Management of IT Risk for Global Banks

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5) Organizational unit: Departement Maschinenbau und Verfahrenstechnik, Institut für Energietechnik (IET), Kröger, Wolfgang, kroeger@mavt.ethz.ch, LZ=03292

6) Project leader(s):
    - Salvati, Domenico,

7) ETH researcher(s): no entry

8) External researcher(s): no entry

9) Funding source(s):
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10) Partner organizations:
    Credit Suisse Group, 8070, Zürich, Switzerland,
http://www.credit-suisse.com

11) Short Summary: The kernel of the proposed Ph.D. work is a novel application of rough sets which will support the identification of interdependencies among safeguards as a pre-requisite for their industry specific selection.

12) Keywords: Engineering Sciences

13) Project description:

For global banks, the importance of risk identification has been overemphasized in relation to the systematic selection of appropriate safeguards in Information Technology (IT). In this regard, standards and guidelines provide inconsistent guidance as well as partly missing models.

To overcome this, the methodology of IT risk management is followed up. The kernel of the proposed Ph.D. work is a novel application of rough sets which will support the identification of interdependencies among safeguards as a pre-requisite for their industry specific selection. IT risk management lacks a consistent and working metric: In a first step a self contained universe of discourse is established by taking into account the IT risk terminology frequently used, the relationships among these terms are identified (concepts), and assigned numerical (Boolean) values to denote their presence or absence in an IT system.

In a second step the selection of (successful) safeguards is formalised by the use of rough sets. Hereby, interdependencies among safeguards play an important role. They range from (complete) redundancy to (total) independency. Interdependencies among safeguards are understood as "doing the work twice", e.g., adding inappropriate redundancy. For medium-sized and large scale computer networks, these interdependencies are difficult to identify and offer potential for automation.

In a third step a risk model to evaluate the safeguards by using decision criteria such as cost-effectiveness is introduced.

Finally, the proposed methodology is validated, tested and implemented in a business oriented framework.

14) Popular description:

The basic assumption for selecting safeguards is that an IT security expert is
confronted with potential interdependencies among safeguards (e.g. redundancies).
Once these interdependencies are identified, superfluous safeguards can be
Eliminated establishing a minimal set of safeguards. Minimal set of safeguards
Are value against a criteria catalogue provided by a risk decision model.

15) Graphics: no entry

16) Publications:

- Salvati D. 2003-02-28. CS: Globales Informatiksicherheits-Management. Netzguide e-Security, Fachpublikationen zu e-Business und Internet in der Schweiz, Basel, Netzmedien AG.

- Salvati, D., Barriuso, D. 2004-01-31. Credit Suisse: Gestion Global de la Seguridad de la Informacion, revista SIC Seguridad de la Informacion y Comunicaciones. revista SIC Seguridad de la Informacion y Comunicaciones, Madrid, Ediciones Coda.

17) Links to important web pages: no entry