




## Datamaker™ Technical Product Sheet



*Most delays to application testing projects occur during testing cycles, as testers often have to waste time waiting for, or manipulating, poor quality test data that does not meet their test requirements. Yet, too many organizations still overlook the strategic importance of delivering the ‘right kind’ of test data, to the ‘right’ place, at the ‘right’ time within the application development lifecycle.*

*Datamaker™ is a complete test data management solution for the intelligent provisioning of ‘fit for purpose’ data (data that is meaningful, high quality and legally compliant) for use in non-production environments. The Datamaker™ suite also offers optimal flexibility, providing users with a set of powerful tools to subset and/or mask existing data, or creating brand new, rich sets of ‘synthetic’ test data.*

## **1. Model Existing Data**

Testing is often performed on copies of production data that are either too large, or poorly scrambled. By using Datamaker™, you can quickly build a picture of the relationships within your data source, and then model existing data, or build new, ‘synthetic’ sets. When the data is published, you can also substitute defined standard variables, such as: financial year, payment dates, location code etc. These test sets will then match your current testing requirements; resulting in better quality, more meaningful testing.

### **1.1 Powerful Randomisation Functions**

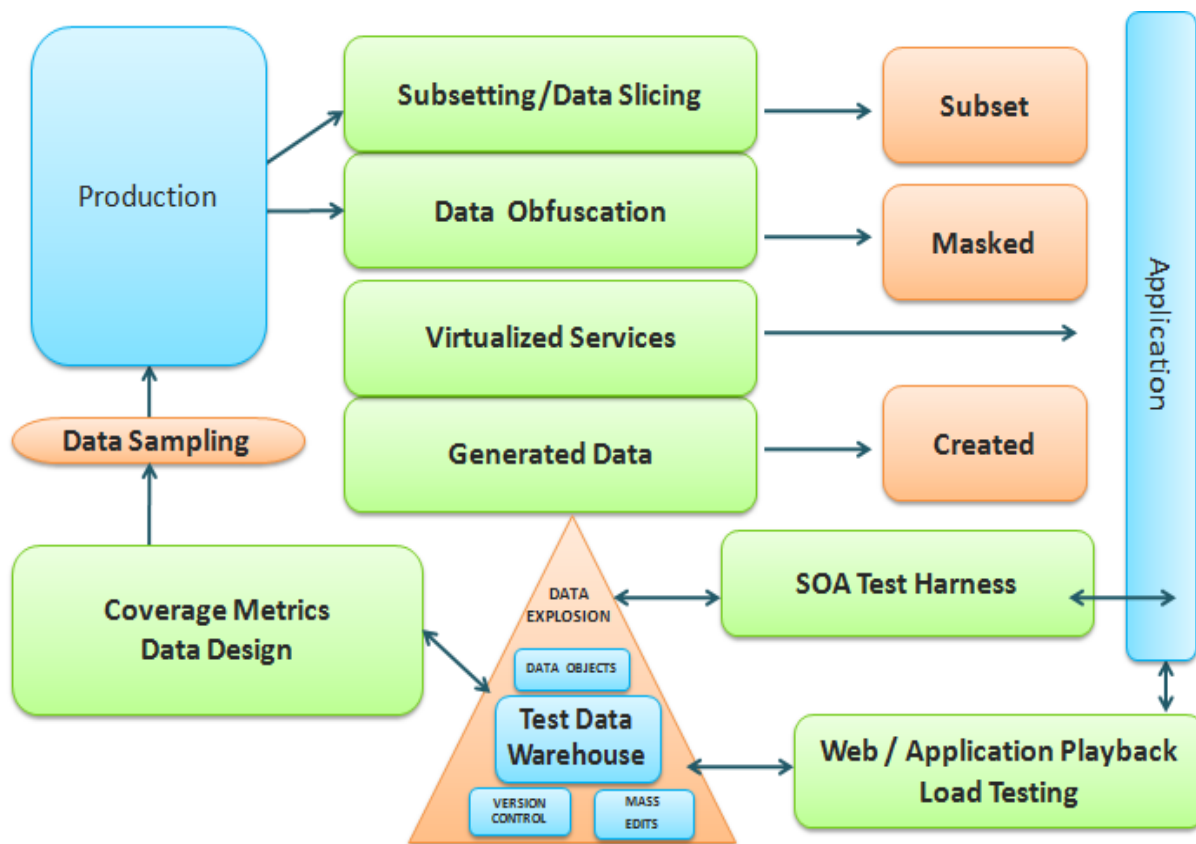
With a powerful suite of built-in data randomization functions, as well as random reference table look-up, Datamaker™ quickly lets you build the ‘right’ test data

