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Solution Brief

Test Data Manager

Key Benefits

- **Deliver data faster:** Accelerate pipelines by removing data as the delivery bottleneck.
- **Reduce data environment costs:** Slash test environment costs at every layer:
  - Broadcom AI-powered TDM minimizes LLM token consumption.
  - DAVE (Database Virtualization Engine) virtual cloning delivers decoupled data copies without the infrastructure footprint.
  - Broadcom Mainframe TDM optimizes MIPS utilization.
- **Improve application quality:** Using the right data for testing considerably reduces defect creation.
- **Deliver data faster:** With TDM, testers test faster because they no longer wait for data.
- **Improve testing efficiency:** Eliminating data constraints, and reducing the time and resources needed to provision data makes testing more efficient.
- **Reduce test costs:** Minimizing the number of copies needed for test data reduces infrastructure costs.

Key Features

- **AI-powered TDM:** produce valid, referentially intact, and compliant data at unprecedented speeds by defining intent via natural language.
- **DAVE (Database Virtualization Engine):** Eliminate environment contention and manual bottlenecks by spinning up virtual data copies in seconds.
- **Incremental masking:** Achieve true environment refresh agility by only masking the data that has changed.
- **Data discovery and profiling:** Find PII, and demonstrate compliance for GDPR and other regulations.

Overview

In today's AI development world, secure, valid, and compliant data continues to be the largest bottleneck in delivery pipelines. Timely validation depends on having the right data, at the right time, and in the right format. This requirement is even more important in today's landscape where AI is demanding development and testing to occur at unprecedented speeds. Organizations do not have time to wait on data to attest their code, and they need a fully production-like environment where the data that is in the environment is relevant, accurate, referentially intact, and devoid of personally identifiable information (PII) or other sensitive data. Time is wasted while waiting for the correct data, or hunting defects whose root cause is due to data inaccuracies in the environment. Unfortunately today, many organizations struggle with accurate and available data. This delay is out of step with the demands of software development.

However, that does not have to be the case. Broadcom® Test Data Manager (TDM) helps organizations address data regulations and compliance objectives by ensuring that secure, automated, and referentially intact data is available when it is needed. The data is designed to address the objectives required to validate code and shorten the software lifecycle.

Business Challenges

Organizations are under constant pressure to deliver feature-rich applications faster and with higher quality. Many testing teams primarily want to refresh data from production. Consider the following limitations when using only production data for testing:

- **Slow and costly refreshes:** Production data is massive and costly to maintain. This issue can be made worse when multiple copies are deployed, requiring significant infrastructure to handle the jobs. Additionally, this data changes daily, and development teams often wait for the next enterprise refresh for access to the latest production-like data scenarios. Worse, many organizations have a combination of hand written scripts, manual steps, and enterprise tools to stitch the data together. This practice leads to environmental fragility and data inaccuracies.
- **Poor data coverage:** Production data typically represents only 10% to 20% of the verification data needed. Production data is often lacking data that would represent negative outliers or what-if scenarios that are necessary for effective evaluation of new code. Insufficient test coverage often results in costly defects being discovered later in the software development lifecycle.
- **Data bottlenecks:** Waiting for data in lower environments costs developers and testers valuable time when they are trying to achieve their sprint commitments and release deadlines.
- **Data privacy issues:** Production data contains sensitive, personal information. Creating multiple copies of production data, and storing it across many locations, on multiple devices, increases the likelihood of a serious data breach. Compliance regulations, such as the EU's GDPR, CCPA, and HIPPA, require organizations to protect production data.

Key Features (cont.)

- **Find and reserve:** Use dynamic self-service forms to interactively view, analyze, and reserve test data.
- **Synthetic data:** Create rich synthetic data from scratch, reducing the need to use production data.
- **Virtual test data:** Create personal copies of test data virtually, instantly, and with no storage overhead.
- **Data masking and subsetting:** Secure millions of rows of data in minutes using automated data profiling, and clone subsets of data.
- **Coverage analysis:** Measure exactly how much of a system your data can test.
- **Test data allocation:** Automate test data discovery to request and receive exact data sets, linked to test cases.

Customer Success

The following examples show how customers achieve their goals using TDM:

- A multinational bank improved test data quality and efficiency by 60% within three months.
- A global airline reduced the amount of time it took to locate the correct data by 95%.
- A large insurance company masked over 750 million rows of data in eight minutes.
- A government agency realized a £1,000,000 per year return on investment when it adopted only the database compare feature.
- A healthcare company cut data creation time from 20 hours per transaction to two to three hours.

Solution Overview

TDM, with AI-powered TDM capability, helps organizations understand data environment relationships, identify sensitive data, remediate that data, and provision data on demand. Valid, up-to-date data is available for software development teams. TDM can find and reserve test data, create synthetic test data from scratch, and create isolated reusable copies to shorten release lifecycles, all while achieving compliance and security.

Test data can be linked directly to test cases and stored as reusable assets in a test data warehouse. As data is provisioned, it can be cloned (virtually or traditionally) and fully versioned, allowing teams to work in parallel. Engineering teams no longer have to waste time by trying to craft their own data. Using either our AI-powered TDM or a web-based portal, it is easy to request and receive test data in minutes.

TDM features other powerful functionality. High performance data masking quickly modifies millions of rows of data. Incremental masking reduces time, effort, and rework so that data refreshes are only focused on what has changed. Automated data discovery and profiling ensures that organizational data privacy and test data warehousing stores data pools as reusable assets in a central repository.

Critical Differentiators

TDM is different from other solutions in the following ways:

- **AI speed and TDM dependability:** With AI-powered TDM, speed up your data pipelines. The AI model plans the work and TDM drives the data all while token consumption is optimized.
- **Robust mainframe support:** Broadcom provides robust support for mainframe data sources (Db2, IMS, and IDMS™) and sequential and VSAM file formats. All TDM engineering tasks are optimized for minimal MIPS consumption.
- **Save time and effort:** With features like incremental masking that allows organizations to only spend time remediating what has changed, and DAVE for rapid provisioning, organizations can eliminate tedious waiting periods.

Related Products and Solutions

TDM is part of a comprehensive portfolio of solutions, including the following products and capabilities:

- Agile Requirements Designer is a complete solution for requirements definition, test case design, and automation that defines a model of every test case. TDM can provide the test data needed for each test case.
- Service Virtualization automatically creates the virtual services necessary for the end-to-end development and testing of applications, eliminating system constraints. TDM can generate the data needed for request and response pairs.

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