

Driving successful business transformation

*Persistent organizational excellence with
IBM Ready-to-Launch for SAP applications*



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Data challenges are pervasive across business and IT projects

With technological advances and increased global interconnectivity, enterprises are recognizing data as a strategic asset that can be leveraged to increase business insight. However, projects designed to deliver business insight have consistent data challenges, such as difficulty scoping project phases from a lack of data visibility; project stalls and roadblocks due to unforeseen data quality issues; and lack of user adoption and trust due to data inconsistencies. Those issues all lead to compromised timelines, which in turn affect the overall bottom line. Data-related problems cost the majority of companies more than US\$5 million annually; one-fifth estimate losses in excess of US\$20 million per year.¹ Clearly, failing to resolve data challenges can be costly, but when proactively addressed there are also large transformational benefits to business.

SAP data drives business transformation

For many companies, SAP® applications are mission-critical, operating many of the processes that keep the business running. To give just a few examples, SAP applications help organizations create relationships with customers, determine manufacturing levels and manage relationships with their suppliers.

But just as important as those applications is the data that they use, exchange and deliver: customer orders, material requirements, market forecasts, supplier pricing and much more. For thousands of businesses across the world, SAP applications manipulate a complex web of information, coordinated and controlled across business lines, departments and divisions.

That web of information is both indispensable to the organization and knit deeply into its fabric. As a result, business transformation initiatives can become tremendously challenging, because organizations often must implement a completely new SAP system—migrating, integrating or consolidating their existing SAP data and systems.

New SAP systems require moving a high volume and variety of data in a wide array of formats from a spectrum of legacy systems that span multiple business functions. Data cleansing and conversion are critically important and a substantial undertaking. The success of the entire initiative can depend on the ability of the organization to reliably deliver high-quality data to feed and inform the new system. And beyond the initial migration, the lack of a long-term information strategy can leave organizations vulnerable to deterioration in data quality that can eventually affect operations and the bottom line.

Information is critical to success and value realization

High-quality master and transactional data is critical in helping realize expected business value from an SAP investment. Without an information strategy in place, companies risk jeopardizing IT projects with delays caused by SAP data conversion issues, incorrect data or manual efforts for extracting and loading SAP data. Typical data conversion issues include legacy data that is insufficient for SAP software (due to data format differences or poor data quality), lack of documentation, multivendor complexity, and errors detected late in the project life cycle leading to rework, extra costs and delays resulting in missed deadlines.

Problems caused by data issues are further exacerbated after the project's completion if there is no means of ensuring ongoing data quality and data governance. There is also the larger, more visible risk to the business that without a repeatable, scalable data integration solution, the business will have challenges leveraging the wealth of information in SAP systems to its advantage.

Taking the time to design quality processes at the beginning reduces the number of changes required later in the project. Good processes and attention to data quality help organizations complete projects more quickly and reap the full rewards of having a rich web of interconnected information.

Information is a life-cycle investment

It's also important to realize that data quality management and data governance are ongoing requirements at organizations that depend on SAP. Data integration projects—whether they're driven by upgrades, merger and acquisition activity, or an initiative to save costs by consolidating SAP instances—are a regular fact of life in many organizations. Extraction and loading must be part of a repeatable, reusable process that can be evaluated, refined and relied upon to move the business smoothly forward. Organizations must reuse and repeat the approach across waves, new modules and different geographies.

In addition, an approach must be in place to ensure ongoing data quality and governance of the SAP data well beyond the go-live date or project's completion. Organizations must undertake a repeatable process that begins with an understanding of the existing information landscape, progresses to cleansing and harmonizing the information, and culminates in integrating and moving it into the new SAP application.

Data quality management and governance go beyond targeting SAP instances. A common destination for extracted data is a data warehouse intended to serve as the master repository for master data management (MDM) initiatives. With the stringent requirements and high expectations for enterprise master data, it is even more crucial that any SAP data that becomes part of the master repository is clean, consistent and correct; otherwise it will undermine the entire rationale of a MDM system.



Figure 1: IBM Ready-to-Launch for SAP applications is a proven combination of services, methodology and technology to migrate data through automation that moves data quality assurance early in the process. It consists of reusable assets that span multiple SAP rollouts, while managing data through governance and integration infrastructure and process.

