Problem

SAP Data migration done in the traditional way, writing your own conversion programs, is a painful and expensive proposition. Conversion programs don’t get ready before approximately six months into the project, pushing the exercise of examining data for correctness and standardization too close to the Go-Live date. Data quality issues do not get the needed attention.

Solution

Field proven appMIGRATE provides instant relief for data migration challenges. Being a product with ready to use configurable templates with no need for programming, appMIGRATE allows Business users to see production data in the target SAP instance as early as initial CRP. It gives them ample time to correct, clean, consolidate, standardize and harmonize their data. The tool plays well with agile methodology. Data risks are identified early in the project and solutions made ready and applied.

“Never before we had all data converted before the first CRP. With this tool and the methodology, we are free to concentrate on other business and process issues.”

-ERP Practice head of a major Systems Integrator

The tool reduces production cutover time and the overall project timeline. appMIGRATE product and processes are battle tested. It helped several fortune 1000 companies including GE, Cummins, Caterpillar, Iron Mountain, Canon, CH2MHill, Lifeway Christian Resources and others to migrate their complex data in a scalable and repeatable manner.
DATA MIGRATION

The appMIGRATE Solution with 650+ ready-made templates provides accelerated data conversion and ensures data quality. The appMIGRATE Solution has been recognized by the industry and is being utilized by Fortune 1000 companies for meeting their challenging data conversion requirements.

appMIGRATE tool provides end to end data migration processes right from Requirements Definition to successful Cutover. All these processes and activities come built inside the tool, allowing data migration SDLC processes to become repeatable, scalable and predictable.

appMIGRATE process diagram:
**Accelerated ETL:**

**Extraction**

Ready-made extraction templates will provide earlier view of the source data in the Data Mart.

Predefined extraction templates available for Master and Transactional data (both open and historical)

All data fields are extracted from Legacy Systems

Raw data is profiled and map reduced using Hadoop

**Cleanse/Transform**

Ready-made SAP templates accelerate ECC 6X mapping

- Includes standard fields
- Includes user defined fields

Data is pre-validated prior to loading into target SAP environment

Automated sequencing of Data migration objects

Preserves the data linkages for all dependent data elements

Raw data is profiled and map reduced using Hadoop

Repeatable and flexible Change Data Capture (CDC) Cutover

**Historical Considerations**

Post processing builds reference to historical source

Pre-built historical sequencing of master/transaction data

Front-end screen to build historical mapping

Integrity for historical drill-down to the transaction level

Dimensional reconciliation engine for source and target

**Product Architecture:**

**BASE COMPONENTS**

- Instance Handler
- Data Processor
- Validation Engine
- Log and Notification Handler
- Template Adapters

**appLOAD**

- Template Processor
- Loader Processor
- Pre-validation Engine
- Error Correction Cleansing Handler

**appEXTRACT**

- Query Parser
- Extract Engine
- Error Handler

**appMIGRATE**

- Template Adapters
- Interface Adapters
- Extract Adapters
- appLOAD Adapters
- Log and Notification Handler

**appINTERFACE**

- Schedule Engine
- appExtract Service
- FTP Service
- appLOAD Service
- Log and Notification Handler
“appMIGRATE performs data profiling on the source data to reduce the data volume and explore data quality issues. Data profiling is done with the extracted data against the target SAP applications Reference data and Setup data dependencies with predefined rules. Business process verification is another highlight. Data profiling engine is also used for ongoing ERP wellness activities.”

Profiling source data improves data quality and reduces data quantity. Profiling the extracted data against the target reference data and business logic is built inside the appMIGRATE tool. Each Template comes packed with hundreds of pre-validations.

appMIGRATE helps investigate if existing data can be used for other purposes.

Improves the ability to search the data by tagging it with keywords, descriptions or assigning categories.

Allows assessment of risk involved in integrating data for new applications, including the challenges of joins.

Helps understanding data challenges early in any data intensive project, so that late project surprises are avoided. Finding data problems late in the project can lead to delays and cost overruns.

Provides enterprise view of all data, for uses such as Master Data Management where key data is needed, or Data Governance for improving data quality.

“For a large document management company we reduced Item Master data size to about 5% of the original size.”

Data Profiling approach to SAP:

ANY SOURCE → Raw Data → DATA PROFILING AT SOURCE → DATA MART → Hadoop → Corrected Data → DATA PROFILING AT TARGET → DATA MART → Clean & Lean Data → SAP
DQM is a prime mover of a successful SAP Data migration project. It is a mandatory process and cannot be wished away.

appMIGRATE provides extensive features and functions for Data Quality needs of Data Migration projects. The main features offered include:

- Data De-Duplication
- Data Cleansing
- Data Harmonization
- Data Consolidations
- Data Enrichments
- Data Standardization

appMIGRATE Data Migration process specifies Data Quality Management activities as “Mandatory” for all Data Migration projects. The DQM activity is generally carried out in the early phase of the project and it is a precursor to Data Migration activities. The appMIGRATE tool has powerful features to collect high volume of master data into its data mart for performing DQM activities. It uses consolidation algorithms along with Hadoop technology to identify the matches and no matches for the collected data. Provides a good user experience in classifying the matches into “false positives” or “false negatives”. When the user merges the matching records, individual values can be copied from one to another. Using “Merge” activity, data gets harmonized using data cross references.
“The reconciliation on USD 500 million came to USD 7. The CFO pulled out USD 7 from his pocket and presented it to the CEO during go live. The technical team worked on it later and brought reconciliation to zero.”

