Intelligent Transportation Systems Using IBM InfoSphere Streams

Challenge

The movement of people and freights across and between cities is critical to economic vitality and quality of life. Maintaining an efficient transport infrastructure is becoming increasingly challenging in face of population growth and the rapid urbanization.

Solution

Scientists from IBM's Thomas J. Watson Research center, working with the KTH Royal Institute of Technology in Sweden have created a system that generates dynamic, multi-faceted views of the way traffic flows within the city of Stockholm. City planners and commuters can be supplied with intelligence about the real-time situation of the transportation system. Using advanced analytics that run on IBM's breakthrough data stream-processing infrastructure, InfoSphere Streams, the system continuously derives current traffic statistics, and refines traffic models accordingly. The system continuously updates travel-time on various routes from real-time observed and inferred traffic conditions.

Key Value Propositions

* Monitor and process very large volumes of streaming data from diverse real-time sources. The system can process hundreds of thousands of GPS data points per second.
* Perform different kinds of aggregations of the data to collect statistics in real-time
* Process data to build and refine traffic models, and apply this models in real-time to make predictions
* Analyze traffic data in real-time for various applications targeted at both city administrators, businesses and individual commuters, with particular emphasis on obtaining travel times from real-time observed and inferred traffic conditions

About InfoSphere Streams*

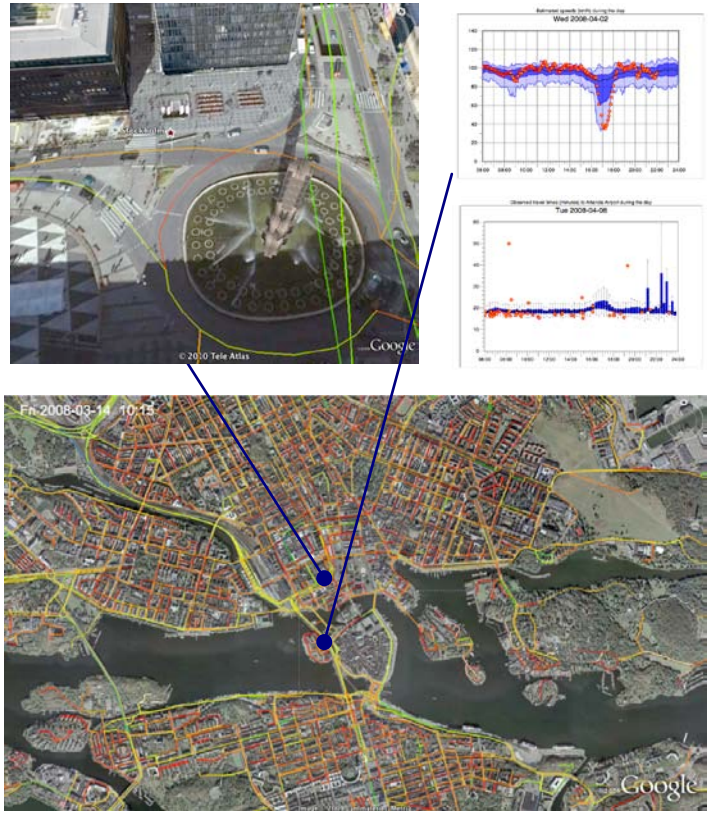
IBM InfoSphere Streams enables continuous and extremely fast analysis of massive volumes of information-in-motion to help improve business insights and decision making. Based on the latest stream computing innovations from IBM Research, InfoSphere Streams represents a revolutionary approach for unlocking the business value of information.

"It is important to both monitor current traffic conditions and predict future traffic conditions, reliably and efficiently, in real time. Predictions can then be used to assess the impact of traffic on environmental conditions, and also generate multi-modal traffic information seamlessly, in an integrated way."

Haris Koutsopoulos, Professor, Head of Division of Transport and Logistics at KTH.

Monitoring traffic conditions in real-time:

The system developed by IBM Research and KTH can collect raw traffic related information from a large number of data sources and provides a detailed picture of the traffic conditions in real-time. The system can identify patterns, and raise alerts when abnormal patterns are detected.



*For more information on IBM InfoSphere Streams, visit our website at http://www.ibm.com/software/data/infosphere/streams/
Contact your local IBM representative