



Replatforming enterprise applications and data warehouses from one underlying database to another can be a daunting challenge. Yet there may be compelling architectural or financial reasons to make such a change, and companies often find themselves needing to migrate applications between Oracle, MS SQL-Server, DB2, Informix, MySQL, and other enterprise database platforms.

Integra Technology Consulting has its roots in complex enterprise database consulting, and has grown and evolved over the years to offer a full range of consulting and systems integration services. However, we still maintain the same deep dedication to and experience in database-related issues that we have had for nearly 25 years. Among our strengths is the deep knowledge of database internals of every major enterprise database platform and the differences between those platforms. That experience, coupled with our robust database conversion tools and methodology, helps us significantly reduce the risk, time, and expense associated with these initiatives, and makes Integra the ideal partner for your database conversion project.

Integra recognizes there are many alternative approaches to database conversions — high-end, commercial ETL applications, database vendor toolkits, custom development, etc. Each approach has its strengths and weaknesses, but with our many years of enterprise database experience, Integra has come to recognize that none of these are perfect, and there is no substitute for competent database experts who have “been there, done that,” and understand not only the latest “gee whiz” conversion techniques and tools, but also the importance of the basic “blocking and tackling” that goes into every enterprise database initiative. Integra has developed a leading-edge approach that is robust, efficient and repeatable, yet flexible enough to apply to multiple

situations and environments. Our proprietary Conversion and Translation Solution (CATS) methodology is based upon proven approaches and reliable tools derived from our years of experience.

### Our Methodology

Our CATS methodology focuses on the fundamentals of database conversion first — detailed discovery, iterative execution, and exhaustive testing — and then layers in the automated conversion processes and tools necessary to perform the conversion quickly, reliably, and repeatably. The workflow is highly parallelized to substantially reduce the time and expense associated with traditional approaches to database conversion, as shown in the diagram below.

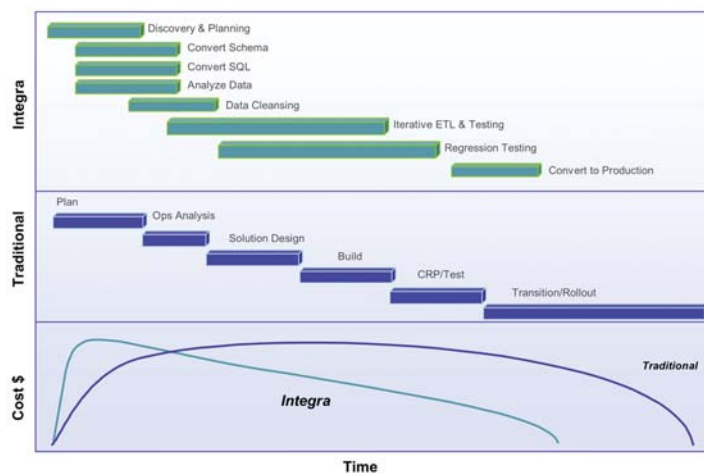
The first priority in any database conversion project is to make sure that what existed before the conversion, in terms of schema, metadata, user data, stored procedures & triggers, etc., is still present following the conversion. Consequently, our rigorous CATS methodology places significant emphasis on Discovery and Testing activities — the two areas most critical to a successful conversion.

During the Discovery Phase of our database conversion projects, Integra’s team utilizes

the detailed database inventory scripts and templates we have developed to find and thoroughly document the source database metadata and database objects, including:

- DDL statements
- Columns
- Views
- Triggers
- Packages
- Privileges
- Tables
- Data Types
- Indices
- Stored Procedures
- Sequences
- etc.

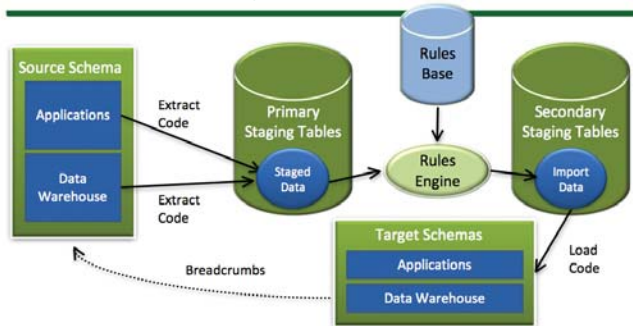
### Integra CATS Methodology



Once the above elements have been discovered and documented, our database consultants begin three parallel activities:

1. **Convert the source schema** to the target environment, using platform-specific scripts to reproduce the source schema on the target database, leveraging our detailed knowledge of the database platforms to adjust the schema to account for differences between the source and target database platforms;

### Integra CATS Tools



- Extract Code: Retrieve data from source systems and load primary staging tables
- Primary Staging Tables: Pre-validation, manipulation, performance tuning
- Rules Engine: Apply rules to standardize, transform, and normalize data, derive bread crumbs
- Rules Base: Transformation rules repository
- Secondary Staging Tables: Validation, performance tuning
- Load Code: Import data into target schema
- Bread Crumbs: Keys linking transformed data to source data

2. **Convert existing SQL queries** from the source database vendor’s SQL dialect (e.g., Oracle’s PL/SQL) to the dialect appropriate to the target platform (e.g., IBM’s DB2 SQL);

3. **Detailed analysis of the data** in the source system, looking for data elements that may not port neatly into the target database. Our analysis includes an assessment of the quality and hygiene of the user data. Pending the outcome of this analysis, Integra may recommend additional remedies to refine the information or enhance the quality of user data from a business perspective.

Once the source schema has been successfully converted to the target database platform, and any necessary data cleansing performed, Integra’s consultants perform multiple iterations to extract, transform, load and verify that the data is being accurately converted from the source database to the target database. During these iterations, our database consultants utilize our CATS tools to extract, stage, and manipulate source data as necessary, transforming the data using the CATS rules

engine and the rules base we create, before loading the data into secondary staging tables where the data is further validated and the load process tuned to accelerate the load into the target database. As the source system data is loaded into the target database schema, keys are generated to create a “bread crumb” trail linking imported data in the target system back to the original user data in the source system.

Integra strongly believes that rigorous testing is of paramount importance in successfully executing an enterprise database conversion initiative. It is during the Testing phases that the detailed scripting and planning activities executed during the Discovery phase really pay off. As, and after, conversion activities are completed, Integra guides its clients through detailed testing across many areas, guided by test cases developed during and after Discovery.

- Unit Testing
- Performance Testing
- System Testing
- Regression Testing
- QA Testing
- Business Acceptance Testing

Integra’s testing approach is rigorous, because the success or failure of every database conversion project depends so heavily on ensuring that all pre-existing database structures, scripts, queries, and data are preserved.

Of course, the above is intended only to convey a “sense” of Integra’s CATS approach. During the actual execution of the conversion project, there are many nuances and elements of our approach and execution technique that bear on the success of the project. These include detailed configuration of the conversion tools, iterative mock conversions (moving from the source database to a parallel environment), and planning and strategy for the eventual move to production on the target database platform. All of this activity is underpinned by our rigorous project management approach.

### About Integra

As an Oracle Certified Advantage Partner, Integra Technology Consulting provides the expertise, methodologies, and tools you need to successfully undertake even the most daunting database conversions and implementations.

Contact us today to discuss your enterprise database conversion plans in more detail, and learn how Integra’s CATS Methodology can help you save time and money, reduce risk, and enjoy greater return on your database investment.



400 Fifth Avenue, Suite 100  
Waltham, MA 02451  
www.integratc.com  
1.781.890.0070  
info@integratc.com