

I. IDENTIFICATION DATA

Thesis name:	Profiling and Detection of IoT Attacks in Telnet Traffic
Author's name:	Simona Musilová
Type of thesis :	master
Faculty/Institute:	Faculty of Electrical Engineering (FEE)
Department:	Department of Computer Science
Thesis supervisor:	Sebastian Garcia
Supervisor's department:	Department of Computer Science

II. EVALUATION OF INDIVIDUAL CRITERIA

Assignment	challenging
<i>Evaluation of thesis difficulty of assignment.</i>	
The topic of the thesis was challenging and difficult in several ways. This was not a thesis where you are given a problem and you try to solve it. This thesis involved the collection of data from almost one year, the implementation of software tools, the installation of honeypots and the development of the method to build the solution.	

Satisfaction of assignment	fulfilled
<i>Assess that handed thesis meets assignment. Present points of assignment that fell short or were extended. Try to assess importance, impact or cause of each shortcoming.</i>	
The thesis meets all the assignments proposed. All the points that were planned for the thesis were done, and some more that were not in the thesis originally were done too. In particular, the points that were done and not originally planned were: (1) the preparation of several presentations in conferences of the results, (2) The development of extra tools for the telnet analysis (fast version)	
Since there were no shortcomings I will evaluate that the impact of the extra tasks was paramount for the successful advance of the career of the student.	

Activity and independence when creating final thesis	B - very good.
<i>Assess that student had positive approach, time limits were met, conception was regularly consulted and was well prepared for consultations. Assess student's ability to work independently.</i>	
The student can work independently and has met all the limits and consultations. The complexity of the data collection and understanding of the involved protocols was a very hard task that required all the capabilities and independent developing skills of the student.	

Technical level	B - very good.
<i>Assess level of thesis specialty, use of knowledge gained by study and by expert literature, use of sources and data gained by experience.</i>	
The technical level required by the thesis was quite high since the student had to completely implement the analysis of the Telnet protocol from scratch because there was no tool available in the market that could do it. This is particularly interesting since the Telnet protocol exists since 1960s. Also the student had to develop profiling comparison methods and run real life experiments with users to evaluate the ideas. The student had to gain significant knowledge both by expert literature and protocol understanding.	

Formal and language level, scope of thesis	A - excellent.
<i>Assess correctness of usage of formal notation. Assess typographical and language arrangement of thesis.</i>	
The language of the thesis is formal and correct, as it is the scope of the thesis.	

Selection of sources, citation correctness	A - excellent.
<i>Present your opinion to student's activity when obtaining and using study materials for thesis creation. Characterize selection</i>	

of sources. Assess that student used all relevant sources. Verify that all used elements are correctly distinguished from own results and thoughts. Assess that citation ethics has not been breached and that all bibliographic citations are complete and in accordance with citation convention and standards.

The student correctly identified and use sources for the thesis. All the elements were distinguished from own results and the citation ethics has not been breached.

Additional commentary and evaluation

Present your opinion to achieved primary goals of thesis, e.g. level of theoretical results, level and functionality of technical or software conception, publication performance, experimental dexterity etc.

The primary goals of the thesis were difficult and hard. It was a research on properties of security protocols with the complete and unique reimplementing of the Telnet protocol, together with the measurement of usage from the Internet, to the definition of a user profile, the comparison of profiles and the verification with real users. I believe that this work has a lot of future potential in a very new area as it is IoT. The thesis shows a good advancement in a very sensitive area as the security of IoT devices using more than a simple password. Is a research that can be implemented to change the way we interact with our devices.

III. OVERALL EVALUATION, QUESTIONS FOR DEFENSE, CLASSIFICATION SUGGESTION

Summarize thesis aspects that swayed your final evaluation.

I evaluate handed thesis with classification grade **A - excellent**.

Date: **23.1.2020**

Signature: