DATASHEET

NETEZZA DEVELOPER NETWORK

M3 — Name Searching with Fuzzy Logic Using Netezza OnStream™ Analytics

Most analytic solutions are aimed at boosting profits, raising productivity or fulfilling other important business requirements. The M3 application is about fighting crime, finding bad guys and literally saving lives.

An offering from Multi-Threaded Inc. (MTI) based on Netezza OnStream™ analytics, M3 is a next generation tool that overcomes previous barriers to name searching — especially when data volumes are enormous and time and accuracy are of the essence. M3 can search a database of one billion names in 15 seconds or less on the Netezza Performance Server® system, using fuzzy logic to identify the most likely matches. It brings a game changing advantage to security and law enforcement, improving existing methods of identifying names relevant to fraud, money laundering, terrorism and digital forensics.

M3 uses advanced fuzzy name search algorithms that are resilient to errors present in source data and allow users to cast a wider net to match names with identities. Variations in the spelling of names as well as the transliteration of names from other languages into English often create uncertainty and ambiguity for proper spelling and rendering. M3's algorithms, based on fuzzy logic, help address this uncertainty by identifying possible matches and scoring them according to criteria set by the user.

For traditional name searching systems, queries on very large databases can take hours and days, making results useless in time sensitive situations. M3 takes advantage of Netezza's data warehouse architecture to perform fuzzy name searches on massive databases in seconds, while focusing on accuracy. An added benefit is the simplicity of the Netezza appliance which delivers breakthrough performance without requiring traditional administration tasks. Agencies no longer have to spend time building indexes and tuning their applications — they can now devote their resources and attention to protecting and saving lives.

Technical Overview

M3 features customizable name searching using metrics from various algorithms that can be combined in a hierarchical manner to form an overall score to indicate the closest match. The user interface is written in Java and the application is written in C++, using Netezza OnStream capabilities to run the complex algorithms within the appliance. Together, these features allow search results to be returned in a fraction of the time of other technologies.

M3 also includes interfaces for loading data into the Netezza system and for performing queries. This allows it to be used as a complete, standalone appliance for fuzzy searches and identity management. Alternatively, customers can choose to integrate M3 into their existing applications using web services.

Key Features

- Fuzzy searches examine multiple name renderings as specified by the user
- Searches run on-stream within the Netezza database, allowing more complex queries and much faster results
- Search algorithms can be combined in a hierarchical manner, using different metrics to form an overall score
- Easy integration into existing architectures and applications using web services
- Robust API support
- Advanced and easy to use graphical interface

Key Benefits

UNMATCHED SEARCH PERFORMANCE: Can search one billion records for matching names in a few seconds or less

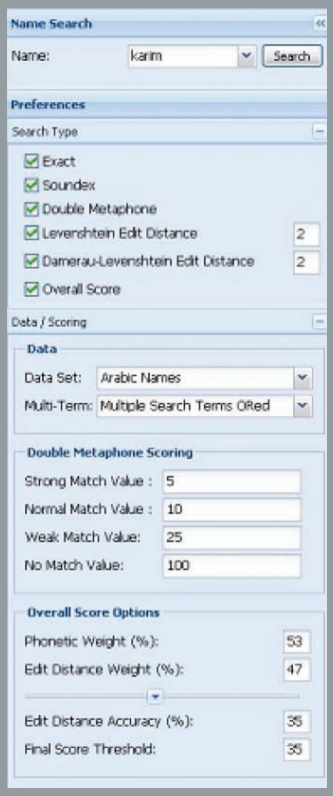
ACCURATE NAME MATCHING: Finds the closest matches using intelligent name matching

EASY TO USE: Intuitive screens allow users to perform complex name searches with minimal training

EASY TO LOAD: New data is easily loaded into the searchable repository by non-technical users

M3 Technical Specifications:

- Platforms: Solaris, Windows, Linux
- Languages: C++, Java
- Database connectivity using ODBC and JDBC
- Service-Oriented Architecture (SOA)
- Interoperability through web services
- Unified platform-independent application



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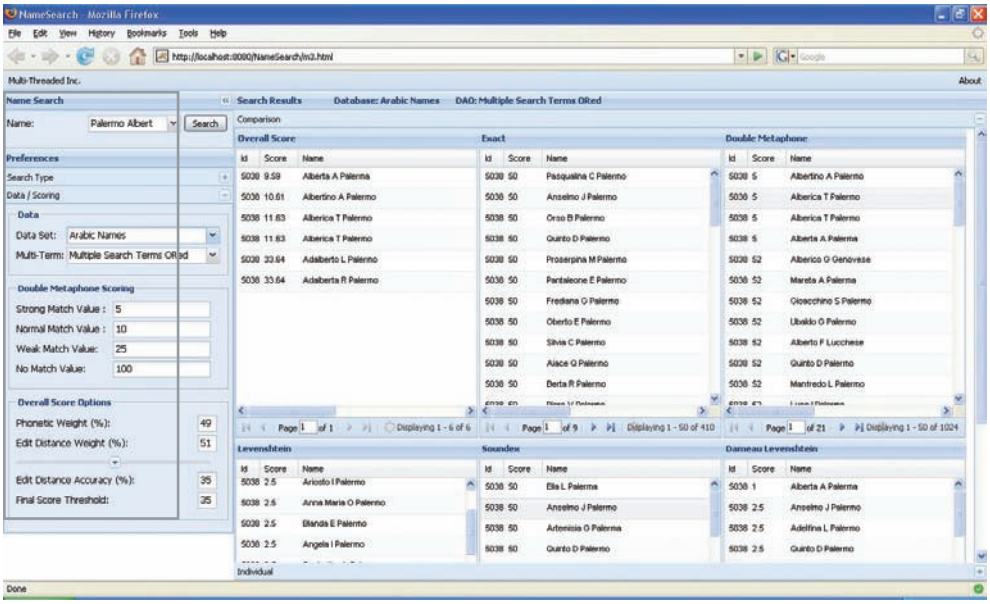
Use Case Example

The following figure illustrates how M3 can provide a side-by-side comparison of different name search queries. Parameters in the sidebar allow users to search in various ways:

- **Search Type:** Users can search by any or all of the search options available.
- **Data/Scoring:** Users can choose the data set(s) and combination of terms they wish to query.
- **Overall Score Options:** Using the sidebar, users can control the Phonetic Weight and Edit Distance Weight parameters that determine the overall score, allowing more emphasis to be placed on one or the other.



Partnership Detail

Together, Multi-Threaded Inc. and Netezza are helping federal agencies in the U.S. and abroad address new information requirements and unprecedented data volumes. MTI specializes in helping government agencies solve today's information challenges in creative and innovative ways. The Netezza platform for streaming analytics provides capabilities for examining and manipulating very large databases in ways that were previously unimaginable. When a problem requires examining billions of data points in minimal time, MTI and Netezza provide an extremely cost-effective solution.

The partnership between MTI and Netezza also allows government agencies to focus on solving problems rather than managing databases and systems. With its appliance simplicity, the Netezza platform scales without conventional tuning or database management. Agencies can focus on getting the information they need, without incurring extra costs or distractions. For more information, please visit http://www.multi-threaded-inc.com/m3_detail.cfm

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Netezza Corporation : 26 Forest Street : Marlborough, MA 01752 : +1 508 382 8200 tel : +1 508 382 8300 fax : www.netezza.com