POLICE BOARD

DOMAIN

• Public administration

INFORMATION BUILDERS TECHNOLOGY

• WebFOCUS

• iWay DataMigrator

SYBASE TECHNOLOGY

• Sybase® IQ

WHY DID YOU CHOOSE THIS TECHNOLOGY?

• It creates opportunities for convenient and fast access to data as standard reports and results of ad hoc inquiries as well as in the form required for analysis.

• It is a flexible system that can be expanded as required.

• The system enables to improve data quality.

THE SENIOR SUPERINTENDENT OF THE INFORMATION AND ANALYSIS DIVISION OF THE ANALYSIS AND PLANNING DEPARTMENT OF THE POLICE BOARD MARILIS SEPP (ON RIGHT) AND THE EXECUTIVE SPECIALIST KÜLLI KOOV SAYS, THE NEW SYSTEM ENCOURAGES PEOPLE TO USE IT DILIGENTLY: MORE AND MORE PEOPLE ARE MAKING FAST INQUIRIES FROM THE NEW INFORMATION SYSTEM WITH EASY TO USE AND FAST WEBFOCUS WEB INTERFACE.

ESTONIAN POLICE
prevents crime using WebFOCUS for fast and complex data analysis

Estonian Police uses a powerful and fast data warehouse Sybase IQ that has been developed and introduced within the framework of a European Union project and a report system WebFOCUS with a simplified user interface in order to increase the security of society and to organize police work more quickly and efficiently.

The police were not satisfied with their reporting system before the introduction of Sybase. The system of immediate information contained enormous amounts of information: the annual data about 300.000 misdemeanours and more than 50.000 criminal offences and their proceedings; but the reporting module was very slow and rigid.

"Inquiries would take several days to run," recalls Marilis Sepp, the Senior Superintendent of the Information and Analysis Division of the Analysis and Planning Department of the Police Board. "People would submit an inquiry on Friday and receive the data after the weekend. Obtaining the data demanded such an amount of effort that there was often no time left for substantive analysis."

In addition, there was also the tedious work as analysts had to process the data further with the Excel spreadsheet program. There is always a higher possibility of making human typing errors if the data is not processed automatically.

RELIABLE DATA

"Our goal was to create an unified system that would integrate the data from different information systems of the police and would offer diverse opportunities for making fast and flexible inquiries and reports on the basis of this data as well as analysing and implemen-

ting specific analysis options," the need for the new information system is summarized by Külli Koov, the Executive Specialist of the Information and Analysis Division of the Analysis and Planning Department of the Police Board.

The analysis and data warehouse information system of the Police Board is outstanding due to its complexity as there are about ten source systems. Its largest part consists of the information system of the police that contains the data starting with the operational management of mobile units and the location coordinates of police vehicles as well as the information concerning traffic accidents, up to the data on misdemeanours and criminal offences in the proceeding of the police and Criminal Police information. In addition, there are personnel records alongside stock records, the data on police vehicles and the wage calculation system; and the system will expand even more in relation to the future establishment of the Police and Border Guard Administration.

Although the information capacity of the source systems is extremely large, Sybase can marvellously compress the data; and the data warehouse presently contains more than two hundred gigabytes of data. According to Koov, the developers have not yet implemented all the data compression methods as there has been no need for it so far, but it can be quickly done if necessary.

The volume of reports in the system is large, and they are meant to be used in every domain of the police work: among these, we can find reports of criminal offences and misdemeanours, the information on traffic accidents with the location on Google Maps, calls for mobile units or working hours of officials. The system employs a situation report which is updated daily, making it possible to submit the reports on most important cases and trends to the Director General of the Police every morning.

"We did not believe that it was possible to obtain data so quickly," says Sepp. The process of obtaining data used to take several days, but now inquiries become usable information within seconds. If the requested statement concerns a long time period or is complex and the system screens through hundreds thousands of records, it takes a couple of minutes at most. No inquiry takes more than five minutes," adds Koov.

