

Knowledge Solutions LLC

Helping you make informed business decisions!

Data Warehousing Division Lawson Software Integration



Lawson ERP Reporting Strategies

April 2, 2011



<http://twitter.com/KnowledgeSols>

Lawson ERP Reporting Strategies

White Paper

*Good companies manage their ERP systems.
Great companies manage their ERP data!*

Corporate Challenges

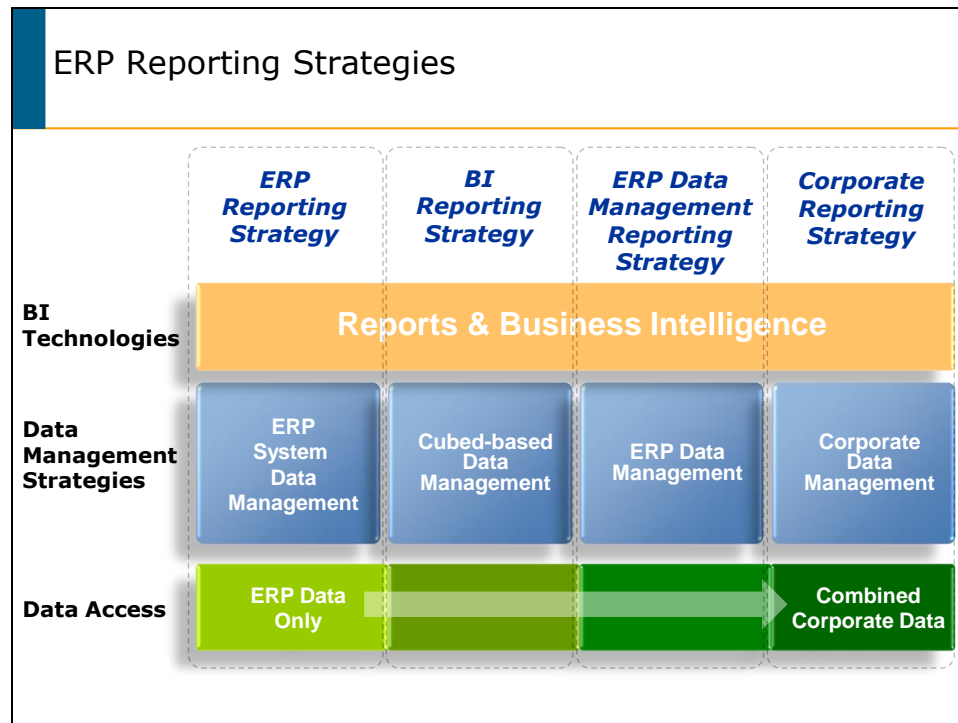
There are several types of reporting strategies and architectures a company may choose for their Enterprise Relationship Platform (ERP). Depending on an organization's needs, operations and environment one ERP Reporting strategy and architecture maybe completely appropriate and beneficial for one company but totally ineffective for another company. So what are the options and which one should you choose? Can you start with one structure and effortlessly migrate to another? And what limitations would be encountered in one structure versus another? This white paper is designed to provide a guide and recommendation to companies trying to determine their approach to addressing ERP Reporting within their Lawson Software environment.

Strategies Overview

There are four (4) basic reporting strategies a corporation can follow. Each strategy varies in capability, architecture, technologies, data and structure.

- **ERP Reporting Strategy** – Reports that are associated with or accompanies the ERP system application. Reports generally pull necessary data directly from the ERP system. Integration with non-ERP data is typically nonexistent or limited. Examples of these types of reports consist of General Ledger reports and Planning reports based off data residing in the ERP.
- **BI Reporting Strategy** – Reports based on Business Intelligence (BI) technologies (e.g., Lawson BI, Cognos, Microsoft, etc.) that retrieve data from BI cubes or repositories.
- **ERP Data Management Reporting Strategy** – A reporting environment based on data organized and structured within a Relational Database Management System (RDBMS), accessible by BI technologies and industry reporting tools that accesses ERP and non-ERP data.
- **Corporate Reporting Management Strategy** – An environment based on an Enterprise Data Warehouse strategy and system, accessible by BI technologies and industry reporting tools, and accesses and organizes all or most of the corporate data.

The following chart illustrates the types of the Strategies described above:



Reporting Strategy Analysis

To help determine which strategy is appropriate, it is best to examine each strategy based on its Technical and Business Criteria. Below are the parameters for criteria set:

Technical Criteria

- **Data Access** – the breadth and types of data that can be accessed
- **Data Management Architecture** – the method and structure by which data is organized
- **Reporting Capabilities** – the breadth and types of reporting technologies supported
- **Report Creation Time** – the easy and speed by which a report can be created and placed into production
- **Strategy Migration** – the ability and flexibility to evolve from one strategy to another

Business Criteria

- **Investment Protection** – the degree by which the environment protects IT investment and limits disruption of business operations
- **Costs** – the relative cost to implement the strategy; see **Comparative Analysis**

Below is an examination of each strategy based on the above criteria:

- I. **ERP Reporting Strategy Analysis** – primarily addresses ERP functional reporting.
 - **Data Access** – Reports are limited to the data contained within the ERP system. Environment is extremely difficult to incorporate non-ERP data.
 - **Data Management Architecture** – Data structure and organization is defined by the ERP system data tables.
 - **Reporting Capabilities** – Reports focus on a specific function(s) within the ERP environment. The applications are customizable but limited to the ERP function it is associated with.
 - **Report Creation Time** – Reports are often “out-the-box” but require a degree of customization.

