Report from the Information Security Conference (ISC) 2015

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Abstract

The 18th Information Security Conference (ISC) took place in Trondheim 9-11.09.2015. The event was organized by the Department of Telematics at the Norwegian University of Science and Technology (NTNU). ISC started as a workshop in 1997, and has now developed into a yearly highly reputable international conference. The conference sought for submission papers for all aspects information security, and about 147 papers were submitted in total. The 30 papers selected, were primarily within the field of cryptography.
Besides sponsorship from NTNU and FRISC, the research publishing partner Springer, also sponsored the best paper and best student paper award.

Organizational reflections.

The attendants received a book with proceedings and a detailed program plan. There conference was organized well and manage to hold the schedule perfectly. The book was practical to use to study the researches more deeply. Besides from two invited talks from Tor Helleseth and Kenny Patterson, 29 papers were presented. The contributed talks had a slot for 25 minutes with only one cancellation. Three of the presentations were hold over skype.
The attendants were offered lunch every day and one conference dinner at Lian Restaurant Thursday. The trip from the city center to the restaurant, was taken by an old special ordered tram. A great experience.

The conference had long breaks and plenty of opportunities to get in touch with the other attendants. Some of the local PhD students helpers also took the initiative to organize voluntarily walks around the city with other PhD students during the breaks and the evenings. During these social events, the students were able to exchange experience and get more insight in their respective research.

The organizers, both the officials and the student helpers receive credit for a well organized conference.

Personal reflections about selected talks.

The talks were divided into nine blocks and respectively nine fields of research. The research area of Cryptography and Cryptoanalysis covered five of the nine blocks. For a researcher with only basic knowledge within the field of Cryptografy, these talks were difficult to understand, but interesting. It is especially interesting to see how theoretically cryptology technics can apply to practical network security.

The research field of System and software security had three interesting talks.
One of talks explained how it is possible mitigate system-wide covert-channel in OSes and VMs attacks by moving target defence with granularities of isolation. The research was interesting in terms of how it also applies and can be transferred other to Software Defined Networking (SDN) and Network Function Virtualization (NFV). This paper

presented by Kevin Falzon was also rewarded the best student paper.

Another interesting presentation was "Software Security Maturity in Public Organisations". The research was based on a survey in 20 Norwegian public organizations. The problems stated, are also transferable to the private sector and service providers. It is interesting to see how difficult it is for organizations to cover all security aspect and how a simple model can help pinpointing different areas. This is a good starting point for increasing the security awareness and is recommendable for many companies.

The network and cloud security sessions were the sessions mostly connected to network security. The first talk from Zeeshan Afzal about Multipath TCP intrusion detection, was from a networking perspective the highlight of the conference. The paper suggested the use of a "MPTCP linker tool" to overcome the problem of IDS in Multipath TCP. This paper also triggered an evening discussion among a group of PhD students about other approaches to overcome the problem. Especially from a service provider point of view, this would require new ways of thinking in next generation networks and opens up for a set of new research topics, highly applicable to ongoing research in Norway.

The last two blocks were about "Physically Uncloneable Functions (PUFs) and implementation security" and "Key generation, biometrics and image security". Handling and processing of images are in general difficult to apply to other research areas like cloud and network security.

Personal outcome and conclusions.

For a new PhD student, the intensions of attending a conference is in general to discover how a conference work, gain more knowledge and get in contact with other researchers. The different research areas can be difficult to understand, but triggers curiosity in the different areas of research in information security. The different talks are giving good guidelines about where to look for more knowledge. Also, some of the talks were directly applicable to personal research and started a discussion for a possible paper collaboration.

The social aspects and the discussions outside the conference room tend to be the most interesting ones. For a new researcher it is important to know where the knowledge resides within the respective research fields of information security. A conference like ISC opened up for building a contact network of both professors and PhD students.