

Test Data Management

Services Catalog



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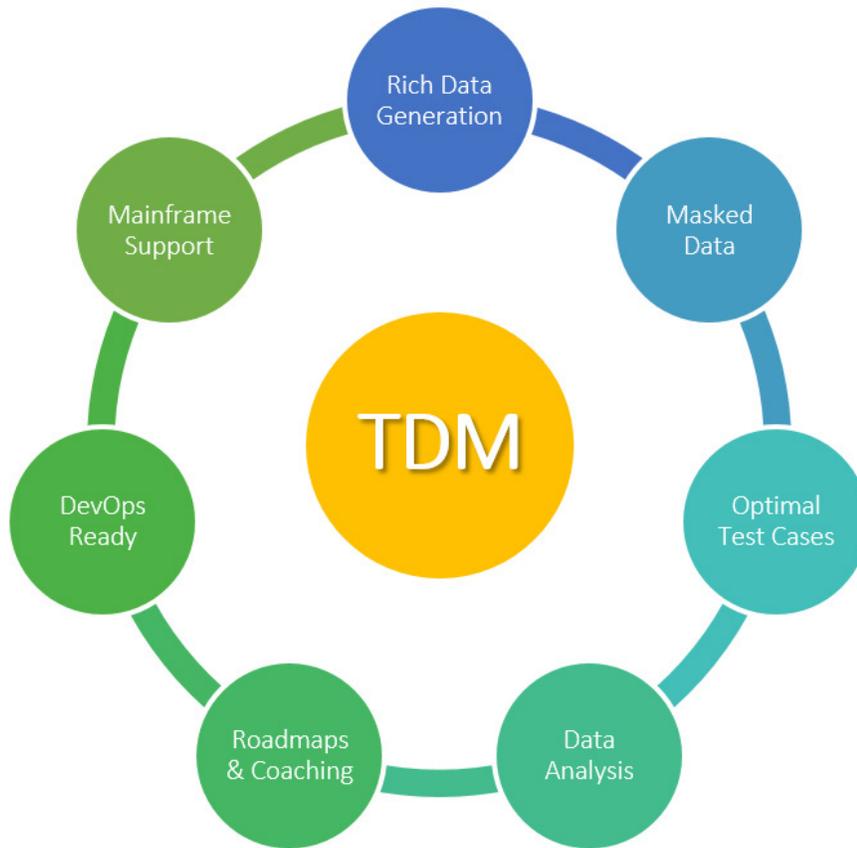
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Why TDM?

Test Data Management (TDM) is the practice of applying a structured and centralized approach to the management of test data at an enterprise level, in order to reduce cost while increasing efficiency and quality in development and testing. Accordingly, organizations are looking to implement TDM solutions that provide a systematic approach to finding, making and provisioning test data, on demand, at any point within an Agile sprint and throughout the software development lifecycle (SDLC).

Orasi's TDM services will meet the following objectives:

- **Quality**
 - *Fewer data incidents*: improved data coverage during test cycles
 - *Engineered solution*: provides a robust and repeatable solution for test data
- **Value**
 - *Efficiency*: better time to market with improved application reliability
 - *Security*: masked test data are not a risk for data breaches
 - *Reduced schedule risk*: tools and processes to quickly and easily manage test data and environments
- **Process**
 - *TDM coaching*: change management specialists to help transition your organization
 - *Roadmaps*: consultants onsite create a custom vision for your success



Client Success Stories

Large Automotive Company – Data Generation

Scope: 143 mainframe files need to stop being refreshed, as the update takes 29 hours over the weekend and doesn't always provide the required data. Synthetic data is necessary to replace this refresh. The goal was to create data for the 143 files.

- **Deliverables from Client**
 - Data Dictionary = 0
 - Data Model = 0
 - Existing files with relationships = 0
 - Time with SMEs = 2 hours
- **Deliverables to Client**
 - Data Model of existing data structures the TDM team was creating data for
 - Data delivery for three different testing teams
- **Current Status**
 - Client's TDM team creates data using built models

Large Entertainment Company – Coverage Analysis

Scope: Analyze the existing points replacement test data to determine overall data coverage.