The anatomy of a solution: IBM Ready-to-Launch for SAP applications

As the leading global integrator of SAP implementations and top alliance partner in software and services with more than 3,000 clients, IBM has the people, processes and technology to support SAP-centric enterprises in driving business transformation (see Figures 1 and 2).

IBM® Ready-to-Launch (RTL) for SAP applications combines field-tested, proven methodologies and services with best-of-breed information management technology and accelerators from IBM to help organizations:

- Provide **quality, consistent, accurate and complete** data throughout the life cycle of the data—not just in the initial conversions and migration activities
- Design data-centric processes to be **flexible, standardized and scalable**, enabling completeness and accuracy of the data
- Integrate the design of business and data-centric processes to deliver **the right data, at the right time, to the right solution, with the best quality and value**
- Help ensure that the flow of data (master, transactional and reference) within a business process is **measurable and manageable** across business processes and individual applications
- Create and utilize a **central repository of the truth** that is independent of any enterprise applications
- Develop a **repeatable approach** that can be reused across multiple initiatives

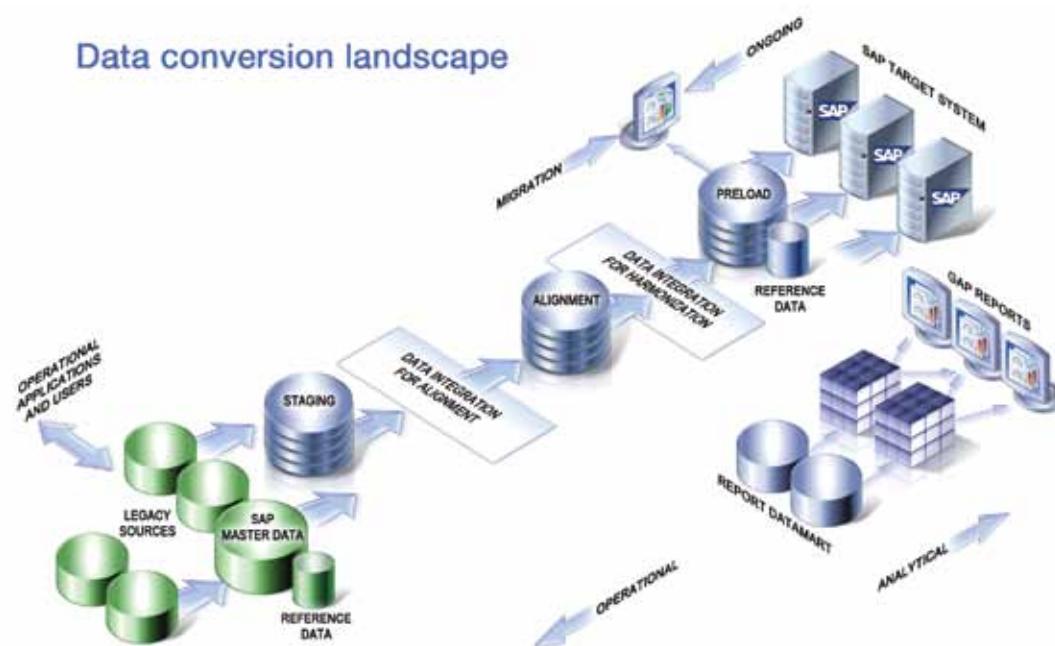


Figure 2: A high-level architectural overview of IBM Ready-to-Launch for SAP applications.

RTL for SAP applications begins with a clear and detailed data integration strategy that focuses on both immediately improving data quality for the current initiative and maintaining data quality at the enterprise level over the long term. With a clear data integration strategy, a proven data integration methodology and the effective use of

industry-leading software and accelerators to guide, manage and streamline the process, IBM has been leading clients through an SAP data migration, harmonization and integration strategy for rapid business transformation that is aligned with the ASAP methodology from SAP (see Figure 3).



Figure 3: IBM Ready-to-Launch for SAP applications accelerates all phases of the SAP methodology while leveraging its foundation of technology (InfoSphere Information Server) and services accelerators (InfoSphere Conversion Workbench for SAP applications).

