DATA MIGRATION FOR ERP PROJECTS

Enhance Your Data Migration Process' Success Probability

Whitepaper

COGENT
DATA SOLUTIONS

Integrated processes and the resulting efficiency is one of the key value propositions that an ERP system has to offer to organizations. All this is dependent on one basic element; the availability of accurate, consistent and well-maintained data across these process applications. Hence, when a company decides to undertake an ERP system implementation, it has to prepare for a data migration process as well. This data migration process can range between small data amounts to large data volumes, depending on the complexity of the ERP system that is being implemented.

While a large number of organizations undertake data migration processes, 75% of the newly developed systems do not meet expectations because of a poorly thought-out migration process. This can lead to the emergence of invalid and inconsistent data across organizations. The lack of consideration towards the data migration process can be attributed to the fact that it is often considered as a means to achieve ERP implementation and not a comprehensive process in its own. On the contrary, by managing data migration as part of investment, a more accurate database can be developed that can lead to an extremely efficient ERP system.

UNDERSTANDING THE TYPE OF DATA MIGRATION PROCESS REQUIRED

Depending on the requirements of the company, we at Cogent Data Solutions decide what type of data conversion or migration procedure is required. Usually, these procedures fall in two wide categories, manual migration and automated migration.

Manual Data Migration Process There are two major reasons why a company would require manual data loading procedures:

▶ The data is complex and needs to be handled with special attention

▶ The volume of data is too trivial and does not justify the investment made towards setting up an automated system

Using standard screens in SAP or other user interfaces, these manual data migrating tasks are performed by data loaders and the duration of the procedure can depend upon the complexity of the data that needs to be sorted.

Automated Data Migration Process The automated data migration procedure is undertaken when manual data transfer is not possible due to the large amount of data that needs to be transferred. A standardized system comprising of multiple data conversion tools is used to make the transfer where the data is extracted from the legacy system, processed and is then loaded to an ERP system.

TYPE OF DATA THAT SHOULD BE MIGRATED

When it comes to data migration, there are essentially two data types that need to be transferred from the legacy system to the new ERP system including:

Master Data Master data is the most important transactional data within an organization that records the key aspects about master elements of a company including its employees, customers and products. For an organization to stay operational, accurate and up-to-date, master data is required in an ERP system that can be used for further analytical purposes. The key aspect of this data is its changing nature since it does get changed occasionally unlike the other type of data that is loaded during the migration process.

Transactional Data Transactional data records the completed transactions between a business and its customers and partners. No matter what happens, transactional data cannot be changed since the transaction has already occurred in the past, although it can sometimes be reversed or cancelled. Before transactional data can be loaded, it needs to be validated against the master data, and therefore, it is usually loaded after the master data.

The type of transactional data that needs to be migrated depends on the requirements of the company. What we ideally suggest to our clients is that they keep their historical transactional data into the legacy system for when the need arises and only migrating the recent data in order to simplify and speed up the data migration process.
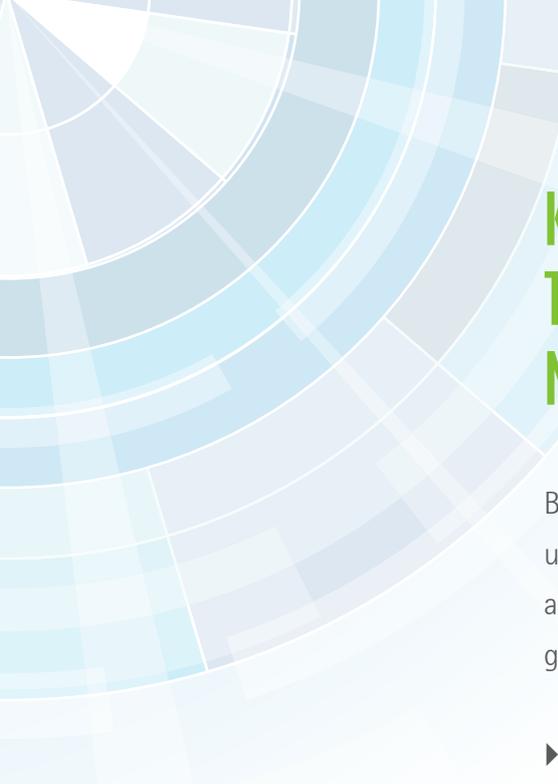
KEY QUESTIONS WE ASK OUR CLIENTS TO UNDERSTAND THEIR DATA MIGRATION NEEDS

Before we design a data migration solution for our clients, we need to understand what their data requirements are and we use a question/answer workshop to figure this out. Here are some questions we are going to ask you:

▸ Is data being migrated between a non-SAP and SAP system?