- **Deliverables from Client**
 - Admin access to created views = 0
 - List of tables being accessed to retrieve data for given test area
- **Deliverables to Client**
 - Analysis of data, determination to be just under 50% coverage
 - Recommendations on where data coverage can be expanded

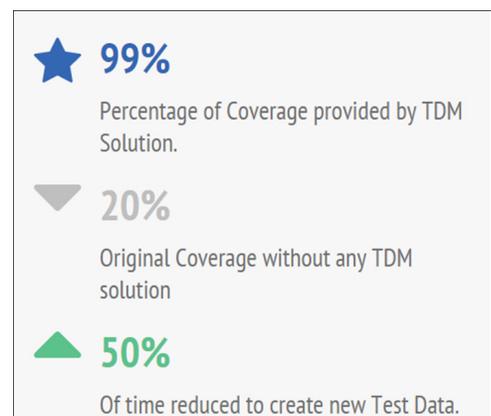
TDM Approach

Rich Data Generation

Using the existing data model, the team will be able to create synthetic data for the different test phases as the project requires based on the existing test cases, business rules, or system requirements.

Using synthetic data creation, our strategy allows you to quickly generate test data that is fit for purpose from scratch, reducing the cost of more rigorous testing.

Synthetic test data generation reduces the time wasted by manually searching for or creating test data by 50%. It also lets you enhance existing test data sets or create missing test data. Synthetic test data, driven by requirements, allows you to shift left testing, detect defects earlier, and improve the quality of testing.



Data Analysis

We correlate complex data relationships through our process and experience, even without domain knowledge. Knowing what data exists and where it is located allows you to better define the length of sprints. Our solutions provide the ability to know what data already exists and where it's located, helping us to define the testing phases more effectively.

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|--|--|
| <p>Data Visualization</p> <p>Testers often only need a specific set of test data for their tests. With our solutions, you can see and select the exact data attributes required for the scenarios. This dramatically improves the efficiency of testing, and avoids the need for testers to search through volumes of data before they can begin testing.</p> | <p>Data Coverage</p> <p>We perform a deep analysis of the testing database in order to validate if all the necessary scenarios are covered. If you haven't implemented a TDM process, test data will cover only 20% of the system.</p> |
| <p>Data Profiling</p> <p>Data Profiling is the process of observing the data to understand the nature of the data and the overall data model. It utilizes cubed views to expose even the most complex relationships between tables, columns and data attributes. This multi-dimensional view provides a complete picture of the data across multiple data sources, allowing you to identify where it is stored and where coverage gaps exist.</p> | <p>Test Matching</p> <p>Tag and assign specific data, either created or already existing in the testing database, to specific test cases based on requirements.</p> <p>This solution reduces the frustration of too many users working in shared test environments by assigning the data proactively.</p> |

Masked Data

Orasi provides a powerful, systematic solution for masking databases, mainframe and flat file records that ensures compliance with current data protection legislation. Using a large selection of built-in and customized automated data masking functions, our solutions ensures that data is de-identified with realistic, consistent alternative values to maintain referential integrity. Cross-referencing functionality allows you to mask data consistently across multiple systems at once.

In addition, our solution uses generic database drivers and native database utilities to provide optimal performance and remove reliance on slow and costly Extract, Mask and Load technologies. This reduces the risk of exposing sensitive records to unauthorized staff, while reducing costs. Masked data also secures your sensitive and PII data to achieve compliance, while performing more effective and efficient test cycles.

Optimized Test Cases

Our solution significantly reduces the cost of functional testing. This helps teams to iterate faster on both requirements and test cases. Our solution will increase your testing coverage too. Fewer test cases of a higher quality means less time spent in testing, reducing the cost without compromising quality.

This solution clarifies your requirements in a visual and active flow chart that improves the quality of the entire solution delivery process. You can provide the business with accurate complexity metrics for each requirement. This allows you to accurately estimate the cost of development, before development starts.

DevOps Ready

Our solution is based on the innovative concept of the Test Data Warehouse, a central repository in which you can store, enhance and manage test data. Data can then be requested via a web-based, self-service portal and delivered across multiple teams and projects, in parallel.

Our solution allows you to manage test data when you build a central, graphical library of interesting data, mined from multiple systems. This reduces the time spent looking for data by up to 50%. The test mart provides a one-stop shop for developers and testers to quickly access and reserve the data they need.

Mainframe Solutions

Our solutions provide a market-leading range of mainframe solutions designed to help you manage, profile, mask, and subset, and create fit-for-purpose test data on the mainframe. Supporting z/OS on DB2, DB2 UDB, DB2/AS400, VSAM, ISAM and IMS – as well as non-indexed flat files – our solution allows you to utilize the complete test data management solution to support your legacy systems.

Our solution also utilizes native mainframe utilities to migrate and mask data. This ensures the highest performance mainframe solutions. It also significantly reduces the time, cost and risk of subsetting and masking legacy data. Once imported into a Test Data Warehouse, the data can be enhanced using synthetic data to improve test coverage and ensure that teams are test cycles are fit for purpose.