### **1.2 Data Inheritance**

Create data objects that others can inherit. If you can change the original object, the changes will be applied automatically to the test case data.

### **1.3 Build a Test Data Repository**

Datamaker™ lets you build a central test case repository for all your databases and applications. By centralizing your test data, you can gain complete control over your data, and re-use it. Many users have to create their own test cases by hand; Datamaker™ enables you to capture this work in a central location and re-use it across your projects.



## 2. Data Checking

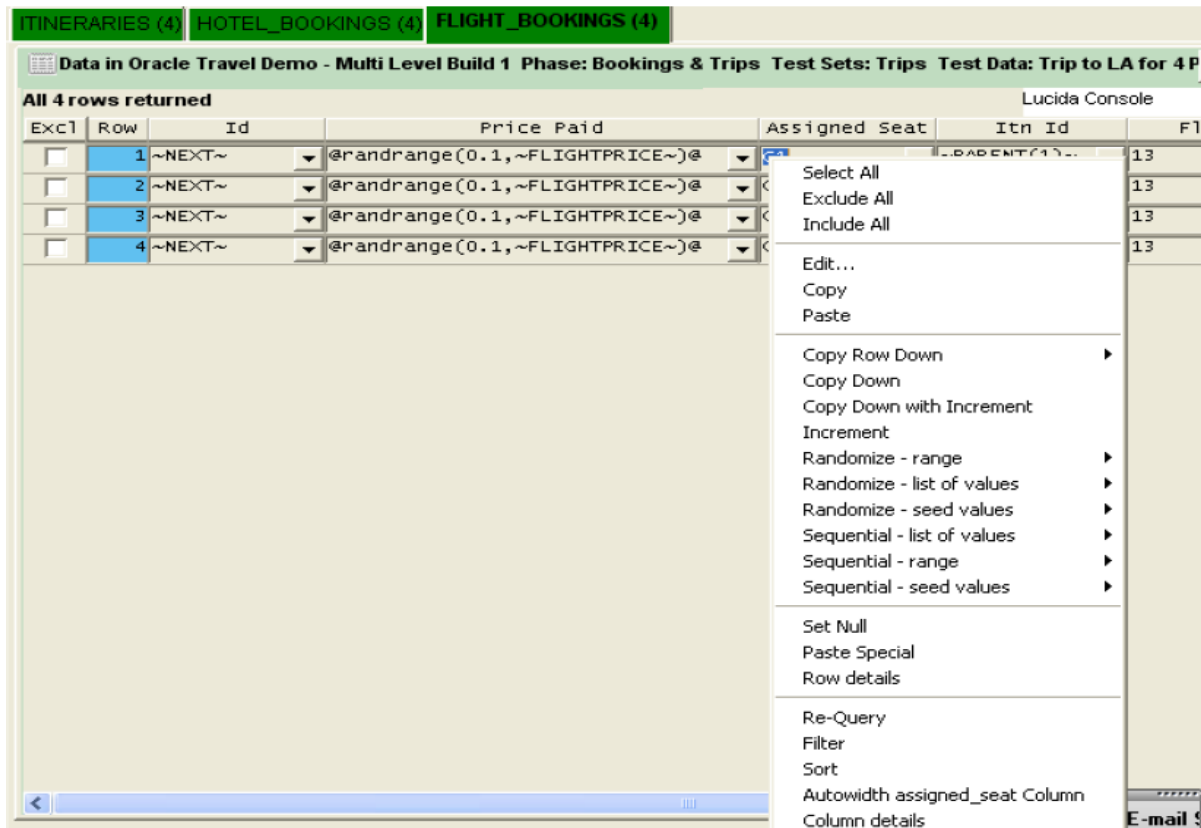
Once you have built your test data, you can validate that that data matches your defined model. Additionally, you can use the meta-model to check the quality of the production, unit, and system testing database.