This entails new problems. "If an inquiry takes a minute, you sometimes need to calm down the person who has requested it," smiles Koov ironically. People have already forgotten how it used to be several years ago when they had to wait for days instead of a minute.

The system is not only fast, but also flexible and reliable. As the analysts can prepare the inquiries themselves, it is not necessary to order previously needed additional programming.

The progress in data analysis has been immense. According to Sepp, it was, for instance, possible to see the number of crimes in the old system, but the interpretation of that number took enormous effort. "Now I click on the number of crimes and I can see it source: which region of Estonia or the police authority proceeding the offences it comes from and what the nature of the cases is," describes Sepp.

THE NUMBER OF USERS IS INCREASING FAST

Both Koov and Sepp praise the simplicity of WebFOCUS web interface. "People have this feeling that has remained from the old days that they can ruin something making their inquiries, but it is no longer possible," says Koov. "When we explain that, there usually appears this incredulous look in their eyes."

The new system encourages people to use it diligently. According to Sepp, the system users are asking how to access some specific data from the analysis and data warehouse information system more and more frequently. The majority of such data can be requested by users themselves using the simple web interface. A bit more complex OLAP reports provide even the regular user with several options for data processing and analysis through the web interface. She adds that when analysts or other specialists who are more familiar with the system show the officials how to submit inquiries, the latter learn fast.

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—MARILIS SEPP SENIOR SUPERINTENDENT OF THE INFORMATION AND ANALYSIS DIVISION OF THE ANALYSIS AND PLANNING DEPARTMENT OF THE POLICE BOARD.

Koov emphasises the increase of system reliability as the best effect produced by Sybase IQ and WebFOCUS: in case errors occur in the process of entering data, it is much easier to detect them. There are approximately 400 users in system at present, and their number is increasing continuously. In the future, all the 4,000 employees of the Police Board will have access to the information system; everyone will be able to access just the information necessary for his or her job.

The fact that only three or four people develop and maintain such a powerful information system at the Police Board is as amazing as the speed and flexibility of the information system. "Not very many people specialized in the field are needed to keep the system functioning", says Sepp. "The main resource is invested in development in order to create new options and in analysis." As the system is in constant development, the principal job of the small team maintaining the information system is to manage and describe the changes as well as to train regular users and analysts.

BENEFIT TO THE WHOLE SOCIETY

The impact of the new analysis and data warehouse information system is invaluably high. If police officers can make better decisions on the basis of the information, Estonian residents will directly benefit from that. "Obviously quite a few lives have been saved this way," says Sepp.

For example, the analysts of the Police Board have investigated the scenes of accident and their time and causes, starting with weather and road conditions and the profile of accident causers (age-specific distribution, previous offences, the impact of the imposed punishment) up to the peculiarities of the vehicle they drove. This way the behaviour patterns of traffic hooligans and the locations where more accidents may occur become evident among other things. "Thus it becomes apparent what should be taken into consideration when positioning mobile units," gives Sepp a specific example of the impact of the information system on road safety.

Such a dataset provides the basis for preventive action: for instance, the Police Board cautioned road users about moped accidents as soon as the number of such accidents in traffic increased. The police also use the data obtained from the data warehouse for the preparation for campaigns in liaison with the Road Administration and the evaluation of their results.

According to Sepp, the executive officers of the Police Board are more and more often requesting a substantive analysis of what the causes of certain accidents are and what the prognosis for crime trends could be in order to make significant decisions that increase safety on the basis of the assumptions. "In the past, we could not even dream that it would be possible to make such an association analysis," adds Koov.

For the time being, there seems no end to working on the development as new challenges lie ahead. The Police and Border Guard Administration is being established, and it is going to use the analysis and data warehouse information system of the Police Board, which will bring along the necessity to integrate additional source systems with the analysis and reporting system. At the same time, the police keep enhancing its various source systems and extending the functionality of WebFOCUS. The development team is confident that it will be achieved with necessary investments as the flexible and powerful Sybase IQ and WebFOCUS were selected taking the long-term future into consideration.

WebFOCUS