- **Strategy Migration** – The reporting environment is generally closed and not designed to migrate to other Reporting Strategies.
- **Investment Protection** – Investment are highly protected since reports are tightly coupled to the function it was designed for. For example, ERP system enhancements often take into consideration supporting associated functional reports.

KS Analysis – An ERP Reporting Strategy is great for standard ERP functional reporting but limited for any other type of reporting structure.

II. BI Reporting Strategy Analysis – primarily addresses business intelligence reporting and analysis. Normally incorporates ERP data.

- **Data Access** – Reports are limited to the data contained within one or more BI cubes / multi-dimensional repositories. The cubes / repositories populated with ERP but can support non-ERP data.
- **Data Management Architecture** – Data structure(s) are defined by the cubes / multi-dimensional repositories. The cubes also perform all calculations and functions. Tools such as Lawson BPW are extremely useful in creating cubes efficiently. However, cubes often become cumbersome to manage as their number increases. In addition, cube technology is not designed to support historical or complex hierarchical algorithms, and can create “multiple versions of the truth.”
- **Reporting Capabilities** – Reports are defined and limited by the cube and the data it contains. BI technologies such as LBI can easily interface with the cube to quickly create reports. However, developing a cube that is sourced with “raw” or unorganized data require intimate knowledge of the ERP and non-ERP systems’ data structure.
- **Report Creation Time** – Reports based off of an existing cube are relatively quick to create. However, creating cubes using “raw” unorganized data can be time consuming given that detailed knowledge of the ERP system data structure is required for the development of each cube.
- **Strategy Migration** – BI Reporting environments are difficult to migrate or enhance; i.e. cubes are not designed to be portable. In addition, migrating existing reports to an existing cube environment is difficult since a cube may not contain all of the necessary data required by the ported report. In these cases it is often easier to create new cubes and link them to the existing BI reports.
- **Investment Protection** – Report development investment are not well protected from ERP data structure changes. I.e., if the ERP data structure changes, then all cubes associated with that data need to be recreated.

KS Analysis – The BI Reporting Strategy, particularly using Lawson’s LBI and BPW technologies, is great for creating and developing an initial set of reports. However, caution should be followed in creating multiple cubes and ensuring investment protection, or designing cubes with historical data or complex hierarchical algorithms.

III. ERP Data Management Reporting Strategy – primarily addresses business intelligence reporting and analysis. Normally incorporates ERP and non-ERP data.

- **Data Access** – Report data accessibility is defined by the data contained within the cubes but populated by a repository, commonly defined by Logical and Physical Data Models. The Physical Data Module (PDM) is populated with ERP and non-ERP data. The Data Models is accompanied by a data dictionary that makes it easy to understand its data fields rather than trying to interpret the various source system data structures.
- **Data Management Architecture** – The data architecture is comprised of 3 components: an Extract, Transformation and Load (ETL) layer, Data Module / repository layer, and analysis / cube multi-dimensional layer. The Data Module layer can perform complex algorithms and functions, and the derived data can get propagated to multiple cubes. The Data Module can also maintain archived

and historical data, and provides a “single version of the truth.” The cubes can also perform calculations and functions but is secondary to the repository. Tools such as Lawson BPW are extremely useful in creating cubes and ETL scripts.

- **Reporting Capabilities** – Reports are defined by the data within a cube and the cube has access to the PDM (i.e., “cooked” / organized data). Cube definition, and by default an associated report, has access to significant data and capabilities.
- **Report Creation Time** – BI technologies such as LBI can easily interface with a cube to quickly create reports. Given the PDM, technologies such as BPW can quickly create cubes consisting of ERP and non-ERP data.
- **Strategy Migration** – ERP Data Management Reporting Strategy can migrate to a Corporate Reporting Strategy. In addition, an ERP Data Management Reporting Strategy supports the migration of existing BI reports to the environment.
- **Investment Protection** – Reports investment are well protected from ERP data structure changes by ERP structural changes. I.e., source system changes can occur but the cubes and reports remain unchanged. In addition, the strategy supports ERP and non-ERP system upgrades or replacements, as well as, system consolidations (for example consolidating multiple data marts) without affecting the cubes and any associated reports.

