Identifying and Predicting Real Time Business Opportunities in GSM Networks – Temporal Location Based Marketing

**Background**
- Turkcell Technology has more than 15 years of development experience with its solutions applied and proven at leading operators in more than 10 countries.
- From assisting the operation of network resources to improving business oriented intelligence, TTECH’s experts provide an expanding portfolio of packaged and custom solutions for telecom network operators including:
  - Network Services & Enablers
  - SIM Asset & Services Management
  - Mobile Marketing
  - Mobile Marketing
  - Mobile Internet & Multimedia
  - Business Intelligence & Support Systems
- Specialized for over 10 years in BI in the Telecommunications industry, designing, building and running one of the largest data warehouses in telecom industry with a proven record of success in BI operations.
- Early and leading Industry adopter of new real time BI trends, taking advantage of Event Driven Architectures, Event Pattern Analysis in a Spatial and contextual data context, leveraging the power of Oracle Complex Event Processing.

**Transformation**
- GSM Network present many challenges with a wealth of streaming telecommunication elements and different data representations, the goal being to identify Real Time business opportunities in this data in motion.
- The ability to immediately recognise the key event patterns in terms of call activations with associated locations could enable a new and massive collection of ways to enhance customer satisfaction by offering targetted services and promotions, when and where relevant.
- As the leading GSM company in Turkey and one of the largest in Europe another challenge is the millions of customer subscribers and the vast amount of data which now flows:
  - 1.5 Billion events daily
  - On special occasions, records are broken with the handling of 300 Million SMS Text message in a day with over 16,000 messages/second at peak times
- A highly available and scalable Event Stream Processing platform is vital.

**Outcome**
- The implementation of Oracle Complex Event Processing enriched Turkcell’s ability to capture real time streaming information immediately from their GSM network and benefit from its value.
- Identifying Subscriber events from mobile devices with a GeoSpatial and SMS text message temporal relevance, enables Turkcell to offer a wide range of new valuable and interesting offers, delivered when they are most applicable.
- Improved Customer satisfaction with a wide array of new revenue opportunities emerging, by determining and predicting trends based on changing locations, in association with environmental real time conditions, enabled by Oracle Complex Event Processing with its capabilities to dynamically inject and modify event patterns of interest, found in the flowing real time GSM data.
- Complete solution reliability and scalability leveraging this Event Server and integrated Oracle Coherence.