

Information Security of Communications Network and Information Society Services

Information Security in Communications Network

Information security is based on risk management, divided into global and historical component. Former specifies risk and latter its management and social continuity.

Social is mediated by knowledge relation. Depending on risk management it exists as knowledge connected with social interaction or conceptual knowledge mediating social structures and probable global social relations (Mäkinen, 2009/14).

On this foundation may also information security be defined for ICT-technical information management and development, and historical security factors of knowledge management. ICT-technology is management for global dimension of knowledge. Management of knowledge security presupposes historical risk management and rationality (Mäkinen, 2009/7).

Management System (ISMS, ISO 27001). A social structure, as organization, supports as such information security. In information society services continuity of social relations is instead based on information security management and functionality of system supporting it (Mäkinen, 2009/10, Mäkinen, 2009/11).

For information security in global network exist no general solution but information security concerns always spatiotemporally specified users and interaction that form rational systems as information society services (Mäkinen, 2008/3, Mäkinen, 2009/11).

Risk Management in Communications Network

Socially into communications network is constituted three layers of risk management environments determining the service structure of network (Mäkinen, 2009/7).

Social and Risk Management



Risk World of Communications



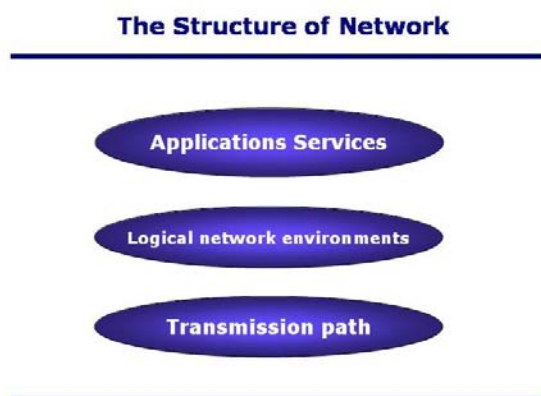
Forms of knowledge constitute of knowledge relations that mediate certain social interaction. In immediate interaction and in processes mediating factor is knowledge and in communications network information and network information (Mäkinen, 2008, Mäkinen, 2009/14).

Information security management is implemented in Information Security

The basis of network is transmission path. It has no social structure. It is global platform for information. Information security is not a relevant concept regarding it but incidents are specified as risks by probability 1, coincidental. In transmission path is implemented management environments where is applied technical security requirements.

Specification of risks by probability and consequences builds logical risk management environments. These are foundations for processes where knowledge is produced, delivered and stored. They can in social division of labour form functionally local area networks of organizations, and have a technical spatiotemporal structure, or form virtual networks specified according to information society services. Processes are implemented according to specified risks by means of communications services (Mäkinen, 2009/11, Mäkinen, 2008/13).

The structure of network is developed as follows (Mäkinen, 2009/7):



The Security of Logical Networks

Logical network environments are constituted on information security based on management of global risks. The knowledge relation developed is mediating social interaction. This presupposes specification of connection between user, which can be a person, node or service, and object by identification and authentication and by non-repudiation of communication. Then connection is build as Binding (Common Criteria, Mäkinen, 2008, Mäkinen, 2009/7).

Logical network environments are networked social interaction environments having a spatiotemporal structure. (Mäkinen, 2009/10).

Security of Information Society Service

Information society service is defined by knowledge, processes and logical networks

connected with it. In information security management system at information society service is applied information security principles specified for assets (information security architecture) specific to processes and network environments.

Information society service can be a function of an organization, function of agreement parties or general network function. In the latter cases social structures do not support information security but it is based on social process. This is based for example on standards, certification services and on management of information security profiles (Mäkinen, 2009/7).

Information security is a factor determining social rationality. Basic unit in production is information society service where can exist several global dimensions of social (Mäkinen, 2009/11, Mäkinen, 2009/14).

Literature

- Common Criteria for Information Security Evaluation, Version 3.1 ja 3.0, commoncriteriaportal.org
- ISO/IEC, International Standardisation organisation, Standard 27001: Information Technology - Security techniques- Information Security Management Systems – Requirements, 2005
- ISO/IEC, Standard 27002: Information Technology - Security techniques. Code of practice for information security management, 2007
- ISO/IEC, Standard 27005: Information Technology - Security techniques - Information security risk management, 2008
- Mäkinen, Heikki: Yhteiskunnan tiedon turvallisuus, Versio 2.0, 2008, yhteiskunnantieto.fi
- Mäkinen, Heikki: Risk Society and Risk Network, 2008, White Papers 3, yhteiskunnantieto.fi
- Mäkinen, Heikki: Globalnet as Directories of Information Security Profiles, 2009, White Papers 7, yhteiskunnantieto.fi
- Mäkinen, Heikki: The Social Foundations of Information Security, 2009, White Papers 10, yhteiskunnantieto.fi
- Mäkinen, Heikki: The Social Foundations of Information Society Services, 2009, White Papers 11, yhteiskunnantieto.fi
- Mäkinen, Heikki: Information Society Services and the Change of Social Rationality, 2008, White Papers 12, yhteiskunnantieto.fi
- Mäkinen, Heikki: Global, History and Social, 2008, White Papers 13, yhteiskunnantieto.fi
- Mäkinen, Heikki: Knowledge Relation and Social Rationality, 2009, White Papers 14, yhteiskunnantieto.fi