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▸ Are you using any non-SAP data migration tool currently for example: Back office etc.?

▸ Is this a one-time data migration requirement into an ERP system?

▸ What type of data you need to migrate to the ERP system?

▸ What is the estimated volume of data that needs to be migrated in terms of MB?

▸ Is the legacy data in the system available in English or is another language being used?

WHAT IS DATA MIGRATION?

Data migration involves moving data from the old ERP system to a new system, and usually includes two basic processes; data extraction and data loading. Among the many phases that are a part of programmatic data migration, these two phases remain constant where extraction involves reading data from the old system and loading involves writing the data on the new system. After the data has been loaded to the system, a verification process is ensued to ensure that the data migrated is accurate and compatible with the new system.

The quality assessment of data is one of the most crucial elements of the data migration process since it determines whether the migration was executed successfully or not. While essentially data migration merely means transferring data from one system to another, it also provides a platform to organizations to make several other improvements to their data quality that can lead to enhanced efficiency. Most importantly, this gives companies the perfect chance to filter their data and finding the most appropriate and valuable data that needs to be maintained.

An element that sets apart data migration from all other data management processes like data warehouse development is time. While other data management processes are usually on-going in nature, with no well-defined end points, data migration has a definite time period, which is crucial to the success of this process. Finishing a data migration process on time is extremely important if it has to be considered successful.

WHY DATA MIGRATION IS IMPORTANT?

A data migration process is usually undertaken by companies when a new ERP system is implemented. This new system may either replace an existing but outdated system, or it may be a completely new addition to the organization. In both cases, the new systems need accurate data to perform the basic functions they need to. The ultimate goal of any data migration process, whether of application levels or on systems, is the enhancement of efficiency and performance within an organization.

In an organization, accurate data is the most important resource that can be used for value creation. However, over the operational time period of a business, this data can get inaccurate and duplicated. While this data is often enough for carrying business operations, it might not be in an appropriate form or structure. This can increase the risk of mistakes and failure in an organization, making careful data migration an extremely important business operation.

CHALLENGES OF DATA MIGRATION PROCESS

Migrating data between systems is not an easy task to accomplish since a lot of revisions need to be made during the process in order to streamline data and bring it to a proper structure. The large scope of data migration gives way to several challenges and pitfalls that are faced by data migrating teams, resulting in higher costs and more time in completing the process.

The biggest challenge is to categorize data into the right sources. Since the entire process is usually handled by IT professionals with little interruption from business management, the data categorization is usually metadata driven instead of focusing on content. This can result in different errors when the data is being sorted.

Testing the progress of the migration process after the data is loaded to the new system is another challenge. The time constraints and the need to use the system in business operations makes it impossible to test a large size of data for errors. The small testing size that is often selected is inappropriate and might not represent the entire data set properly.

Another challenge is dealing with the load and explode scenario that occurs when a full volume data testing process is undertaken. This testing can expose several different unexpected problems in the system and requires further processing of the data migration suite. This will result in the data migration process going over budget and passing its deadline, causing delays in the implementation of the new system. Usually, organizations can avoid this problem by carefully carrying out thorough testing throughout the data migration process.

People management is another important aspect of the data migration process that is often neglected. Gaining access to industry experts who can successfully carry out a data migration process and managing in-house talent to carry out successful implementation of the new process can be a difficult task. For businesses, often the most major challenge is creating a right mix between people from business and IT levels, and eliminating the communication challenges between them so that the data migration and system implementation can be carried out flawlessly.

