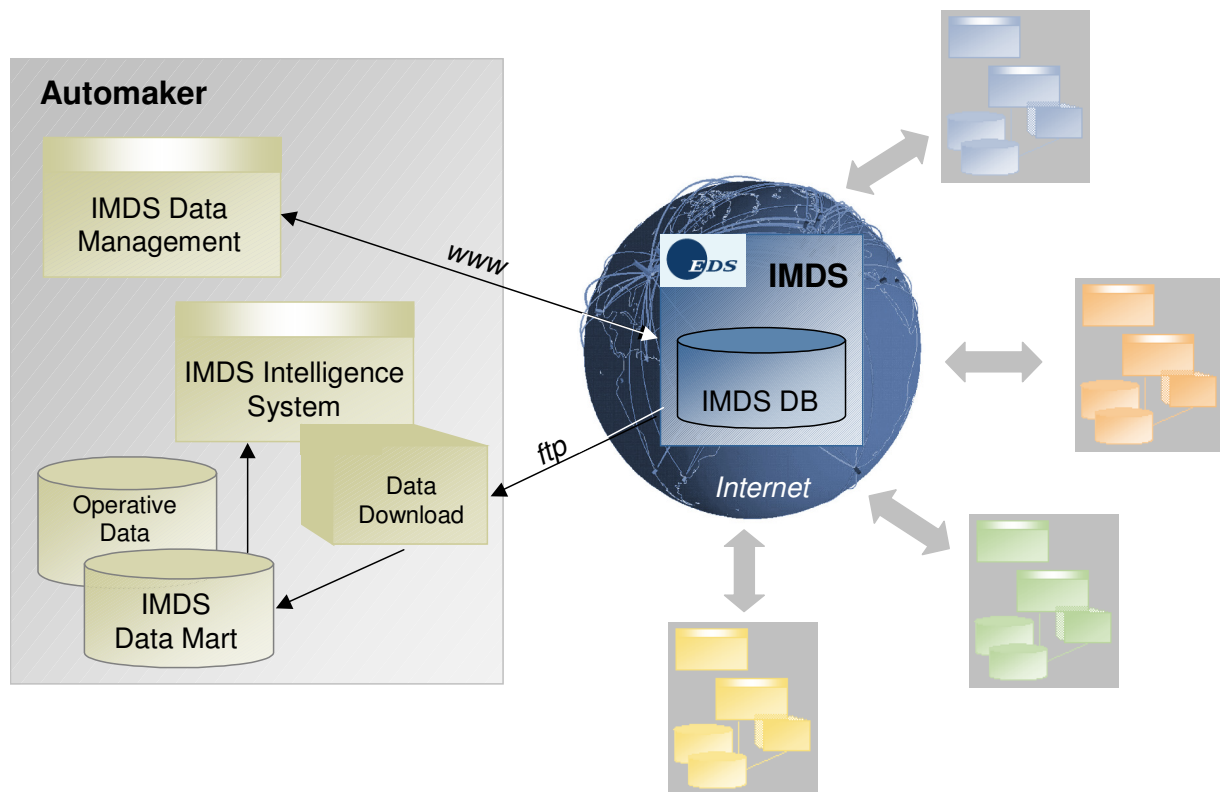
IMDS Intelligence Systems

Realization of Oracle based Material Data Information Systems for the Automotive Industry

Topic

Due to national and international legalization every automaker is responsible for the ecological impact that his products have on the environment (EU directive about old vehicles, act on life cycle resource management, ISO 14040ff). To meet these requirements it is essential, among other, to have exact knowledge about the build-up of the components and the materials and substances they are made of. Renowned automakers have signed contracts with the system vendor EDS for developing and operating the IMDS (International MaterialDataSystem), an internet based system for central material management. The IMDS provides for the collection and provision of data on materials by the automotive industry. It is run as an external internet application (www.mdsystem.com) and offers component suppliers and OEMs (Original Equipment Manufacturer) access to their own material data.

Based on this internet system, automakers can upload their data in own satellite systems and link these to vehicle configurations or other things in internal systems. These local satellite systems are then used as query-, analysis- and reporting systems.



IMDS Infrastructure: Central System and Satellite Systems

The PROMATIS Solution: Oracle based IMDS Intelligence Systems

PROMATIS – as experienced solution provider for the automotive industry – has developed a Business Intelligence Solution approach, which provides the entire IMDS knowledge in form of online query, analysis and reports on the intranet just at the push of a button. The base is given by an object relational Oracle Data Mart, which also provides comprehensive prospects by a variety of integration technologies.

