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## Towards a secure future

voxlog monitoring

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(BS/Dipl.-Math. Bruno Weis) Globalisation not only helps free trade and travel, it also assists worldwide communication networks. This makes countries extremely susceptible to terrorist attacks and organised crime. The task facing police forces, BOS, government services and the military is to prevent these incidents before they happen or to identify suspect structures by using appropriate research.

One major and extremely important source of information in this respect is global communication networks, such as telephony, the internet, fax, etc. History shows that in the case of terrorist attacks, for example, an evaluation of the available communication networks can lead to very rapid success on the part of the appropriate investigating authorities. A few years ago, voice recording and monitoring were the main focal points, but these days the emphasis has moved more and more towards the collection and merger of all relevant communication data within the communications network. This includes landline telephony, mobile phones, SMS, email, voice-over IP (VoIP), fax, directional radio and a wide range of data services. The deployment and use of all these technical facilities for identifying targets or groups requires a global view to be taken of the communications relationships established in a telecommunications network.

Telephone companies have a great deal of capital which is, paradoxically generally underestimated, namely network signalling. This is the decisive component for establishing communication. Signalling is required if

conversations and data are to be correctly connected in the global telecommunications network. As soon as the telephone handset is lifted or a voice-over IP (VoIP) subscriber registers on a network, automatic processes are initiated to establish the required connections. And this all happens with no respect for national boundaries. Signalling is also the essential component that allows value-added services to be introduced and the generation of call data records (CDR) or session data records (SDR) in the environment of an intelligent network (IN). Signalling data is stored in various network components (such as switches, SMSC, SCP, gateways, etc.). Since these network components often save and process data in a proprietary fashion, and use methods established by the specific manufacturer, fast and complete preparation of the communication connections is not altogether straightforward. In fact we are forced to look deep into the lower protocol levels and to record, correlate and normalise a very wide range of information.

The "voxlog monitoring" platform from VOXTRONIC uses the very latest IT technology. A multi-level architecture on the one hand supports the flexible collection of communication data, while on the other makes full meta data available on a central database server for further analysis and evaluation. The range of requirements in employing such a system in heterogeneous network environments has led to data recording modules (head stations) capable of supporting a very wide range of connection technologies. The main priority is to make the system easy enough to use for both mobile and stationary applications, whilst at the same time making

it technologically manageable. A great deal of value was attached to near-realtime/realtime data analysis, in some cases on-site, using adjustable search algorithms. This in turn makes the platform suitable for a wide range of applications. For example, network operators (telcos) can comply with the requirements of the telecommunications surveillance regulations without having to resort to highly sensitive exchange equipment (switches, etc). Furthermore, the communications data collected can be used to improve the network quality (Quality of Service). No telephone company is keen to talk about fraud (misuse of services). The level of damages in this sense is massive. A monitoring system from VOXTRONIC provides a powerful instrument for identifying attacks on a telecommunications network. Finally, VOXTRONIC is an established equipment supplier in the BOS environment (call centres and head offices). This is where the vast majority of the recording and archiving of voice data takes place. It is also where links are made to customer-specific data such as text, image or other relevant data material.

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**VOXTRONIC** is a global leader in digital voice and data recordings and their analysis. It has also pioneered the development of security solutions for industry, commerce and local authorities.

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