KEY ACTIVITIES IN A DATA MIGRATION PROCESS

A data migration process constitutes of several different activities that need to be carried out on an accurate and timely basis to make the process successful. Each of these activities are discussed separately below in order to help organizations better formulate their data migration strategy.
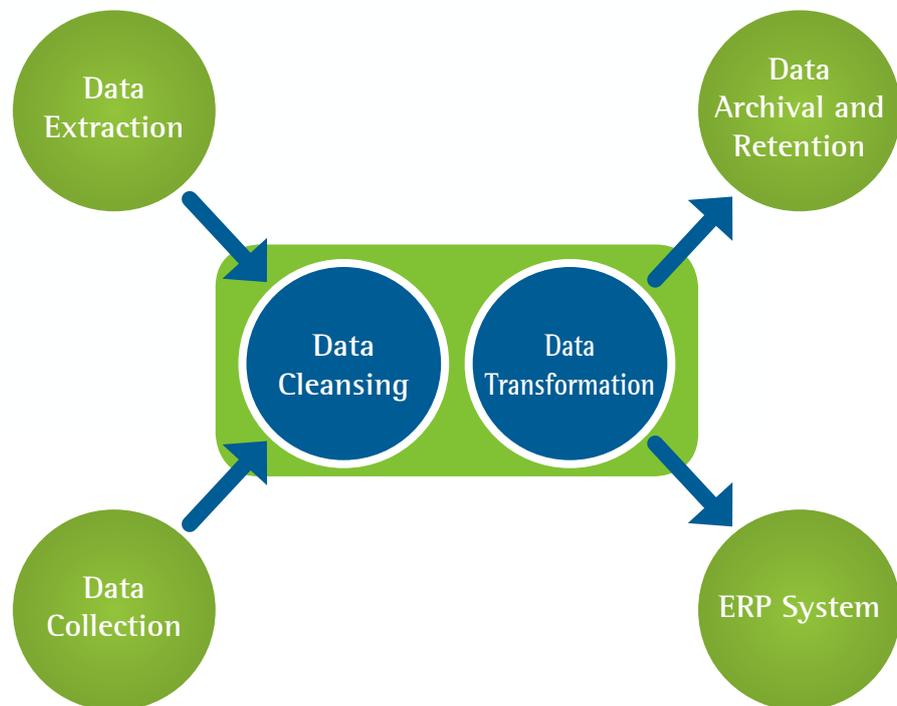
DATA COLLECTION AND EXTRACTION

The data that needs to be uploaded to the ERP system may not always be found in the old systems. This is the type of data that is being automated by the organization for the first time and will usually require manual data collection measures to be undertaken. This would require the company and the stakeholders to establish spreadsheets and data files containing the required data so that it can be entered into the system. This process is known as Data Collection within a data migration process.

The Data Extraction process on the other hand requires extracting data systematically from the existing systems and applications within an organization, managing that data and then uploading it to the new system. Data extraction is usually a complete technical process that requires the skills of IT professionals, analysts, developers and business users to load and verify the data.

Cleansing of Data

After the data is extracted and collected from different sources, it needs to be managed before it can be uploaded to the new system. This data management process is usually known as data cleansing that is carried out so that incorrect or out of date data can be removed from the system. The cleansing process is carried out at different stages of a migration process, typically once before the extraction is started and the last time being after the data is loaded.

After the data is organized, a data harmonization process is carried out which involves standardizing the data to a single format. This happens when the ERP system is being implemented throughout the organization while the data collected comes from different sources, each following their own formatting structure. In such cases, a standard coding system for all data elements such as products, suppliers and customers needs to be created for the ERP system.
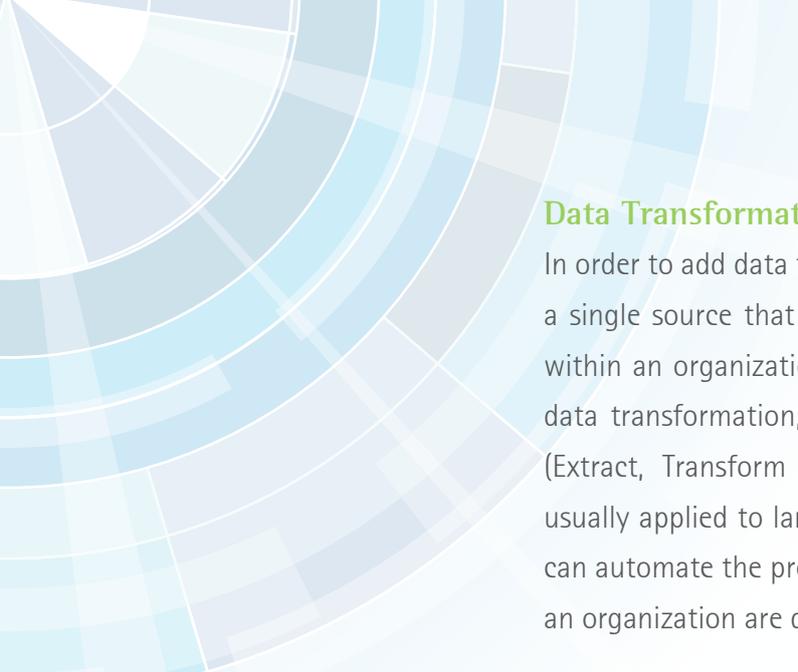
Data Transformation

