

# Leveraging Enterprise Information in a Heterogeneous Environment

Posted on 20 Oct 2006

## Here Comes The Information Era...

Information is an important asset to an enterprise. It presents strategic values in supporting the business objectives. Nowadays, the global expansion, mergers and acquisitions of businesses induce the need of information consolidation in order to:

- reduce the business cost in different business operations,
- project a holistic view of the enterprise to develop business intelligence and hence strategies, and
- speed up business response and time-to-market.

IT has been used as one of the tools to support business initiatives. But it also brings a number of challenges in today's highly volatile market and technology.

## Hurdles Confronting Better Use of Information

Recently, CECID conducted a survey with Hong Kong enterprises in order to understand the extent they leverage information in their businesses. The results reveal four common problems faced by most enterprises:

1. It is time consuming to obtain information, e.g. the total spending of a particular customer who has transactions with several business units across the company, as this may involve the retrieval and consolidation of data from multiple business units,
2. Information is interpreted differently by different business units, e.g. the term “sales” may have completely different meanings in Sales department and Finance department,
3. Cross-functional data integration initiatives are often complex, slow-moving and controversial, e.g. different systems are simply incompatible to produce any data interface, or users have reservation towards integration and are difficult to be harmonized, and
4. Investment on EAI products, solutions, training or web platform are expensive but do not fulfill the promised business returns.

With these information problems, one cannot easily project a holistic view of all enterprise information, which may be scattered across different heterogeneous systems. When it comes to the point of data integration or exchange, data interoperability, i.e. the mapping of a data field semantic from one system to many others and vice versa, becomes a very difficult issue to be harmonized and managed.

The technologies to manipulate information as adopted in enterprises may range from traditional databases to those advanced solutions like data warehouse, data mining, ERP, CRM, messaging of data interface, SOA, etc. But the provision of these technologies alone does not solve the data interoperability or what we call the “data quality” problem. Still, a lot of tailor-made applications for data extraction and mapping logic have to be developed to address the requirements of different systems for different business units.

## Overcoming Hurdles with Information Architecture

The **Open Group Architecture Framework (TOGAF)** is an industry standard developed by the world's leading IT customers and vendors. To address the above information problems, the **Information Architecture (IA)** in the Framework provides a solid basis to analyze the high-level view of business activities and identify the real information needs to align with the business benefits.

In developing the information architecture, two key concepts are involved:

### 1. **Common Understanding of Enterprise Information –**

- Information architecture is to establish a common vocabulary for information components from the *business perspective* but not in a technical sense of database schema modeling. For example, different business units may use the jargons “customer” or “client” but they actually mean the same or similar entity. The description should be clearly communicated and understood by management or business analysts in order to align with the business strategies.
- From the technical perspective, upon data integration, information architecture provides a definition mapping of these business components to the IT systems.

### 2. **Reuse of Information Components –**

- To avoid repetitive effort, information components already built in the architecture are subject to be reused in designing new data model. This again enhances the data interoperability as different parties are governed to achieve the reuse as much as possible, i.e. have the same business interpretation, so that the data mapping problem is rectified.

Building the information architecture is more than the work of the technical expertise like developers, DBA, or system managers. The information architect, who plays the owner role, and business users in related domains, should be also involved to identify the information need from the business perspective.

## Benefits of a Well-Designed Information Architecture

Enterprise Information Architecture would bring the following important business benefits:

- Provide information with strategic values for management to support business objectives,
- Mitigate the data interoperability problem, thus reducing the IT infrastructure complexity and cost, and
- Speed up integration of new business units through information consolidation.