

## Delivering a Better Online Shopping Experience with TigerGraph

### THE CUSTOMER



One of the world's largest mobile eCommerce platforms, with more than 300 million users across the world, leverages TigerGraph to model its vast product catalog and consumer entity data mapping, speed up feature generation and provide customers better personalized recommendations in real time.

TigerGraph has helped their customer increase its revenue and make better business decisions based on insights from a huge, complex data set.

### THE CHALLENGE

This eCommerce platform needed a way to support real-time queries and personalized recommendations over its colossal amounts of data, in order to provide the best experience to its customers. Every day, millions of new products are added to the eCommerce network. Each product has as many as hundreds of attributes - including keywords - making the data inherently more complex.

Given that customers today expect personalized recommendations as part of their online shopping experience, the company needed a solution that would run real-time queries to suggest the right products to shoppers, based on their online behavior and preferences. To meet this challenge, they initially developed and used an in-house solution; however, it was slow and used many machines.

### THE SOLUTION

"We have been using TigerGraph for two years now," said the Company's Head of Data. "TigerGraph's speed, scalability and graph model have enabled many applications for us that we previously thought were overly challenging."

Initially, the TigerGraph data platform was used to detect similar and duplicate products. From end to end, the TigerGraph solution increased speed by 100x compared to the in-house system using Python.

The system runs on Amazon EC2. The front end calls the TigerGraph database via a standard RESTful API, with responses typically in less than 100 milliseconds. Results are returned as JSON results that are consumed by other applications.

After seeing the performance and potential of real-time graph analytics, they expanded their use of TigerGraph to provide real-time recommendations to customers - an important, business-critical project. The TigerGraph platform and GSQL language enabled them to develop new graph-based algorithms for smart personalized product clustering and recommendations, now in production.

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- Company's Head of Data

### THE RESULTS

Along with increasing query speeds by 100x, TigerGraph enables the customer to use fewer machines - cutting hardware and associated management and maintenance costs. For one project, the TigerGraph platform also reduces memory usage by 10x due to efficient graph-based encoding and compression.

By no longer hacking its own in-house graph solution, the customer has also reduced engineering efforts and costs. The result is increased productivity of data scientist and machine learning experts who now can do more and iterate faster using one massive graph which integrates all their connected data, consequently enabling the business to make better decisions and improve time to market.

"We are very happy with TigerGraph as it provides the speed and scalability we need using a framework that is natural for modeling data," said the Company's Head of Data.

"The combination of these unique features empowers our business to tap into and make the most of our data relationships for competitive advantage."

As the business grows, the company will continue to add more machines to TigerGraph clusters. Plans are also in the works to develop new business applications and use cases - all using TigerGraph for continued success.

### CUSTOMER QUOTES

"We tried many graph databases but none met our requirements because of slow loading speed or slow query performance. TigerGraph's super fast data loading speed and real-time sub-second query performance on large datasets provides unparalleled performance advantages."

- Minh Chau, Head of Engineering at  
Elementum

"We chose TigerGraph for three reasons: its realtime high performance computational power, its scalability to process large graphs and its flexible and powerful SDK which enables my teams to develop vertical applications quickly and efficiently."

- Guangyi Liu, PhD, CTO of GEIRI North  
America, State Grid Corporation  
of China

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### CUSTOMERS AND USE CASES



TigerGraph's real-time analytics on giant graphs is the engine behind fraud prevention at the world's largest e-commerce provider, recommendations at the world's largest mobile e-commerce company, and network management at the world's largest electric grid company.

#### ANTI-FRAUD & ANTI-MONEY LAUNDERING:

TigerGraph's deep link analytics and big graph capabilities uncovers hard-to-find patterns and connections. Financial crimes teams can investigate specific transactions, high-risk customers or counterparty relationships using a graph modeling approach, in real-time.

#### MASSIVE-SCALE TRANSACTION PROCESSING:

One of the world's largest e-payment companies uses TigerGraph to handle a graph with 100B+ vertices and 2B+ real-time updates/day. 20-node cluster, 2+ years in production, full ACID.

#### SUPPLY CHAIN INTELLIGENCE:

Provides real-time visibility and analytics into key supply chain operations including order management, shipment status and other logistics.

#### CUSTOMER INTELLIGENCE:

Empowers organizations to quickly deploy powerful relationship analysis capabilities. Real-time capabilities allow retailers to quickly synthesize and make sense of customer behavior and activities, smartly clustering products and making real-time, personalized recommendations.

#### SMART GRID:

Working closely with leading energy and utility companies, TigerGraph has pioneered Native Parallel Graph approaches that help companies monitor and analyze power flows, detect bottlenecks, and alert personnel about grid performance issues.

### About TigerGraph

TigerGraph is the world's first Real-Time Graph Analytics Platform powered by Native Parallel Graph (NPG) technology. TigerGraph fulfills the true promise and benefits of the graph platform by supporting real-time deep link analytics for enterprises with complex and colossal amounts of data. TigerGraph's proven technology is used by customers including Alipay, VISA, SoftBank, State Grid Corporation of China, Wish and Elementum.

Founded by Yu Xu, Ph.D. in 2012, TigerGraph is funded by Qiming VC, Baidu, Ant Financial, AME Cloud, Morado Ventures, Zod Nazem, Danhua Capital and DCVC. TigerGraph is based in Redwood City, CA. Learn more at [www.tigergraph.com](http://www.tigergraph.com).