In order to add data to an ERP system, it first needs to be integrated into a single source that is consistent and accurate across all data sources within an organization. The systematic integration of data is known as data transformation, a process that makes use of integration and ETL (Extract, Transform and Load) technologies. These technologies are usually applied to large volume of data in order to structure them. This can automate the process of data aggregation when the data sources of an organization are diverse and dispersed.

Data Loading

Once the data files are cleansed and integrated, they need to be loaded to the new ERP system. An ERP vendor or ERP implementation partner can help you load the prepared data on the system successfully. However, the responsibility of preparing the data prior to the loading process lies with the organization itself. At the time of loading, the data should be present in the required format and must be tested so that it can then be uploaded with minimal chances of error. The testing cycles should continue during the loading process as well to ensure that the system transition is carried out smoothly.

Testing

For a data migration process to be successful, testing is one for the most crucial activities that needs to be undertaken time and again throughout the process at different stages. Testing can be done with both manual and programmatic means, checking for inconsistencies in the data structure and format, and looking for errors. Testing cycles for data migration processes are usually diverse in nature, some of them being applicable to individual data conversions while other being used on completed sequences of conversions.

The type of test cycles an organization plans to use during the migration process should be defined and followed clearly. Before these testing

cycles can be implemented, organizations need to take a sign in from all stakeholders regarding them, which would later be needed during the audit.

Data Retention and Archival System

During an ERP migration, the data required is not always present in current application systems. This historical data of a business needs to be retained so that it is available for use when the need arises. A data retention method needs to be established by the organization that complies with the system requirements.

When this data retention system is being established, there are two key consideration factors including compliance with the regulatory requirement and need of data by the Business Intelligence System. If there are gaps in data visibility, it would impact the performance of ERP system negatively, bringing down the return on investment for an organization quite substantially.
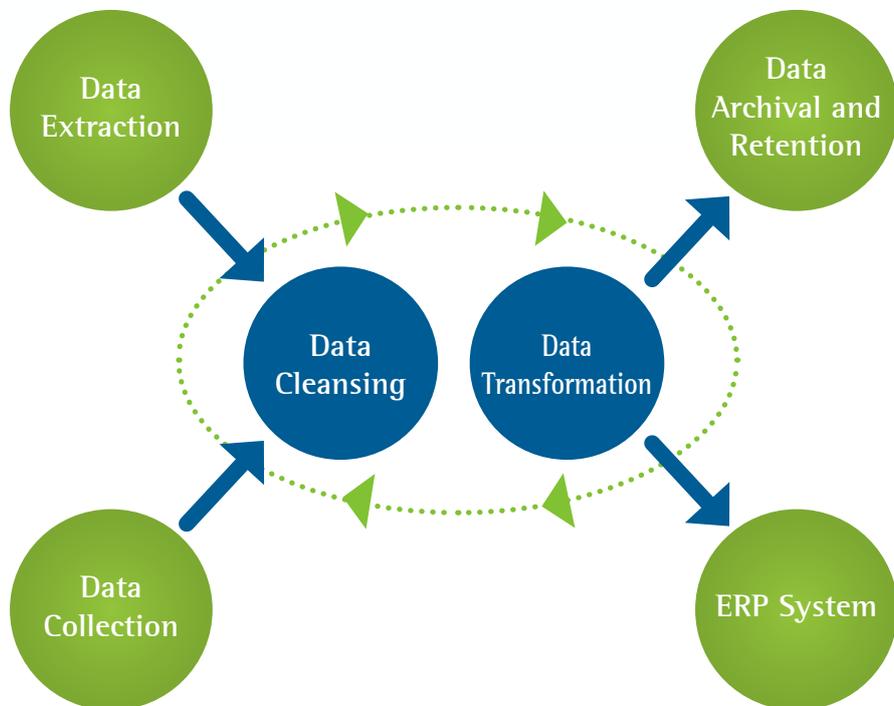
PLANNING AND IMPLEMENTING A DATA MIGRATION STRATEGY

When a company decides to undertake a data migration process, it needs to come up with a complete strategy to carry out the project successfully. Here are some considerations that project managers should look out for when a data migration project is underway.