### 2.1 Easy Data Editing and Data Inheritance

Data is returned and edited using a spread sheet format. Drop down lists of matching values are displayed, and random data can be populated from multiple data sources. Standard test cases can be created and used as the basis for new, specific test cases. Any changes made to standard test cases will be applied to all inheriting test cases.

## 2.2 Fast Data Modelling

Creating high quality, 'fit for purpose' data requires a clear picture of the table relationships within your data source. Inserting a row without matching keys to parent tables will result in invalid test data. Datamaker™ lets you quickly build a picture of these relationships. Fast discovery techniques include using database constraints, naming standards, scanning table joins and output from CASE tools. Once the rules are gathered, they will be checked against the 'real' data to verify that they are correct.



## 3. Accurate and High Volume Data Creation

Many developers and testers spend large amounts of time creating specific data to test new functionality. Datamaker™ allows you to quickly create and store new data. New data can be 'tokenized', where, at publish time, values can be substituted for the specific test case required. This allows a users' test data to be re-used by others, saving time and standardizing, and therefore improving, your testing process.

### 3.1 Quickly Create High Volume Data

Once you have created a rich set of varied test data, you can explode the data to very high volumes using data multiplication. This technique allows you to use the power of the database to build large amounts of data very quickly. You can then run performance tests on large amounts of very accurate test data, with maximum code coverage.

Row	Id	Ticket Number	Peo Id	Depart Date	Trip Days	Invoice Date
1	~NEXT~	~TICKETTYPE~ROWNUM~	~PARENT(1)~	~TRAVELDATE~	7	@addranddays (^RESERVATION_DATE^, 0, 60)@
2	~NEXT~	~TICKETTYPE~ROWNUM~	~PARENT(2)~	~TRAVELDATE~	5	@addranddays (^RESERVATION_DATE^, 0, 60)@
3	~NEXT~	~TICKETTYPE~ROWNUM~	~PARENT(3)~	~TRAVELDATE~	5	@addranddays (^RESERVATION_DATE^, 0, 60)@
4	~NEXT~	~TICKETTYPE~ROWNUM~	~PARENT(4)~	~TRAVELDATE~	5	@addranddays (^RESERVATION_DATE^, 0, 60)@
(5)	~NEXT~					
(6)	~NEXT~					
(7)	~NEXT~					
(8)	~NEXT~					

