



# SECURITY EVALUATION OBJECTIVITY AND EXCELLENCE FOR YOUR BENEFIT

Almost every day one can read about world- wide distribution of viruses, Trojan horses and worms. There are denial of service attacks on operators of critical services. Credit card data are stolen resulting in various kinds of frauds. Presumably, most security problems, attacks and frauds are not open to the public and discussed off the records only.

Trade and industry as well as the service industry are using IT products and systems developed by other companies. Many of the IT products provide security functions needed to protect assets or intellectual properties and to ensure that business processes keep running. Information technology comes more and more into the hands of users. There are terminals, smart cards and other tokens. Networks, the Internet and many applications are accessible by users and thereby exposed to potential hackers. Hence, the use of modern information and telecommunication technology is intrinsically tied to ever new challenges in terms of security. Companies using off-the-shelf products and systems must rely on the perfect performance of the security measures. The necessary trust can only be acquired by an independent third party evaluation. Evaluations performed by independent laboratories provide evidence that products perform as specified. For users, evaluations are meant to reduce risks resulting from using IT products and systems. Nowadays security evaluations are a prerequisite for providing products and components. Certification authorities grant permission for a specific device to be used, e.g. in payment systems or schemas.

## OUR EXPERTISE

Evaluation facilities have to be accredited by certification authorities as evidence for the acceptance of evaluation results. This requires the demonstration of skill and experience as well as knowledge of and compliance with security evaluation criteria.

In about 1988 T-Systems, more precisely its predecessor, started to evaluate products and systems for payment systems. In 1991 we were officially accredited by the banks in Germany (Zentraler Kreditausschuss). At that time, our company was officially accredited by the German government (Federal Office for Information Security, BSI) to perform evaluations according to the European security evaluation criteria ITSEC. T-Systems is also accredited for the Common Criteria first being published in the late nineties. Our lab is well known for its expertise in hardware and software security. Organizations such as VISA International, MasterCard and the Payment Card Industry (PCI) accredited and recommend T-Systems to their customers.

T-Systems is also accredited and our evaluation reports are accepted by APACS in Great Britain, APCA in Australia, CETREL in Luxembourg, Currence in the Netherlands, epci in Belgium, ep2 and Telekurs in Switzerland, ETSL in New Zealand, Interac in Canada, NETS in Singapore, PBS in Denmark, the banks in Austria, the banks in Sweden, and the banks in Norway (Bankenes Betalings Sentral).

# MARKET REQUIREMENTS AND EVALUATION RISK MANAGEMENT AT HAND

## THE STANDARDS

Evaluations according to international standards are not an isolated idea. They are a part of a global trend of measurement and benchmarking. The global economy needs international security standards to assure comparability and interoperability in dealing with commercial risks. The Common Criteria (CC) are the most important IT security standard, adopted in almost all major industrial countries. Others were developed to meet the requirements of specific industries, especially banking.

## T-SYSTEMS PERFORMS EVALUATIONS ACCORDING TO THE FOLLOWING FRAMEWORKS AND CRITERIA:

- ISO 15408 (Common Criteria)
- Information Security Evaluation Criteria (ITSEC)
- Finance sector in Germany (for all payment components as well as networks)
- VISA International (for smart card controllers)
- MasterCard International (for logical audits, CAST Programme)
- Payment Card Industry (PCI, formed by VISA, MasterCard and JCB) and MasterCard's PTS Programme for PIN-accepting devices
- EMV Security Approval for smart card hardware

These standards are as international as our business is. Though being located in Germany and Singapore only, the evaluators of T-Systems serve customers around the globe.

## THE BENEFITS

Security evaluations are a part of Risk Management, an indispensable element of control in all industries. Risk Management comprises both detection and reduction of risks. Similarly, security evaluation firstly provides evidence that products perform as specified. And secondly, the engagement of third-party evaluation services helps manufacturers to improve their products and processes. Customers of T-Systems became aware of existing vulnerabilities and new attack techniques and scenarios.

This establishes a basis to considerably develop security measures and to advance to the top suppliers in terms of security. Evaluations are a means to reduce the risks for users in the field which requires a clear alignment to their security objectives. International standards such as the Common Criteria strongly support this: Target definitions for specific security products or Protection Profiles for a class of them establish the basis and the starting point. T-Systems provided consulting services and was the technical editor of Protection Profiles which improve the use and comparability of evaluations results.

In many cases, a successful evaluation is a pre-requisite for becoming approved and short-listed. Examples are components for payment systems. In addition, manufacturers want to convince their customers that their solutions are state of the art and perform as advertised. Hence, evaluation results are an important marketing instrument for manufacturers to sell their products and solutions.

## OUR LABORATORIES

Our evaluations have achieved worldwide observance and recognition. Excellent know-how and expertise as well as long-term experience in many evaluation projects are the basis for our outstanding success. But technical equipment is required in addition. Of course, T-Systems possesses standard electronic measurement equipment including oscilloscopes, signal generators, a spectrum analyzer and others. For chip testing we have for example a Focused Ion Beam workstation, microprobing workstations, equipment for temperature cycling, microscopes, plasma etching facilities, a bonding machine, etc. A chemical workbench allows work with strong solvents and aggressive chemicals and several mechanical tools are available, too. Further testing capabilities are available at related organizations if required.

## OUR STRATEGY - FOCUS AND APPROACH

Impartiality and objectivity are essentials. Together with the required technical and methodical skill, this is the basis for our success in the field of evaluations. Our customers rank with the most successful manufacturers of security products. Many of them are market leaders. Several of the top ten leading manufacturers of smart card hardware are our customers. We favor strategic cooperations and help startups to advance to the top.

Good preparation is key for efficient evaluation processes. Before actually starting the evaluation process one should ensure the following: That a common understanding of the security evaluation criteria has been achieved. That the specific requirements and their relevance and relation to the development and production process have been discussed. That responsibilities are clear. That the effort is known, accepted and resources can be allocated. Our consultants help to plan and set up the evaluation process. T-Systems considers evaluations as a service.

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