

Success Stories

More secure IT Systems for the financial sector

Access SME: Secure e-Commerce for SMEs

Within the scope of the FNR SECOM programme, Eric Dubois and André Rifaut have led a research project entitled "Access SME: Secure e-Commerce for SMEs", a project which ran from the 1st of January 2002 until the 31st of December 2005. Both researchers are working at the Centre d'Innovation par les Technologies de l'Information at the CRP Henri Tudor.

The project examined secure IT systems in particular in the financial sector. Initially, the focus was going to be on secure e-Commerce in the context of SMEs (Small and Medium-sized Enterprises). After a few months, however, both researchers came to realise "that the topic was a little bit too innovative with respect to the level of maturity of Luxemburgish SMEs regarding e-Commerce security concerns". Thus, with the support of the FNR, the project was re-oriented towards the financial sector, a sector where there is a clearer concern regarding security issues.

The methods used for the research project were similar to those of many other projects run at the CRP Henri Tudor. In fact, the results of the project stem from the application of a so-called "action research" approach. This approach is directly aimed towards the identification of the needs and problems of (an) organisation(s). An action research approach tries to do two things at the same time: first, to directly improve the participating organization(s); second, to generate scientific knowledge. Yet, this method differs from a more "classical" approach where a scientific body of knowledge is developed beforehand to validate it in terms of organisational improvement.

The FNR's contribution to the project was important. For the Centre d'Innovation par les Technologies de l'Information, the FNR offered the opportunity of developing new competences and investigating new innovative ideas within a mid-term (3-5 years) application range. This contrasts with many projects directly sponsored by organisations and enterprises which demand for results to be applicable within a 2-3 year time frame.



The methodology developed in the project

The main result obtained by the project is a risk-based methodology allowing to design secure IT systems. This methodology covers a great variety of issues, starting from the understanding of the business assets and goals of an organization up to the final product: a secure IT architecture fulfilling the goals and securing the business assets.

The results of the project have been disseminated within the scientific community through conferences and scientific publications. Nonetheless, there are also practical applications stemming from the research. "The methodology that was developed can be used by service providers of SMEs, or by IT teams working in international organisations for designing secure IT systems", Eric Dubois and André Rifaut reveal. Also, the project has allowed the researchers to develop new competences in security risk management, competences which can be drawn upon for teaching purposes. In fact, these competences are now directly mobilized for a new Master course in Security Management recently launched in cooperation with the University of Luxembourg. As a follow-up of the FNR project, the researchers have also started (and now finished) a project with the CSSF (Commission de Surveillance du Secteur Financier). This follow-up project was geared towards the development of a process-based approach for the management of operational risk management within financial institutions according to the new Basel accord.

Although the FNR-sponsored project has now come to an end, this does not mean that research within secure e-Commerce and IT infrastructures will stop. At the Centre d'Innovation par les Technologies de l'Information, researchers are considering to further develop this strand of research. In fact, research is being pursued on security risk management, where a small FNR project is currently undertaken which deals with the development of a risk management engine. This work is linked to a PhD research project also conducted on this topic. Cooperation with the financial sector is also being considerably extended with the recent launch of the INNFINANCE project, which deals with the identification and management of new services and associated practices in this sector.

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