IBM InfoSphere Optim Test Data Fabrication V1 simplifies nonproduction data creation, streamlines data rules development, and promotes agile practices

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At a glance

IBM(R) InfoSphere(R) Optim(TM) Test Data Fabrication V1:

• Accelerates the agile production of a complete set of fictional yet realistic data for testing, development, training, and other nonproduction purposes
• Minimizes risks and helps maintain compliance with privacy regulations by avoiding test use of sensitive production data
• Supports outsourcing, movement to cloud, and offshore testing
• Enhances testing process quality and helps improve business outcomes through automated, targeted data creation

Overview

A component of IBM InfoSphere Optim suite of data solutions, InfoSphere Optim Test Data Fabrication can help your organization address the challenges of creating high-quality test data. It leverages deep expertise and years of experience in constraint satisfaction and automatic test data generation from IBM Research. The solution creates fictional yet realistic test data. The fabrication approach minimizes data privacy and security risks compared to solutions that directly use sensitive production data.

InfoSphere Optim Test Data Fabrication focuses on generating data for structured and semistructured data sources such as relational database management systems, nonrelational databases, and various file and message formats.

InfoSphere Optim Test Data Fabrication supports multiple use cases and combinations of use cases. You can

• Generate realistic data before actual data is available
• Accelerate the fabrication of data that is similar to existing data with the help of data analytics and metadata analytics
• Generate a complete set of fabricated data across multiple data targets
• Augment existing data with fabricated data
• Minimize risks in compliance with security and privacy regulations by generating test data rather than masking or otherwise altering existing production data
• Support an agile workflow, iteratively modifying test data to improve its quality and to address evolving requirements
InfoSphere Optim Test Data Fabrication generates data by following rules that you set for it. Rules define the type of data, the volume of data, the relationships between different columns or fields across data sources, the resources for populating new data columns, and the data transformations required. Metadata analytics and data analytics capabilities can accelerate rules creation when data or metadata already exists.

InfoSphere Optim Test Data Fabrication includes:

- A constraint satisfaction solver, which is a technology uniquely suited to the task of fabricating data according to a potentially very complex set of constraints (rules)
- A browser-based Graphical User Interface (GUI) with which users can quickly:
  - Define and manage projects and user profiles
  - Apply security
  - Create fabrication rules
  - Share rules and incorporate rules into templates
  - Draw from a repository of templates, rules, and data assets

**Key prerequisites**

For details, see the Hardware requirements and the Software requirements sections.

**Planned availability date**

August 31, 2017

**Description**

Creating high-quality test data is often difficult. Generating large volumes of required data frequently involves in-house scripting and manual database insertions. Organizations must also scrub data to comply with increasingly stringent privacy regulations. These tedious, costly and time-consuming processes typically need to be repeated when application requirements change.

InfoSphere Optim Test Data Fabrication is designed to help organizations address the challenges of creating high-quality test data. It leverages deep expertise and years of experience in constraint satisfaction and automatic test data generation from IBM Research. The solution creates fictional yet realistic test data. The fabrication approach minimizes data privacy and security risks compared to solutions that directly use sensitive production data.

**Automate the generation of data with rules**

InfoSphere Optim Test Data Fabrication generates data by following rules that you set for it. Rules define the type of data, the volume of data, the relationships between different columns, or fields across data sources, the resources for populating new data columns and the data transformations required. Metadata analytics and data analytics capabilities can accelerate rules creation when data or metadata already exists.

Rule types include:

- Constraint rules: Domains, mathematical functions, arithmetical relations, string relations, regulator expressions
- Knowledge base rules: Drawn from existing data sources
• Analytics rules: Value and pattern distributions, smart classifications, bundled or unbundled
• Declarative transformation rules: Constraints describing relations between targets and sources, bundled or unbundled
• Programmatic rules: User-defined code-script functions that generate target values

After the data sources and rules have been defined, the solution automatically builds the fabrication task, maintaining the referential integrity of data based on database constraints or application constraints.

The solution can output flat files, data that can be used in relational databases, and files with a variety of format extensions, such as XML, CSV, and DML. After the data is generated, you can use standard data loading utilities and access methods, such as JDBC, to insert the data into your target environments.

Accelerate rules creation and improve results with analytics capabilities

InfoSphere Optim Test Data Fabrication helps speed the processes of defining rules and fabricating data by employing metadata and data analytics capabilities.

Metadata analytics capabilities examine business glossaries, enterprise abbreviations, and metadata from databases, and then automatically associate columns to business entities and create data fabrication rules.

Data analytics capabilities draw from existing data and infer value domains, value distributions, patterns, and more. With a better understanding of existing data, you can create better rules faster and improve the quality of the data you fabricate.