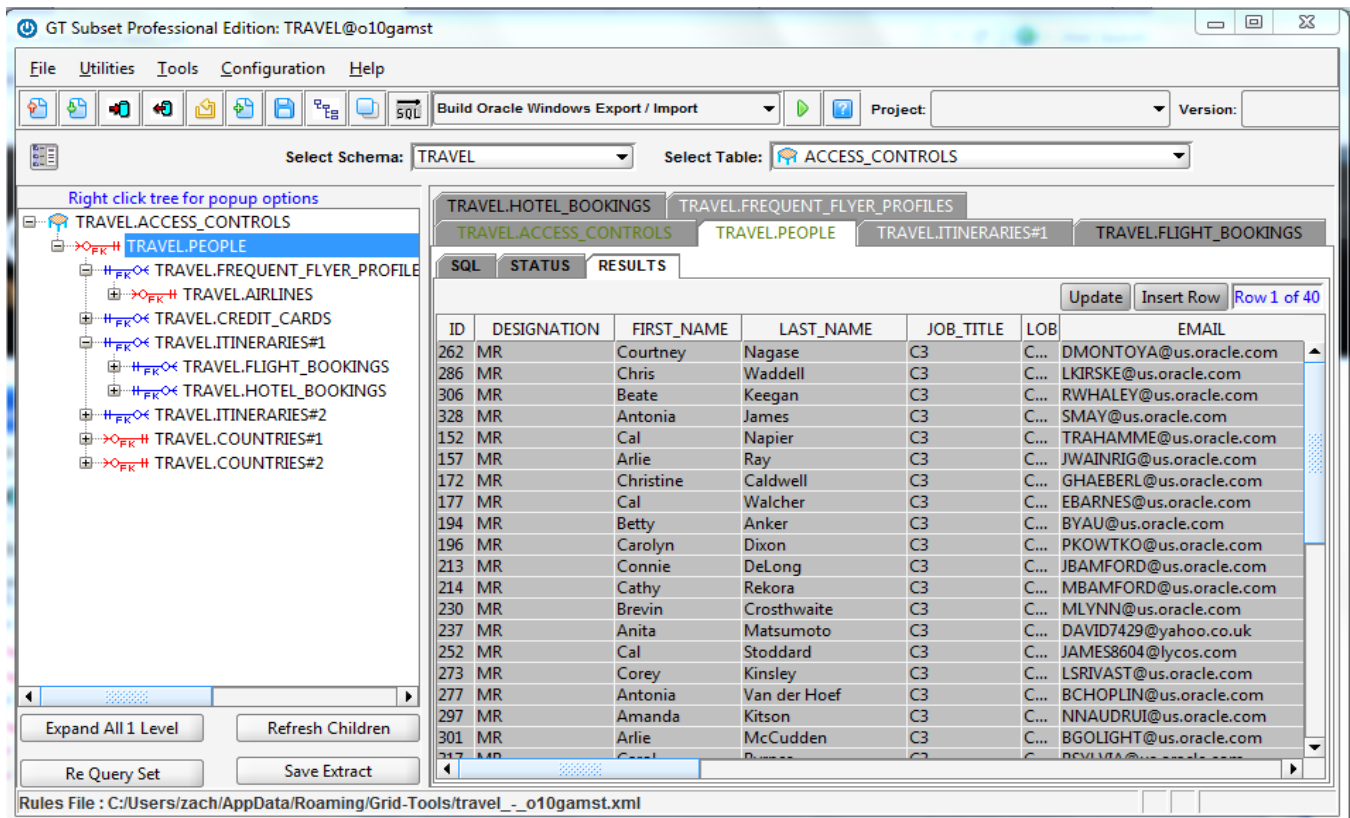
```
SQL Data Multiplier Script
spool data_multiplier
whenever sqlerror exit
COLUMN ID_RANGE NEW_VALUE ID_MOD
BREAK ON ID_RANGE
SELECT MAX(ID) - MIN(ID) + 1 ID_RANGE FROM
PEOPLE;
INSERT INTO PEOPLE (
    ID,
    DESIGNATION,
    FIRST_NAME,
    LAST_NAME,
    JOB_TITLE,
    LOB,
    EMAIL,
    CONTACT_PHONE,
    HOME_PHONE,
    MOBILE_PHONE,
    ADDRESS,
    START_DATE,
    TERMINATION_DATE,
    NATIONALITY_ID,
    RESIDENT_ID,
    COST_CENTRE,
    PHOTO_FILENAME,
    AUTHORISATION_ID,
    EMPNO )
SELECT
    ID + &ID_MOD,
    DESIGNATION,
    FIRST_NAME,
```



## 4.2 Security

Datamaker™ also provides a full security and audit layer, which allows you to control who is given access to data manipulation functions, tables, and columns, and identify which users have changed the what elements of your test data.