Business blueprint

During the business **blueprint** stage, RTL for SAP applications supports the gathering of requirements for the data management processes through a **business data roadmap**. This set of processes and tools assists data analysts in collecting business data requirements and mapping these elements to application fields to enable the preparation of the data for testing in the realization phase. With this approach, inactive data can be identified for archiving or deletion, which minimizes the need for rework. Proactively identifying data strengths and weaknesses helps set realistic expectations for the data conversion effort, and avoids discovering and fixing problems along the way in an ad hoc fashion, which leads to cost overruns and delays.

Realization (harmonizing, aligning, testing, loading)

At this phase, flexible, standardized and scalable data-centric processes and services help enable consistent, complete, timely and accurate data. This extends throughout the information life cycle, not just to the initial conversion and migration activities. The RTL model-driven integration approach helps accelerate realization with automated discovery of SAP data objects and relevant metadata, while automatically building the staging, alignment and preload areas as well as SAP load jobs.

Final preparation

Before go-live, the RTL approach enables the understanding of the flow of data (master and transactional) within the end-to-end business processes and provides documented data lineages and measurable key performance indicators (KPIs). These provide an ongoing means to audit the quality of the data based on the criticality, security and compliance requirements across all enterprise applications.

Go-live and support

At the go-live stage, the data conversions are executed, and the data is then loaded to SAP either through the IDoc interface, BAPI® programming interface, the SAP Legacy System Migration Workbench tool or direct load programs. During go-live, data quality can also be trended over time to identify problem areas.

Sustain

During the operations stage, a Center of Excellence (CoE) is established internally within the enterprise to ensure ongoing self-sufficiency and data governance with SAP applications. This helps ensure repeatability and reusability of the approach.

People	Process	Technology
RTL for SAP applications —For integration projects with both large-scale technical and business challenges, IBM Services' RTL for SAP applications provides strategic business consulting and delivery/execution of an SAP data integration strategy that leverages InfoSphere Information Server and InfoSphere Conversion Workbench for SAP applications, along with assets such as the InfoSphere Business Data Roadmap.	IBM InfoSphere Conversion Workbench for SAP applications —For the realization phase and for more technically complex SAP integration projects, this is an offering from SAP data migration experts from IBM Services that provides a model-driven SAP solution framework and software accelerators based on InfoSphere Information Server to accelerate SAP migrations and implementations.	IBM InfoSphere Information Server —This provides a flexible, heterogeneous and reusable software platform for programs with multiple waves, cutover and post-go-live integration data management and data quality.

Table 1: To address the varying client needs, budgets and SAP software complexity, the IBM solution is comprised of people, process and technology.

IBM InfoSphere Information Server

An industry-leading data integration platform for helping companies with the complexities associated with SAP implementations, migrations and consolidations, IBM InfoSphere® Information Server provides a comprehensive and repeatable foundation for understanding, cleansing, transforming and delivering high-quality information from complex source environments into a new SAP solution. Its parallel processing platform is capable of scaling to huge data volumes to meet or exceed the most demanding SAP data volumes (see Figure 4).



Figure 4: IBM InfoSphere Information Server data integration capabilities are the underlying technology of IBM Ready-to-Launch for SAP applications.

With its broad spectrum of data integration capabilities and metadata-driven design, InfoSphere Information Server helps reduce the inherent risk of large projects by removing data from the critical path of an application migration or consolidation with field-tested capabilities such as the IBM InfoSphere Information Server Packs for SAP applications and SAP NetWeaver® Business Warehouse component. Primary components include:

- **IBM InfoSphere Discovery**—Analyzes data to discover relationships within and between data sources, and allows early prototyping and testing of data consolidation
- **IBM InfoSphere Information Analyzer**—Monitors data to provide a comprehensive understanding of the data and support governance initiatives over time
- **IBM InfoSphere Data Architect**—Enterprise data modeling and design tool to model, relate and standardize diverse and distributed data assets
- **IBM InfoSphere Fast Track**—Automatically generates data conversion and data quality logic based on business requirements
- **IBM InfoSphere DataStage®**—Extraction and transformation engine for pulling from legacy systems and performing conversion functions
- **IBM InfoSphere QualityStage™**—Data quality engine for data standardization, cleansing, matching and survivorship
- **IBM InfoSphere Information Server Packs**—Reusable connectivity to SAP software

IBM InfoSphere Conversion Workbench for SAP applications

To help expedite the SAP data integration process even further, the IBM InfoSphere Conversion Workbench for SAP applications is an IBM Services offering consisting of a migration framework, accelerators and validation checks (see Figure 5).