Gain powerful constraint satisfaction technology from IBM Research

The core of the InfoSphere Optim Test Data Fabrication solution is a powerful constraint satisfaction problem solver, developed by IBM Research. The constraint satisfaction problem solver helps ensure the data fabrication engine accurately follows the rules and delivers a complete set of data that satisfies the required criteria. It can help eliminate any gaps or errors, even if you use complex requests and have complicated rules interactions.

The constraint satisfaction problem solver works by examining numerous possibilities that cannot be generated automatically by straightforward algorithms within an acceptable amount of time. A form of artificial intelligence, the constraint satisfaction problem solver is designed to address complex problems and arrive at many more buildable solutions than traditional optimization approaches. No training or configuration is necessary; the constraint satisfaction problem solver works continuously behind the scenes.

Simplify data fabrication with the GUI

The GUI helps simplify data fabrication, even when you have highly complex requirements. Users can quickly define and manage projects, apply security, create rules, share rules, and incorporate rules into templates. They can draw from a project-level repository of templates, rules, and data assets for easy re-use within projects. And administrators can manage users, rules, and data.

Reduce risks and comply with privacy regulations

By fabricating data instead of masking production data, you can avoid the risks of exposing sensitive information in the event of a leak or breach. The solution enables you to comply with a full range of global directives for data privacy and protection, such as payment card industry (PCI) regulations and the European Union's General Data Protection Regulation (GDPR).

Control the costs of test data production

InfoSphere Optim Test Data Fabrication can help you control the costs of test data production. Automated processes, the streamlined GUI, and key capabilities such as
the constraint satisfaction problem solver help minimize administrative burdens. At the same time, the capability to fabricate data as needed, rather than downloading, creating, duplicating, and masking production data, helps minimize infrastructure costs.

**Facilitate agile, iterative data fabrication**

InfoSphere Optim Test Data Fabrication incorporates agile development principles so that you gain the flexibility to adjust data as your project evolves. You can rapidly fabricate data using base rule sets, review the results, and identify the changes that you need to make. You can then refine rules and refabricate data, iteratively.

This agile process enables you to quickly adapt to changing requirements. It can minimize defects by helping to uncover them earlier in testing.

InfoSphere Optim Test Data Fabrication shifts the test data provisioning effort from defining and maintaining data and data formats to creating and maintaining data rules. It provides a high level of abstraction and automation while helping to significantly reduce the ongoing maintenance effort.

**Scale and integrate using the open, standards-based architecture**

The solution is built on an open, standards-based, service-oriented architecture that integrates with modern technology infrastructures. Because of this foundation, the solution is readily extendable. It can scale to support large and complex data-set generation.

The solution is also designed to simplify upgrades. Upgrading to new fabrication solution versions is a seamless process, requiring no data loading or application migration.

**Accessibility by people with disabilities**

A US Section 508 Voluntary Product Accessibility Template (VPAT), containing details about accessibility compliance, can be found on the IBM Accessibility website.

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**Offering Information**

Product information is available on the IBM Offering Information website.

More information is also available on the Passport Advantage® and Passport Advantage Express® website.

**Publications**

Technical documentation is provided in a PDF user guide.

**Services**

Software Services
IBM Software Services has the breadth, depth, and reach to manage your services needs. You can leverage the deep technical skills of our lab-based, software services team and the business consulting, project management, and infrastructure expertise of our IBM Global Services team. Together, we provide the global reach, intellectual capital, industry insight, and technology leadership to support a wide range of critical business needs.

To learn more about IBM Software Services, contact your Lab Services Sales or Delivery Leader.

**Technical information**

**Specified operating environment**

**Hardware requirements**

- Disc space: 3 GB is required
- 64 bit Linux™-x86 server (Red Hat 6+, Ubuntu14+) with the following:
  - 8 GB RAM (however, more is better)
  - 4 CPU (at least)

**Software requirements**

Operating systems

- Red Hat Enterprise Linux Server 6 x86
- Red Hat Enterprise Linux Server 7 x86
- Ubuntu 14 x86
- Windows™ 7 Enterprise

To search for the most recent hardware and software requirements, see Software Product Compatibility Reports. Select operating systems or related software, next select Create a report, and then enter "Optim Test Data Fabrication" in the Full or partial product name field.

**Planning information**

**Packaging**

This offering is delivered through the internet as an electronic download. There is no physical media.

This program, when downloaded from a website, contains the applicable IBM license agreement and License Information, if appropriate, which will be presented for acceptance at the time of installation of the program. For future reference, the license and License Information will be stored in a directory such as LICENSE.TXT.

**Ordering information**

Product: IBM InfoSphere Optim Test Data Fabrication (5737-E17)

**Passport Advantage**

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**License Information number**

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**Volume orders (IVO)**

No

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Variable charges apply

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Educational allowance available

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Prices

Passport Advantage

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