IMDS Intelligence Systems

PROMATIS Solution Concept

Demands on IMDS Intelligence Systems

In order to comply with legal requirements it is important for automakers to be able to retrieve, link and analyze specific information taken from the IMDS data stock on each vehicle model. For this, in detail, the following requirements have to be met:

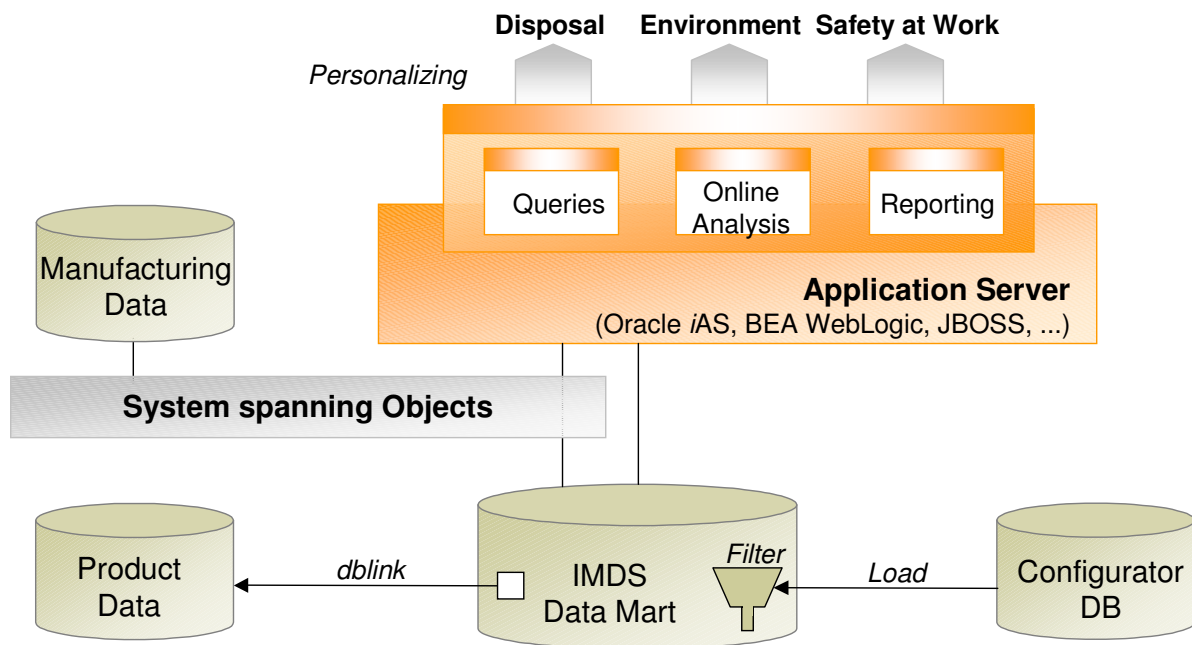
- Comprehensive functionality for searching and processing material data
- Annex of material data from suppliers with the vehicle configurations of the automaker
- Versatile query-, analysis- and reporting possibilities
- Simple operating for the end user
- Simple administration by implementation of a web-based solution
- Secure, high performing and scaleable solution

Functionality

The IMDS Intelligence System is used as internal analysis- and information system on the intranet of the customer. The material data sheets of the providers are uploaded via FTP-data transfer from the central IMDS into the local IMDS satellite data base. The assembled parts and the materials and substances in them are specified on the material data sheets. From the operative system of the construction or production, e.g. CAD system or BOM management, data about the configuration of a vehicle or components (engine block, drivers control stand, etc.) material data can be linked via a configuration component. Ingredients can be analyzed comprehensively in the IMDS Intelligence System based upon these configurations.

System architecture

The architecture of the IMDS Intelligence System is directed towards the specific requirements of the customer. Due to the openness of the Oracle environment, many possibilities for integration of IMDS-data are given, which are a precondition for handling comprehensive data prospects. The illustrated system architecture shows that data for the vehicle configuration is uploaded as filter for analysis into the IMDS data base. Other relevant product data are referenced via data base link. Another technique is the provision of comprehensive objects in an analysis prospect that is generated with operative data from the production area and the IMDS data base.



Exemplary System Architecture

IMDS Intelligence Systems

Implicating efficient Technologies

PROMATIS stands for implicating modern efficient technologies with the goal to create future-safe customer solutions with maximum benefit. An implementation as J2EE-Web Application is perfect for an IMDS Intelligence-System, which is based on 3-layer architecture and uses the design pattern MVC (Model-View-Controller).

For realization the Java Framework Struts by Apache Software Foundation is used, which is also integrated into the Oracle JDeveloper. It elegantly supports the conversion of web applications with Servlets, Java Server Pages and Enterprise Java Beans. The Struts-Framework brings along a set of Best Practice design patterns, so that expenditures for development and especially later maintenance are tremendously reduced. By utilization of these technologies the implementation is concentrated on conversion of customer business logic. Configuration and processing are defined as XML data sets.

Possible fields of application

IMDS Intelligence Systems convince by the high range of functionality that strictly directs itself towards the customer's requirements and the chosen implementation concept. Last named guarantees a one of a kind future safeness and scalability.

The provided solution concept offers the ideal basis for fast and economic realization of customer specific IMDS Intelligence-Systems for the automotive industry. Needless to mention, that this solution concept and the established know-how can also be applied to other production industries.

Information

The listed products are trademarked and are property of the trademark owner. Version of documentation: August 2005

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