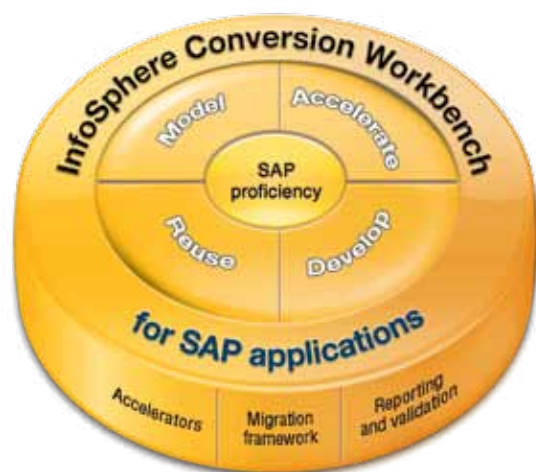


Figure 5: InfoSphere Conversion Workbench for SAP applications provides model-driven job generation that accelerates the migration process, while being a reusable approach to develop SAP expertise and proficiency.

InfoSphere Conversion Workbench for SAP applications is designed to facilitate and automate the SAP conversion process from the business blueprint to the sustain phase, while helping clients develop the skills and best practices for SAP self-sufficiency that can constitute a CoE for ongoing data quality and governance of their SAP data (see Figure 6). As every client's SAP software environment varies in complexity, there is the flexibility to use individual Conversion Workbench components as an independent solution for each phase, or in conjunction with other in-house processes to exploit their reusability while leveraging existing resources.

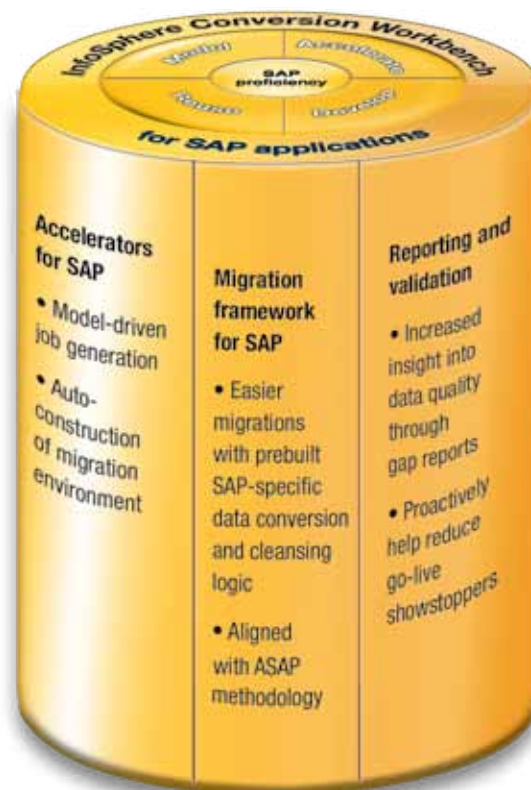


Figure 6: Capabilities of IBM InfoSphere Conversion Workbench for SAP applications.

InfoSphere migration framework for SAP applications

This group of tools helps define and facilitate the framework for migrating SAP data. As these tools are based on years of on-site SAP experience from SAP data migration experts from IBM Services and are aligned with the ASAP methodology, they significantly help with not only jump-starting and automating SAP data integration efforts but also instilling a best-practices mentality within the organization to ensure ongoing competence and proficiency with SAP applications.

