Tutela provides crowdsourced mobile quality data to mobile telco companies to help them analyze network coverage, quality of experience, and make improvements and related investment decisions. Tutela harnesses the power of OmniSci, the extreme analytics platform, within its Tutela Explorer product as an OEM.

Tutela was not the first company to collect network performance data from mobile handsets. Numerous speed test applications provide network quality data to telco providers, but they are all limited to collecting data from users who have installed those specific apps, and only when a user runs a speed test application. This severely limits the size and consistency of the data collected.

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Tutela’s software development kit (SDK) is loaded onto a variety of popular third-party mobile applications, including games, utilities, entertainment, and weather apps. This kit collects anonymized network information and metrics and reports it back to Tutela throughout the day, resulting in more data, better coverage, and higher confidentiality.

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Tutela is now reporting on over 250 million mobile handsets globally, exceeding the company’s goals for data ingest. But this has created a new big data challenge: storing, processing and analyzing vast amounts of network data at the scale and velocity of modern telco operations. “We experienced an exponential growth of data over a short time, following the launch of our mobile app partner program,” says Tom Luke, Vice President at Tutela.

This data overwhelmed Tutela’s existing data analysis and business analysis applications, which couldn’t effectively manage data at this scale. Data scientists would spend hours pre-aggregating the data, visualizing it, then running additional queries overnight. This dramatically slowed the company’s time to insight and inhibited the Tutela sales team from effectively demonstrating analytic insights during customer meetings.

“I would open our dashboards during a customer demonstration but these were painfully slow to load and navigate. This rarely made for an effective demo in front of our prospective customers” adds Tom. “Potential customers would see the “loading” spinning circles and start to lose interest.”

Choosing a SQL Engine for Scale

To work with its massive and growing data, Tutela sought a new analytic platform for presenting data to its clients, and the company soon found GPU-based analytics and OmniSci. Tutela immediately saw an opportunity to reduce time to insight from hours and days to seconds.

“Data is our business,” says Tom. “Other companies use data, but our core business is collecting and processing mobile network quality data and making it available to our customers in the most convenient and flexible way possible. We needed a solution that could scale with our business.”

“Nobody wants to write a SQL query and come back two hours later to get an answer. They want to be able to manipulate data and navigate data in real time,” Hunter explains. To that end, Tutela chose OmniSci for its SQL engine, which provides the speed necessary to gain insights from this massive volume of data, over 10 billion measurements daily, without pre-aggregation, downsampling or loss of granular detail.

Successful Adoption and Unexpected Revenue Streams

Tutela first adopted OmniSci to explore over 10 petabytes daily in order to provide detailed reports to its customers: the major telco providers on three continents. These reports were all based on anonymized mobile network quality data, and provided detailed, six month analysis of network signal strength, download speeds, signal-to-noise ratio, quality, and device locations.

These crowd-sourced reports are invaluable to telco providers, who continually seek ways to improve customer service and satisfaction, optimize network performance, and identify new opportunities for growing revenue. Reports that took a day to prepare were now taking minutes, with new levels of granularity that helped Tutela’s customers discover valuable business insights.

Yet the extreme query speed of the OmniSci Core SQL engine was only the part of the transformation for Tutela. “We quickly discovered how intuitive and easy to use OmniSci Immerse is for visual analytics. That opened up a completely new opportunity for Tutela and our customers,” adds Tom.

With Immerse’s interactive visualization, Tutela recognized an even bigger opportunity. The company embarked on its second use of OmniSci: offering self-service analytics to its clients. “By combining OmniSci Immerse with our data, processing and services we were able to productize an integrated, powerful business intelligence solution for our customers, called Tutela Explorer,” says Tom. “Our customers frequently comment on how intuitive the platform is to use. That led to our biggest shift: we use OmniSci Immerse as an OEM product. It’s generating revenue for us and huge value for our customers.”

Tutela began reselling OmniSci Immerse because of the value and simplicity that it provides to their customers. The company performs the initial setup on its servers, then provides a customized, interactive Immerse dashboard online, with a login and password. From a technical standpoint, it expedites the setup time for customers and simplifies the entire process. Tutela customers are up and running quickly, with the interactive visualization they need to optimize the performance of its network.
“Our customers are typically large enterprises which still make use of traditional analysis and business intelligence tools. These are often painfully slow to deploy and use with big data sets. Offering our Tutela Explorer cloud-based solution leveraging OmniSci is exponentially faster. Our customers are often amazed by the speed and performance and want to get access themselves as soon as they see it - which we can setup for them immediately.”

**Future Opportunities Providing Advanced Analytics as a Service**

Tutela is making many more plans with OmniSci, collaborating on new features for the joint solution. The company is now combining massive data sets and, with the extreme speed of OmniSci, offering new types of insights that bring even more value to its clients.

“What we’re doing now is letting a company drill into any geographic area, like a financial district, and analyse network performance and quality, see who has the best network speeds, and why, so they can make improvements to their own networks. This helps our telco customers make critical decisions around planning, operations and marketing strategy which enables them to provide a better service to mobile users. We’re able to drill down to look at the performance of individual cell towers or connection technologies in seconds, with the granularity that’s available in the data with the performance delivered by OmniSci,” asserts Tom.

Tutela and OmniSci continue to deepen their relationship, regularly providing input to improve OmniSci Immerse for its own telco uses and those of other telco users. And of course, OmniSci channels Tutela’s suggestions on OmniSci Core back into the open-source code, making those available to OmniSci users across all industries.

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About Tutela

Tutela Technologies, LTD. (Tutela), is a Canadian crowdsourced mobile data company with offices in Victoria, British Columbia and London, England. The company was founded in 2011 and provides location-based mobile insights to major telco and mobile industry businesses to improve network coverage, quality of service, and related resource investment decisions.

Learn More

For more information about Tutela Technologies, Ltd., visit www.tutela.com.