## 5. Easy Database Subsetting



Datamaker™ is intelligent to, and maintains, all existing table relationships within your data source. In addition to this, you can also define any relationships required in order to create the subsets of data you need. Selection criteria can be added at any level, and controlled from generated scripts that use the native database utilities to migrate your test data. These scripts can easily be incorporated into your own job schedulers.

## 5.1 Data Scrambling and Data Masking

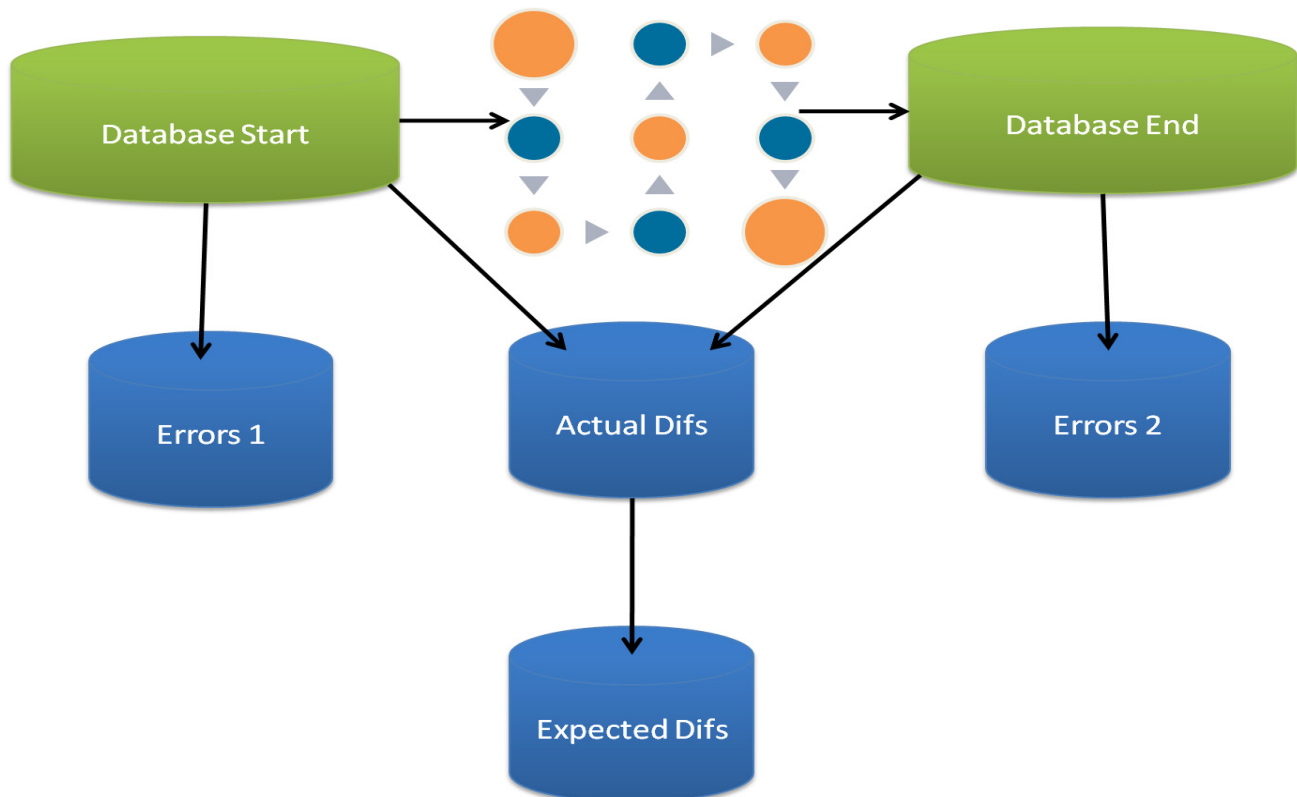
As part of the subset process, it is possible to apply data de-identification functions to the extract dynamically. These functions include:

- Randomization
- Seed table lookup
- Key hashing
- Fixed value replacement

This process allows you to identify which columns need to be secured and what functions need to be applied. As Datamaker™ is intelligent to all table relationships, each function will be automatically applied across all key columns across the data model to ensure that referential integrity is maintained. In addition, your existing data manipulation functions can be incorporated as part of a secure data masking process.

