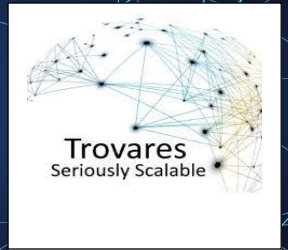


Privacy Protection

with Trovares Data Access Controls for
Deep Graph Analytics & Insights

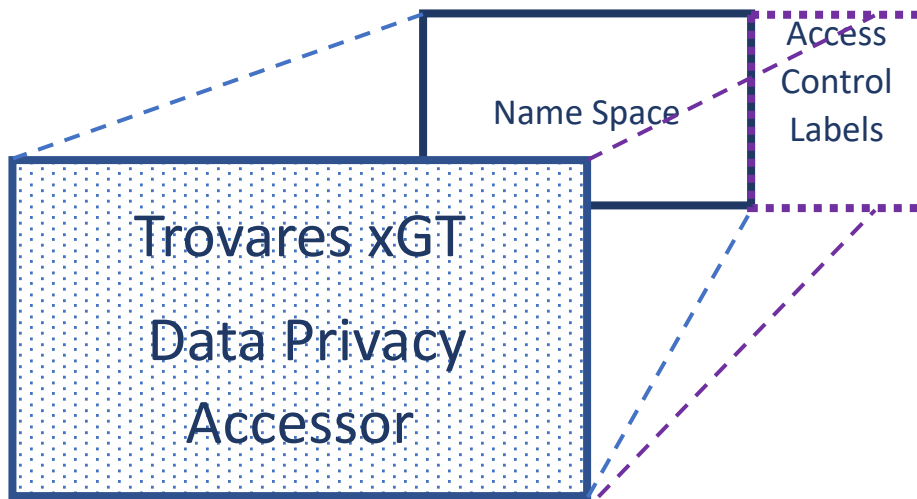


Executive Summary

In consultation with major Government and Enterprise clients, Trovares developed a security framework for Trovares xGT that provides essential privacy protection to data in a multi-user environment. This framework is fully supported in Trovares' commercially released software.

Trovares xGT security framework is scalable, providing a mechanism to maintain and extend existing security labels in Enterprise data such as those used by Accumulo and other database systems of record.

The essence of Trovares' security approach is that all of a user's data resides in a name space (container) particular to that user, shown in the diagram below. This name space is a dynamic in-memory graph. Within a name space, a data frame holds a set of vertices, a set of edges, or a set of table rows, such as query answers.



Access control labels can be applied to an entire data frame or to individual rows. When row-level security is enforced, some performance degradation is observed, queries run about 30% slower.

Access to the container containing the user's name space is controlled by an Accessor, an important part of xGT's runtime system. All access control permission checks are performed by xGT's Accessor module which also regulates dynamic graph updates, modifications, and deletions, staging transactions in the Assessor's memory until a transaction commits.

This framework is fully supported in Trovares' commercially released software and provides an access control apparatus which can be the basis of a common approach to managing authentication and authorization across an entire system working across nonvolatile storage and volatile memory.

SOLUTION

Trovares xGT

Graph Insight Engine
with the Fastest Path
to Insights and
Protection against
Cyber Intrusions –
With Deep Analysis &
Insights that only
Trovares xGT can
provide at Enterprise
Scale

With Trovares patented xGT Graph technology, data can be unified from all sources throughout the organization at speeds greatly exceeding that of current market options.

We apply Graph Properties to power Data Insights and Analytics with the incremental value that only "Graph" can provide.

All without the need to replace any of your existing IT, Database, and Data investments.

Trovares xGT supports Planetary Scale Graph requirements with our patented, "Seriously Scalable" architecture.

xGT for Research

xGT for Knowledge Graph

xGT For Fraud

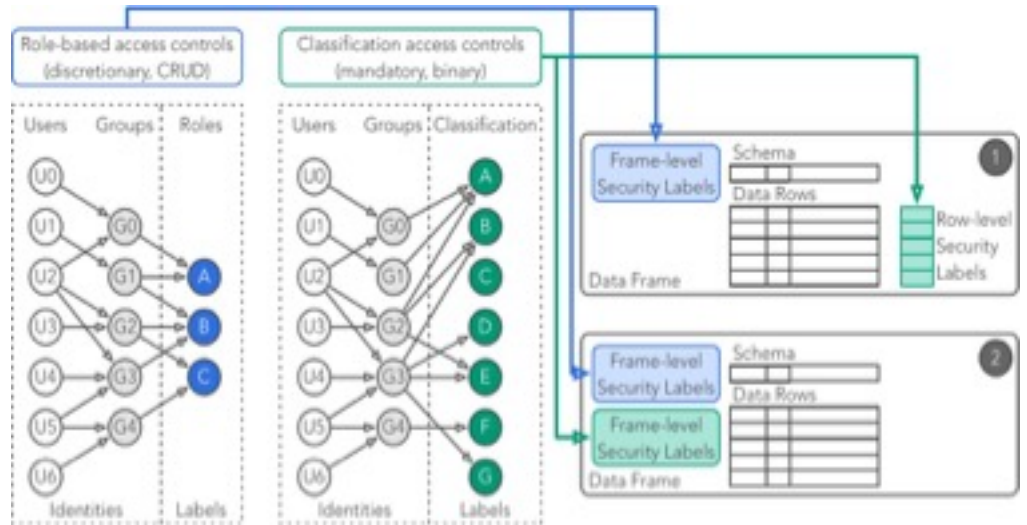
- Snowshoeing
- Phishing
- Credit Card Fraud
- Identify Theft

xGT For Cyber Crime

- Data Breach
- Lateral Movement
- Compromised Devices
- Advanced Malware
- Rogue Users
- Insider Threat
- Dark Web
- Blockchain Hacking
- Network Disruption

Trovares xGT System Security

Data integrity, and compliance services to support multiple users working cooperatively in the same memory space.



Trovares xGT Privacy Solution

Trovares xGT brings greater visibility to an Enterprise's data by leveraging their existing investment in database systems of record while maintaining, or supplementing, existing data access controls.

Trovares xGT is a new technology with innovative methods to strengthen current solutions. By applying Trovares' patented Graph Analytics & Insight Technology at speeds that come from Trovares' HPC heritage, the Trovares graph search tool extends the range of your existing tools, allowing deep, complex analytical queries to be run.

With Trovares xGT, a Data Scientist can interact more quickly with Enterprise data gaining superior performance, deep analytics, and profound insights that only Graph can provide. Data Scientists can deploy their applications quickly using the Developer Edition from their laptop, but deployable to the largest memory servers available on premises or in the cloud.

GET STARTED

Try our xGT Enterprise version with our free download.

<https://github.com/trovares/pyxgt>

Contact us for a demonstration on how your applications can benefit from Trovares xGT performance

info@trovares.com

www.trovares.com

About Trovares

Trovares is a leader in enterprise scale graph analytics. Our xGT product uses extreme parallelism, optimization, and SMP servers to return query results many times faster than conventional query engines and Trovares is considered a leader in high-performance analytics. Graph provides unique insight capabilities. **The Gartner Group Stated:** "By 2025, graph technologies will be used in 80% of data and analytics innovations, up from 10% in 2021, facilitating rapid decision making across the enterprise."