Creating a Strategy

First, a data migration strategy needs to be developed. This strategy outlines key decisions that are related to the migration project like what needs to be migrated, how much data needs to be moved, and what entities should be transferred. It should also describe how historical data of a company would be managed, which technologies would be employed and how the process would be tested across different stages. This migration strategy will work as a comprehensive roadmap for organizations, guiding them in a specific direction during the process and helping them evaluate the success of the migration project in between and in the end.

Establishing Data Migration Teams

A team would need to be established that will be responsible for carrying out the data migration process. Creating a team with appropriate skills and expertise in data migration can be crucial to the success or failure of the entire process. An ideal team for a data migration process would consist of a project manager, analyst developers, business analysts and the business owners themselves. All these people need to have some experience of data migration, specifically the project manager and the analyst developers. While a company can look for in-house talent, outsourcing the data migration project to an experienced data management services provider can often be the best option to ensure that there are minimal errors in the process.

Using the Right Technology

Technology is another important aspect of the data migration process, and it should be considered carefully when the data migration strategy is being established. There are technologies like spreadsheets, data integration tools and most importantly, ETL applications that are essential in every data migration project.

While the spreadsheets are undoubtedly an important tool, their flexibility often becomes their weakness. The ability of adding unstructured data to these spreadsheets without any regulation can make it very difficult to keep these spreadsheets clean and accurate. In order to ensure that data collection through spreadsheets is successful, data validation rules should be established prior to starting so that the process can be made foolproof and can be streamlined.

The data integration and ETL tools that are used can be availed from the market. However, using the right tools is essential so the decision to select these tools is best left to the experts. An analysis of the current systems used by the organization needs to be carried out to determine what type of tools would be most compatible. These data integration and ETL tools can make the task of data extraction, organizing and harmonizing extremely simple through their data modeling and transformation tools.

Conducting an Audit

The ERP implementation always needs to be audited after it is completed. Auditing of an ERP system is a key component of the entire process and companies should be prepared for it right from the start. Therefore, when a data migration project is started, it should be properly documented so that a future audit can be carried out on the basis of these documentations.

Maintaining Data

The data extraction and loading processes are separated by a major time lag in between due to the data processing that takes place. However, data within an organization keeps changing constantly and during this time lag, a major data gap is created. For a data migration to be successful, it is important that these changes in the data that occur between extraction and loading are considered when data is uploaded to the new system. There are several protocols that a company can place to track the changes in the original source data so that it can be accounted for when the transition is being made.

Data quality needs to be maintained after the data migration process is completed. An audit can be carried out at any time to ensure that the data quality is maintained over the time.

CONCLUSION

Data migration is a necessary requirement that is often undertaken by organizations due to different reasons. When a company is implementing an ERP system, data migration is an important aspect of this implementation and has a direct effect on the value created by the ERP system for an organization. Carrying out a data migration process requires organizations to create formal strategies for this process so that the risk can be minimized and mitigated. Failure of a data migration project can lead to the failure of the entire ERP implementation. This is an extremely time-sensitive process, and organizations need the help of expert data management professionals to ensure their data migration project is completed successfully.

ABOUT COGENT DATA SOLUTIONS

Cogent Data Solutions provides professional consulting services and implementation solutions so that organizations can handle a variety of complex data migration issues. The current business environment poses a constant threat to business, which is why CDS is present to help deal with complex data issues. With mastery in the art of systems integration, CDS focuses uniquely on data issues concerning data warehousing and business intelligence.

We are proud to solve multiple complex business problems by delivering industry-class information systems solutions. Our goal is to design and integrate technology platforms for companies to provide accurate and timely data results. All successful companies are built on these foundations, and we can help you become like one of them. Our scalable processes ensure that all modifications to your business intelligence environment are sustainable and effective. Visit us online at http://www.cogentdatasolutions.com to find out more.

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