“Chain-Sys Reconciliation engine is used for validation of the Data Migration results. Also it is used for on-going ERP wellness activities”

Technical and Functional reconciliation is a mandatory step in Chain-Sys Data migration process. It ensures smooth transition to the target application. It also helps with the ongoing Data Maintenance efforts. appMIGRATE consistently delivers 99.999999% data reconciliation success in every project.

appMIGRATE tool provides out of the box data reconciliation processes and functions for both Technical and Functional reconciliations. The tool provides complete drill down capable dashboards for identifying the discrepancy between source and target systems. After the go-live, appMIGRATE helps you with the ongoing reconciliation needs between Sub Ledger and Main Ledger (Finance and Cost). Within Sub Ledger accounting, transactions and activities within modules are tracked and reported using this engine.

General Ledger Journals Reconciliation Results with Drill Down features (Period wise, Journal Category wise, Journal Source wise, View overall data, View Mismatch data):

![Graph showing reconciliation results](image)
Data maintenance is a key part of appMIGRATE GET CLEAN STAY CLEAN solution strategy. For that appMIGRATE provides over 650 predefined Templates for maintaining Setups, Master Data and Transactional Data (Open and Historical Data).

**KEY BENEFITS**

- appLOAD features over 650+ predefined templates for Setups, Master data and Transactional data.
- Adapters are configurable to business specific needs using simple HTML screens.
- No programming is needed.
- All functions are created for the Business users to confidently perform Data maintenance activities.
- Tool can handle very huge volume – 1 Million records can be loaded in single shot.
- Hub and Spoke architecture.
- No Baby sitting needed. Completely background processing.
- Input data structure can be in multiple formats.
- Mapping of the data source into the SAP template is simple drag and drop approach.
- Robust Java/J2EE Technology.
- Platform is battle tested at fortune 1000 client locations.
- Automated Data Audit Trail
“Major Japanese consumer electronics firm’s European Division built over 200 Coexistence integration objects using appINTERFACE Module of appMIGRATE and saved over 70% in cost and time. The integrations were built in record times where the traditional ETL approaches had failed.”

Enterprises do not adopt simultaneous “big bang” Go Live into a single SAP system from all their geographies and divisions. In a phased approach, existing data interfaces cannot be interrupted for the legacy systems, when feeder systems have already been migrated over. appINTERFACE Module fits the bill for quick interface building between systems, both batch and real time.

During SAP Implementations, appINTERFACE module is used for building the integrations which are needed for the coexistence of the old and the new applications. The appMIGRATE Extract and Load Adapters are reused for the coexistence tasks.

Some of the Applications amongst whom data interfaces were rapidly built using appINTERFACE: SAP R/3, SAP ECC6, Oracle E-Business Suite 11i, R12, Oracle Fusion CRM, Oracle HCM Cloud, Financials, Peoplesoft, Siebel, Steelwedge, etc. Cloud based systems were interfaced with as much ease as on premise systems.

Architectue:

* SAP, Oracle EBS, Siebel, JD Edwards, Peoplesoft, Salesforce, Oracle Retail, Agile, Steelwedge, Ariba, Demantra, Oracle OTM, Optivision etc.
“appMIGRATE Cutover has always been smooth – with no data issues after Go Live.”

appMIGRATE provides features and functions for a smooth cutover. Smooth cutover is achieved by a combination of features including: Change Data Capture, Data Scalability functions and Configuration Management.

CHANGE DATA CAPTURE

The appMIGRATE product offers powerful Change Data Capture functionality. Using this feature, the source application tables redo log files can be monitored at a scheduled time frequency and the changes can be moved into the Change Data Capture tables. From the Change Data Capture tables, the data can be extracted, transformed and loaded into Target SAP ECC6 application. appMIGRATE offers Templates for “Update” of the data entities along with “Create” option, which will be used for updating the target SAP application.

The change data capture by appMIGRATE engine over the source database happens asynchronously in a certain time frequency by the following process

**CAPTURE:**

- ✔ Reading Transaction Logs
- ✔ Assemble and order transactions
- ✔ Convert each change into a logical change record (LCR)
- ✔ Put into queue LCR using messaging package

**APPLY:**

- ✔ Get from queue LCRs and other messages
- ✔ Applies the changes to the database objects
For Data Migration situations of large data volumes, complex validations and intricate transformations, appMIGRATE offers the following features:

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<th>FEATURE</th>
<th>DETAILS</th>
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<td>Clustering multiple application servers to load balance</td>
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<tr>
<td>MULTIPLE JVM</td>
<td>Create multiple JVMs under the application server to process more threads</td>
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<td>PARALLEL PROCESSING</td>
<td>Process Extractions in parallel</td>
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<tr>
<td></td>
<td>Process SAP Loads in parallel</td>
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<td>MULTIPLE THREADS</td>
<td>Execute multiple threads simultaneous based on number of cores and processors</td>
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<td>Split the loads into smaller batches of data and process in parallel</td>
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<td>MERGE OPTION</td>
<td>Reduce the IO against the database</td>
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“appMIGRATE successfully processed over 520 Million records of installed base for a major appliances brand in USA”
SAP Products and Solutions