Improving Your Test Cases

Reasons to use Test Case Optimization:

- Active test automation
- Maximize test coverage
- Create and find the correct test data
- Manage Continuous Integration
- Reduce testing costs and test cases
- Define your requirement and present it in a friendly visual and active presentation
- Calculate costs, efforts and coverage from the beginning

Enablement Phases

1. TDM Process Review
2. TDM Process Implementation
3. TDM Continuous Improvement
4. CA (formerly Grid-Tools) University

TDM Process Review

Objective

The highest level goal is to determine the areas in which the client needs the greatest assistance for Test Data Management. The results will allow for recommendation on next steps to be made.

The results from this will include:

- Analysis of existing TDM strategy
- Current TDM pain points
- Upcoming projects and their TDM requirements
- TDM Strategy for the project/client for the next 12-24 months

Recommendation

Pre-Requisites: Assessment must be completed prior to recommendation being delivered.

Actions: Recommendation is designed to resolve current and future TDM issues based on the client's priorities.

TDM Process Implementation

Objective

Based on the results of the Process Review, we will recommend the tools should be implemented. The different schemas could be:

- Delphix Environment Virtualization
- Delphix Subsetting
- Delphix Masking
- CA Test Data Manager
- CA Test Data Manager + Subsetting + Masking
- CA Test Data Manager + Data Profiling
- CA Test Data Manager + Data Profiling + Coverage
- CA Test Data Manager + Test Matching
- CA Test Data Manager + CA Web Portal
- CA Test Data Manager + CA Agile Requirements Designer + CA Web Portal
- CA Test Data Manager + CA Agile Requirements Designer + CA Web Portal + Matching
- Masking
- Masking + Subsetting
- CA Agile Requirements Designer
- CA Agile Requirements Designer + ALM Bridge
- Delphix Environment Virtualization + CA Test Data Manager
- Delphix Environment Virtualization + CA Test Data Manager + Test Matching
- Delphix Environment Virtualization + CA Test Data Manager + CA Web Portal
- Delphix Environment Virtualization + CA Test Data Manager + CA Web Portal + Matching
- Delphix Environment Virtualization + CA Test Data Manager + CA Agile Requirements Designer

- Delphix Environment Virtualization + CA Test Data Manager + CA Agile Requirements Designer + ALM Bridge
- Delphix Environment Virtualization + CA Agile Requirements Designer + CA Web Portal
- Delphix Environment Virtualization + CA Agile Requirements Designer + CA Web Portal + Matching

Recommendation

For better results, the TDM Process Review should be done before starting this phase.

TDM Continuous Improvement

Objective

Follow up on the TDM Process used by the client, to ensure that it's still covering all the client's needs, and implement changes as required.

Recommendation

A new analysis process is required to identify improvement points, to ensure the optimal results set.

CA (Formerly Grid-Tools) University

Types of Training Delivered

- CA Training – 10 subject class
- CA Training for applications the client has purchased, combined with custom training on how the tools can be used in the client's environments
- Custom training on how the tools can be used in the client's environments

Training has been delivered both onsite and remotely, but onsite is recommended.

Services

Orasi offers a number of different services options to our clients. The following can be combined and customized to suit your needs. Here, we have outlined the recommended approach.

Service Option: Fundamentals

Orasi would deliver CA training to the client resources.

- **Timeframe:** 1 week
- **Location:** At client site
- **Resources:** 1 Orasi resource per 5 client resources
- **Requirements:**
 - CA applications and repositories are already installed

Service Option: Mentoring

Orasi would deliver continued training on how to get CA up and running for the determined applications within scope.

- **Timeframe:** 3-4 weeks
- **Location:** At client site

- **Resources:** 1 Orasi resource per 5 client resources
- **Requirements:**
 - Client resource completion of CA training
 - 2 weeks prior to beginning class: data dictionaries, data models, file layout, data flow documentation
 - CA applications and repositories are already installed

Service Option: Consulting

Orasi would fill the role of the TDM team for the determined applications within scope.

- **Timeframe:** 3+ months as determined by SOW
- **Location:** At client site and remotely
- **Resources:** 1 TDM Architect, 1 TDM Engineer per 5 testers
- **Requirements:**
 - Delivery 2 weeks prior to the beginning of the contract: data dictionaries, data models, file layout, data flow documentation
 - CA applications and repositories are already installed

Service Option: Delphix Consulting

Orasi would provide the role of the TDM team implementing Data as Service (DaaS).

- **Timeframe:** Determined by SOW
- **Location:** At client site
- **Resources:** Determined by SOW
- **Requirements:**
 - Delivery 2 weeks prior to the beginning of the contract: Data Dictionaries, Data Models, Datasource Connection, Assigned environments.



For more information, contact Orasi today.
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