

timeXtender®



Advantages of Implementing a Data Warehouse
During an ERP Upgrade

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Introduction

Upgrading an ERP system represents a number of challenges to many organizations. However, many of these challenges can be alleviated by integrating a Business Intelligence (BI) solution during the upgrade process. This is especially true if the Business Intelligence solution is based on a data warehouse.

The key activities involved in upgrading an ERP system are data and report conversion and creation of new reports. If the upgrade process is viewed as an opportunity to resolve data quality issues, it will be beneficial to include a data warehouse and a BI solution as part of the upgrade. This document discusses the benefits of incorporating a data warehouse when an organization's ERP system is upgraded.

Data conversion

When a company has to determine the scope of data conversion from the legacy ERP system to the ERP new system, several issues have to be considered:

- The conversion of master data
- The conversion of transactional data
- The amount of data in the new system from a performance perspective

Because the data model in the new ERP version may be different from the old data model, it is often an advantage only to convert relevant master data to the new system.

Transaction data

When an ERP upgrade includes a BI solution and a data warehouse, the legacy transaction data are stored in the data warehouse. From this point, the data warehouse will be able to support the organization's reporting requirements. If the conversion has been performed properly, it will be possible to close down the old ERP system as soon as the new ERP system is up and running because all relevant information is accessible from the data warehouse. Not having to maintain the old system represents considerable cost savings.

When estimating the costs of conversion, it is advisable to view master data and transaction data as separate entities. This way, it is possible to determine the exact costs savings of establishing a data warehouse during the upgrade process. Often, the costs of converting transaction data from one ERP version to another may actually cover the entire costs of establishing the data warehouse.

Furthermore, when incorporating a data warehouse, it is possible to create an additional database on the data warehouse server. This database can then be used for storing an exact copy of the entire data model as well as actual data from the old system. As a result, the structure of the entire BI solution does not have to be in place right away because the extra database can later be used as a data source in the finished BI solution.

If the scenario includes migrating your ERP system to Microsoft SQL Server®, timeXtender can be used for creating the additional database and the copy of the data model. Typically this scenario would include the writing of massive lines of code, however, in timeXtender, relevant elements such as tables are selected using a mouse and drag and drop. That is, the complete data model is designed in metadata, and timeXtender then generates the underlying SQL code and creates the data model on Microsoft SQL Server.

Data Quality

The trustworthiness of the reports that will be created on the new system relies on the quality of the data after conversion. Therefore, evaluation of the master data quality before conversion is of the essence. With timeXtender, master data can be extracted from the old system to a separate data warehouse, and the data profiling and analysis functions in timeXtender can then be used to verify whether all relevant fields on the individual records are filled in. All incomplete records will be displayed in an error list in timeXtender, and the customer can then verify for each record whether the data is valid before they are converted to the new system. When the master data cleansing is completed before the conversion, it ensures a smoother, faster, and less costly conversion process.

Report Conversion

When the conversion process has been carried out by establishing a data warehouse and a number of multidimensional cubes, the task of converting reports from the legacy system still remains.

Converting reports

Typically, when companies use the same ERP system for many years, reports are created on an ad hoc basis. Some of these reports may therefore be obsolete, some may display the exact same data only in different ways, and some no longer provide the required amount of information. Furthermore, conversion of historic transformations may be carried out only to maintain reporting over time. Consequently, it is recommended to review the reporting needs carefully instead of simply converting all existing reports.

There are a number of ways of converting the reports, but before doing so, the list of reports on the employees' wish list should be evaluated based on the following three criteria.

- Reports that have to be obtained from the ERP system
- Reports that are beneficial to obtain from the BI solutions
- Reports that are obsolete

Experience shows that 20% of the reports are obsolete, 40 % have to be obtained from the ERP system because they concern external documents such as production papers, picking lists, and more; and the remaining 40% may with advantage be obtained from the BI solution and based on data in the data warehouse. ERP reports often require expensive custom programming, and replacing 40% of the reports with data warehouse driven reports will therefore result in substantial savings as well as better reports because the data quality has been improved.

Data Warehouse Driven Reporting

ERP upgrades are disruptive, and the system or some of the underlying infrastructure may change during the upgrade and affect the stability of the reporting. However, if the ERP system is integrated with a data warehouse, the data warehouse will typically handle more than 40% of the required reports – reports that will remain stable and trustworthy during the upgrade process. As a result, employees will continue to have a central point of information, and the negative effects of the ERP upgrade will be minimized.

Contrary to standard ERP reports, reports designed in a data warehouse can include information from a variety of data sources such as Excel budgets, CRM data, manufacturing solutions, and many more. Automated reporting with a data warehouse can therefore replace the time-consuming, manual process of collecting data from the ERP system and various other sources, and processing them in Excel before the final reports are ready to be distributed within the organization.

Common reporting

Once the new ERP system is up and running, data from the new system can be loaded into the data warehouse, which also contains the legacy data. The result is a common data set – including historical data – that can be used in any given report without having to take into consideration the origins of the data. The user is able to view data on sales, prices, debtors, and so on from any period of time.

Furthermore, with a data warehouse it is possible to include data from a variety of other data sources such as Excel, and thereby increase the value of the reports even more. Moreover, applying data warehouse driven reports also means a move away from static printouts to more dynamic reporting options. With a data warehouse and a BI solution, users are empowered to view and analyze their data from a variety of angles and in a variety of advanced graphs and charts in their favorite reporting tool.

Why timeXtender

For the customers to experience the true value and cost saving opportunities of timeXtender, it is important that the report conversion and design process is owned by the users of the reports and not by SQL developers, who are not only unfamiliar with the data sources, but also unaware of the customer's actual reporting needs. Using timeXtender ensures that the users of the reports are actually involved in the design of the data warehouse and the data cubes. It is not just another programming task in a new system.

With timeXtender it is possible for ERP consultants to carry out the lion's share of the work in close cooperation with the customer. In time, the customers will then be able to handle the maintenance of the data warehouse and the BI solution on their own.

For users of Microsoft Dynamics, timeXtender contains adapters specifically designed for Microsoft Dynamics AX, Dynamics NAV, and Dynamics GP. These adapters significantly ease the task of handling several companies, enum values, relations, and other types of information that only exists in the ERP system but is important for the creation of a sound BI solution.

Furthermore, timeXtender delivers a set of pre-defined cubes called QuickCubes. These cubes come with a comprehensive set of dimensions and measures, and if QuickCubes are used as the starting point for a more comprehensive BI solution, the result is an even faster way of reaching the desired goals.

Conclusion

The tasks involved in the ERP upgrade process become more straightforward and less time consuming when a BI solution is part of the upgrade, and more people are able to take active part in the process. Knowledge of the data sources and the business is central to creating a reliable BI solution – not programming skills. timeXtender places the emphasis on business issues not coding, and is therefore right tool when combining the upgrade of an ERP system with the implementation of a BI solution.

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