

> ECtel

Data mining powers telecommunications fraud detection solution

Situation

ECtel Ltd., located in Israel, is a leading provider of fraud detection and prevention software for wireline, wireless, and Next Generation Networks.

Challenge

There are many ways to avoid paying for telecommunications services, from stealing phone card numbers to bypassing phone circuitry. The result? Fraudulent activity costs the industry billions per year, forcing some companies to go out of business.

Solution

ECtel created FraudView™, a comprehensive fraud management solution. The solution uses SPSS Inc.'s advanced data mining workbench, PASW Modeler, to support FraudView's MineView™ engine, which is used for detecting telecommunications fraud in real time.

Results

- Significantly reduced telecommunications fraud for more than 150 telecommunication companies worldwide
- Saved money by enabling real-time fraud detection

Most people don't rent an apartment with the intent of setting up a switchboard to make free phone calls. Unfortunately, some unscrupulous individuals do, cheating telecommunications companies out of billions of dollars in revenue. In Israel alone, this type of fraudulent activity costs service providers an estimated \$150 million each year, according to one telecommunications consulting firm.

Since no international organization monitors fraud, telecom providers are left to deal with these crimes on their own. In order to address this challenge, ECtel Ltd. introduced FraudView.

FraudView is a fraud protection system that gathers information about calls in real time and compares them against fraudulent scenarios produced by its MineView component. MineView uses PASW Modeler to evaluate a sampling of an ECtel customer's call data records and then generate the scenario that most accurately predicts fraud. If MineView flags the subscriber as fraudulent, an alert is automatically generated and filed into a case profile for the telecom investigator to examine.

At a glance

Country: Israel
Industry: Telecommunications
Date Founded: 1990
Company Type: Public
Revenues: \$28.9 million (2003)
Employees: 189

Application

Fraud detection/prevention

Solutions Used

PASW® Modeler*

* PASW Modeler, formerly called Clementine®, is part of SPSS Inc.'s Predictive Analytics Software portfolio.

Significantly reduced telecommunications fraud for more than 150 telecommunications companies worldwide

More than 150 blue-chip telecom service providers worldwide, including national carriers in Germany, France, China, and the United States, have turned to ECtel's FraudView to manage fraud. According to Eric Kaplan, FraudView group manager for ECtel, "Selling a data mining product to a telecom provider has been traditionally difficult because they don't have data mining experts on staff who can work conventional data mining tools. Its functionality allowed ECtel to develop software based on PASW Modeler as the internal data mining engine."

Another convenient feature telecommunications investigators appreciate is what Kaplan refers to as "data mining for the people." MineView automatically self-calibrates its fraud scenarios, adjusting them according to recent call detail entries, the fraud officer's feedback, and information from external sources like the billing system. "By functioning autonomously, MineView allows non-data mining people to operate a data mining workbench," said Kaplan.

Saved money by enabling real-time fraud detection

For each subscriber, MineView calculates a suspicion score—the probability that a fraudulent subscriber is using a suspect number—based on data collected in real time. Whenever this score exceeds the preset threshold, MineView sends an alert notifying the investigator of a suspicious subscriber. This real-time data collection is a significant advantage over other data mining systems, which compare data against the model at two-hour intervals.

"Upon seeing a single alert from MineView, the investigator is ready when a second call appears from that subscriber and can block that call as it's happening," explained Kaplan. Thus money is saved because fraud is detected and acted upon immediately.

As new telecommunications service providers continue to enter the worldwide market, the demand for sophisticated technology that identifies and protects against fraudulent subscribers will increase significantly. With SPSS Inc.'s PASW Modeler operating as its real-time fraud detection engine, ECtel's FraudView offers the telecommunications industry a proven fraud management solution.

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— *Eric Kaplan*
FraudView Group Manager
ECtel Ltd.