KS Analysis – The ERP Data Management Reporting Strategy has all of the advantages of the BI Reporting Strategy and is able to migrate to the Corporate Management Strategy.

IV. Corporate Reporting Strategy Analysis – primarily addresses business intelligence reporting and analysis across the corporation. Normally incorporates all corporate system data.

- **Data Access** – Report data access is defined by the data contained within cubes and tables but populated by the Logical and Physical Data Models within the Enterprise Data Warehouse. The Physical Data Module (PDM) is populated with all corporate information (i.e., ERP, Operational, Marketing, etc.). The Data Models come with a data dictionary that makes it easy to understand the data fields rather than trying to interpret the various source system data structures.
- **Data Management Architecture** – Similar to the ERP Data management Reporting Strategy, the data architecture is comprised of 3 components: an Extract, Transformation and Load (ETL) layer, Data Module / repository layer, and analysis / cube repository layer. The Data Module / repository layer can perform complex algorithms and functions, and the derived data can get propagated to multiple cubes. The Data Module can also maintain archived and historical data, and provides a “single version of the truth.” The cubes can also perform calculations and functions but is secondary to the repository. The cubes are often categorized into distinct groups to represent distinct functions or operations of the corporation. Tools such as Lawson BPW are extremely useful in creating cubes and ETL scripts.
- **Reporting Capabilities** – Reports are defined by the data within a cube and the cube has access to the PDM (i.e., “cooked” / organized data). Cube definition, and by default an associated report, has access to significant data and capabilities.
- **Report Creation Time** – BI technologies such as LBI can easily interface with a cube to quickly create reports. Given the PDM, technologies such as BPW can quickly create cubes consisting of ERP and non-ERP data. However, the creation of a corporate data warehouse is time consuming. Development is often done in phases rather than attempting to construction all at once.
- **Strategy Migration** – Migrating from Corporate Reporting Strategy is not necessary. However, Corporate Reporting Strategy enables the migration of existing reports to the environment.
- **Investment Protection** – Reports investment are well protected from system structural changes. I.e., source system changes can occur but the cubes and reports remain unchanged. In addition, the strategy supports corporate system upgrades or replacements, as well as, system consolidations (for example consolidating multiple data marts) without affecting the cubes and any associated reports.

KS Analysis – The Corporate Reporting Strategy is the most comprehensive of all reporting strategies. However, implementing a Corporate Reporting Strategy is very time consuming and expensive.

Comparative Analysis and KS Recommendation

		ERP Reporting Strategy	BI Reporting Strategy	ERP Data Mgmt Strategy	Corp Mgmt Strategy
Technical Criteria					
	Data Access	1 2	1 2 3	1 2 3 4	1 2 3 4 5
	Data Mgmt Architecture	1	1 2	1 2 3 4	1 2 3 4 5
	Reporting Capabilities	1 2	1 2 3	1 2 3 4 5	1 2 3 4 5
	Report Creation Time	1 2 3 4 5	1 2 3	1 2 3 4 5	1 2 3 4 5
	Strategy Migration	1	1 2	1 2 3 4 5	N/A
Business Criteria					
	Investment Protection	1 2 3 4 5	1 2	1 2 3 4 5	1 2 3 4 5
	Implementation Cost	\$\$	\$\$\$	\$\$\$\$	\$\$\$\$\$

Legend:

- 1 -- Lowest Rating
- 5 -- Highest Rating
- \$ -- Lowest cost
- \$\$\$\$\$ -- Highest cost

Knowledge Solutions ERP Reporting

Knowledge Solutions and Lawson Software have partnered to provide solutions for all four Reporting Strategies. Supported by Lawson technologies, Knowledge Solutions is able to provide functional reports based on Lawson ERP systems to Business Intelligence and analysis reporting consisting of ERP and non-ERP data.

About Knowledge Solutions

Knowledge Solutions (KS) is a leading provider of information management services delivering strategic solutions that addresses the complex business needs of its clients. With focus on integrating technology, business processes and policies, Knowledge Solutions delivers business-driven and user-centric capabilities that add continuous and measurable value. Core Services include business intelligence, ERP planning, implementation and support, and Complete IT support.

Knowledge Solutions has a long history Lawson and Lawson-based systems. KS is a certified Lawson Partner. Our ERP staff each has over 10 years of experience with extensive expertise with all ERP Application Suites (Financials, Human Resources, Payroll, Procurement and Supply Chain). KS has successfully deployed many Lawson ERP-based and LBI-based solutions and services.

Since KS’s inception, we have been successfully developing and deploying BI solutions. KS BI staff has an average of 18 years of experience. As a BI Solution provider, KS has implemented data warehouses in industries such as Communications, Healthcare, Financial, Insurance, Retail, Public Sector, and Publishing.

For more information about Knowledge Solutions, please see www.ksols.com. Also, follow us on Twitter at <http://twitter.com/KnowledgeSols>.

**All trademarks are the property of their respective owners.*