Accuracy is never compromised. Able to connect the dots between any type of structured data entity in any language or format, TIBCO Patterns – Search can quickly handle many of the issues that plague real-world data – from transpositions and typos to information that’s entered in the wrong field.

Not only is this approach extremely efficient, it’s also highly scalable; large datasets can be analyzed with sub-second response times and using a fraction of the computational power of conventional methods – where performance tends to exponentially degrade as dataset size increases.

Fast, Accurate, & Scalable

Any search engine can match a query string to data stored in the database – but only if it’s exact. What happens when there are variations, inconsistencies, or differences in either? Even more challenging and common in the real world: what if there are different errors in both?

TIBCO Patterns – Search finds the right data – even when incomplete or partial similarities are present. This is highly beneficial because finding the right data can be tough when the differences and errors aren’t known.

How it works: using graph theory – a branch of theoretical mathematics – the engine identifies similarity much like people do. Measuring similarity between a query and target data with human-like perception, algorithms can identify regions of similarity wherever they’re located in fields or however data is aligned in respect to each other.

Leveraging increased accuracy, less manual work needs to be done by staff to find problematic data – allowing domain experts to gain time and focus on efforts that add business value. In one use case, for example, the amount of manual effort was reduced sevenfold, thereby collapsing a business process from five days to four hours.

Further, since TIBCO Patterns – Search integrates directly to the database and functions as an independent index, existing applications are barely affected.
Powerful Search Ability

TIBCO Patterns – Search can handle the most demanding problems, for instance:
- Product number errors: “AB2530” for “AW2530”
- Letters out of order: “Patsries” for “Pastries”
- Words out of order: “Truffle Tower” for “Tower Truffle”
- Fused words: “AymanalZawahiri” for “Ayman al-Zawahiri”
- Split words: “Wind tunnel” for “Windtunnel”
- Missing letters: “Windtunel” for “Windtunnel”
- Variations: “Sylvie Chamburlane” for “Sylvie Chamberlain”
- Extraneous letters: “Chocolatwe” for “Chocolate”
- Multiple errors: “Trufle Tripl Towr” for “Triple Truffle Tower”
- Incomplete words: “hocolate” for “Chocolate”
- Extraneous information: “rflkj Chocolate dhlgh” for “Chocolate”
- Incorrect or missing punctuation: “two sec advantage” for “two-second advantage”
- Incorrect fielding in fielded data sets: Anthony Tam for Tam Anthony

Additional Features
- **Customizable Requests**
  Search features can be tailored to meet the needs of each request, including:
  - Field selections, field, token, and record weighting schemes
  - Scoring and cut-off modes, predicates
  - Multi-table selection, semantic equivalence classes, and much more
- **Straightforward Support for Semantic Equivalence**
  For example, telling the engine that Richard = Dick = Ricki or that hypertension = high blood pressure.
- **Unicode Support**
  Can search for any type of data in any language.

Behind the Technology

TIBCO Patterns – Search is the outcome of over 20 years of theoretical and systems development in the field of inexact or fuzzy matching. At the core are algorithms that produce a numerical measure of similarity between queries and data loaded into tables. TIBCO Patterns – Search has been optimized to determine similarity, unlike SQL requests that are unable to deal with anything other than perfect data. This fundamentally different approach captures a more flexible and more “human” notion of similarity than alternate approaches, such as edit distance, probabilistic/statistical matching or automation-based methods.

The mathematical properties of this particular type of bipartite approach allow TIBCO to compute scores using an extremely efficient algorithm. The result is a fast and intelligent search.

Supported Environments, Languages, and Platforms

- **Environments:** TIBCO BusinessWorks™, TIBCO BusinessEvents®, TIBCO ActiveMatrix® BPM
- **Languages:** Java, .NET, C/C++, Python
- **Platforms:** Windows, Linux, Solaris, AIX, HPUX

About TIBCO

TIBCO Software Inc. (NASDAQ: TIBX) is a provider of infrastructure software for companies to use on-premise or as part of cloud computing environments. Whether it’s optimizing claims, processing trades, cross-selling products based on real-time customer behavior, or averting a crisis before it happens, TIBCO provides companies the two-second advantage™ – the ability to capture the right information at the right time and act on it preemptively for a competitive advantage. More than 4,000 customers worldwide rely on TIBCO to manage information, decisions, processes and applications in real time. Learn more at www.tibco.com.