## 6. Data Quality and Data Comparison

Check data and compare data before and after a system test.



Datamaker™'s data model provides additional benefits, allowing you to validate your data before and after systems tests. It will also identify actual data that has changed and provide xml reports of data differences.

**Compare Date:** 2007-11-13 11:14:07

**Compare Key:** CUSTID

**Target Table:** CCP\_CUSTOMER 7 100 2007-11-13 11:14:07

=====

**Number of inserted rows:** 1

**New Rows:**

ADDRESS	AREA	CITY	CREDITLIMIT	CUSTID	CUST_DATE	CUST_SOURCE	CUST_TYPE	CUST_WEIGHT
6 Marydale Rd	201	Swansea		2054	2005-01-01		01	

**Number of deleted rows:** 1

**Deleted Rows:**

ADDRESS	AREA	CITY	CREDITLIMIT	CUSTID	CUST_DATE	CUST_SOURCE	CUST_TYPE	CUST_WEIGHT
The Centre	201	Maidenhead		204	2005-01-01		01	

**Number of changed rows:** 1

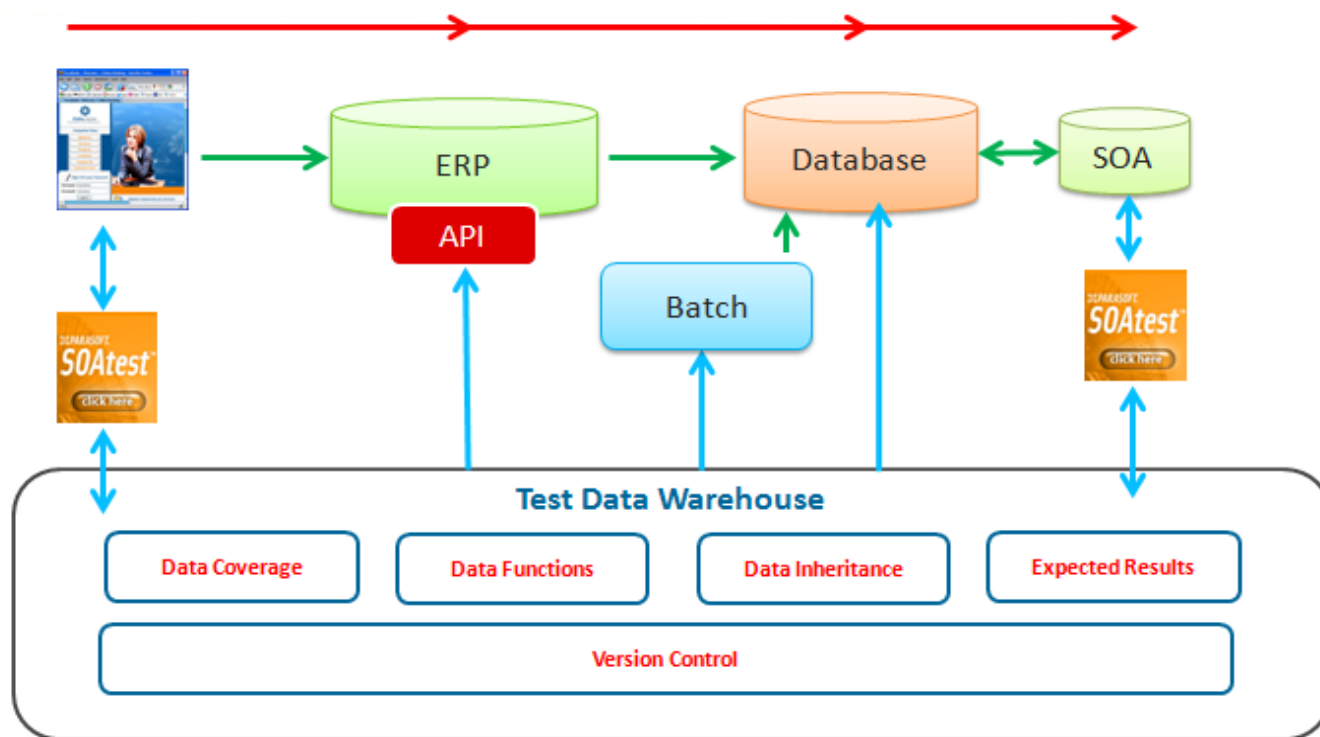
**Changed Rows:**

nADDRESS	oADDRESS	nAREA	oAREA	nCITY	oCITY	nCREDITLIMIT	oCREDITLIMIT	nCUSTID	oCUSTID
4 Marymount Rd	4 Marymount Road	201	201	Swansea	Swansea			203	203

Feature	Benefit
Create data where no data exists.	Allows standardized and easy creation of test data.
Data can be edited using spread sheet functionality.	Users can quickly view and edit data in familiar environment.
Data can be edited in situ and copied between different schemas.	For changes to test data you can update cells and rows using the editor. Useful test cases can also be extracted from production and moved to testing for further editing.
A Meta-Model is built up as you create data.	As you edit data relationships between matching tables can be added. These can be created using constraints, naming standards etc. This Meta-Model allows you to create data such that all database links are valid within your test databases.
Data quality will be checked.	The test data created can be checked to make sure all table links are valid. This can be performed before and after a system test to make sure the test is successful.
Reference and seed tables can be used to randomize data.	You can populate seed tables with your own data such that any generated data will match values familiar to the user.
Powerful randomization functions.	A rich range of functions is available as well as increment functions and randomizing on existing lists of data in standing tables.