Reduce development time with SAP-driven data conversion logic and routines

During realization, instead of manually defining processes for loading and cleansing, which increases development time and increases error and risk, companies can leverage pre-built SAP-specific data conversion and data-cleansing logic that can be customized for specific business requirements. This includes:

- Using pre-built investigation, standardization, matching and survivorship logic for data quality for selected SAP business objects
- Extracting metadata (table names, field names, data types, dependencies) from the target SAP system and storing it in metadata tables—this metadata is leveraged by other components of the conversion workbench such as for gap reporting and transcoding
- Applying default rules and manual overrides to data
- Automatically populating technical fields with user-supplied values
- Using pre-built templates as building blocks for client-specific conversion and data quality logic

These functions utilize the underlying technology of InfoSphere Information Server and are designed using the best practices from SAP data migration experts from IBM Services. Having pre-built logic means more time and focus is available for business-differentiating aspects of information management projects.

Automated transcoding framework

To further expedite the data conversion process, codes and abbreviations from legacy systems can be automatically translated into the desired format on the target system. The business user needs to specify only the transcoding rules—the source-to-target translations are automatic. This reduces the amount of manual effort required, which not only saves time but reduces the risk of error.

InfoSphere accelerators for SAP applications

This group provides two tools that accelerate the execution of SAP migrations in the blueprint and realization phases, though they could easily be leveraged in other phases as well. These accelerators are extensions of existing InfoSphere software solutions that are designed to address SAP-specific challenges on a repeatable basis.

IBM InfoSphere Rapid Modeler for SAP applications

During the business blueprint phase, it is important to understand the source SAP data model to determine the data alignment requirements to correctly transform, cleanse and format the SAP data. The IBM InfoSphere Rapid Modeler for SAP applications supports any data model stored in SAP's data dictionary and was designed to reduce effort and the need for deep SAP model knowledge; it allows SAP metadata to be

automatically extracted for viewing and annotating SAP data models in a modeling solution, InfoSphere Data Architect. The extracted SAP metadata can also be leveraged for surfacing data lineage and traceability to validate the consistency and integrity of the data. This increased knowledge and visibility into the source data facilitates the quick understanding and documentation of SAP data models to accelerate the overall migration effort.

IBM InfoSphere Rapid Generator for SAP applications

As SAP metadata can be easily extracted through the InfoSphere Data Architect Rapid Modeler for SAP applications, it also serves as the foundation for automatically generating time-saving utilities to accelerate the SAP data integration process. IBM InfoSphere Data Rapid Generator for SAP applications is designed to accelerate the realization phase by automating many tasks that typically require substantial manual development time or an SAP-specific skill set. It automatically generates:

- Data models for alignment and preload
- Jobs for source SAP extraction, target SAP load and checking table extractions
- Translation tables for value mapping from legacy codes to SAP configuration values

Reporting and validation

Source-target gap reporting framework

In the context of SAP migrations, a gap is the difference between the legacy source data and SAP data requirements, resulting in a potential failure to load into SAP software. During go-live, by easily identifying the functional data gaps between the source data and SAP through six pre-built gap reports, the data gaps can be quickly fixed to ensure that the correct data is loaded into SAP software. This proactive approach helps minimize the risk of unnecessarily prolonging project timelines to correct data as it is being loaded. The gap reports deliver information in the following areas:

- Data completeness
- Category completeness
- Data validity
- Field length
- Record orphan
- Record relationship

In addition, data quality reports are available to display the outcome of the standardization and deduplication processes.

Load status visibility

Many errors may not surface until the data is loaded into SAP. InfoSphere Conversion Workbench for SAP applications provides the success or failure information for any record that has been uploaded to SAP software. This provides increased visibility and tracking of the load status. The ability to use incremental and iterative SAP data loads allows the proactive approach of identifying loading errors earlier in the conversion project. This reduces risk compared to starting loads late in the project cycle and also brings governance into the process.

Conclusion

Years of extensive delivery experience with SAP, coupled with industry-leading software solutions and accelerators, helps IBM provide clients with an end-to-end data conversion solution for SAP applications. Proven processes designed to improve data quality can significantly help reduce the risk of delays in business-critical SAP projects and drive business transformation.

For more information

For more information, please contact your IBM sales representative or visit: ibm.com/software/data/infosphere/solutions/infrastructure/sap.html



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¹ Forbes Insights, Managing Information in the Enterprise: Perspectives for Business Leaders, April 2010, forbes.com/forbesinsights/enterpriseinformation/index.html



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