The Meta-Model information can be used to create subset databases.	The same set of relationships used to define data can be used to extract subsets of data using Data Subset™

Create high volume test databases.	When publishing data to production, you can repeat the process many times allowing you to create high volume sets of business intact data.
Build a test data repository for all your applications and databases.	The tool can be used across multiple RDBMSs and applications, as well as store all your test cases in one place.
Invalid data creation.	For some test cases, invalid data needs to be created. These test sets can be added as required for testing of particular programs.
Security layer.	Data can be copied from production, masked and then released for other users to use as standard test cases. This allows real life test cases to be used, however, data has to be scrambled before release to developers and testers.
All pairs Data Creation	You can call out to scientific algorithms to build sets of all combinations of pairs or triples of values.
Manage your capture and replay tools such as Quality Center, LoadRunner and Facilita from within Datamaker	Data used to control your Facilita, LoadRunner, Quality Center and other tools can be imported and managed from one location. This allows you to create data for test scripts and their matching database table data from one tool.

## 7. Powerful Test Data Warehouse - End to End Processes



### About Grid-Tools

Grid-Tools are the leading test data management vendor internationally, specializing in data generation, test data management and provisioning of agile data for Agile environments.

We have revolutionized the way test data is being provisioned by developing innovative software solutions for synthetic test data creation, data masking, subsetting, design and archiving.

Our innovative solutions, Datamaker™ and Enterprise Data Masking™, offer companies of any size and market sector the ability to provision high quality test data for their testing, development and training environments, as well as outsourcing both off-shore and near-shore.

Grid-Tools have been working with some of the largest government agencies, financial institutions, telecoms, insurance providers and media and communications corporations around the globe. We strive to promote better processes and best practice methods for provisioning compliant test data that is fit for purpose.