FACULTY OF INFORMATION TECHNOLOGY CTU IN PRAGUE

Supervisor's statement of a final thesis

Supervisor:	Ing. Alexandru Moucha, Ph.D.
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Thesis title:	Deployment and Runtime Analysis of Software-Defined Networks in Simulated Environment
Branch / specialization:	Computer Systems and Networks
Created on:	3 June 2024

Evaluation criteria

1. Fulfillment of the assignment

▸ [1] **assignment fulfilled**
  [2] assignment fulfilled with minor objections
  [3] assignment fulfilled with major objections
  [4] assignment not fulfilled

All the requirements were fulfilled, both in the written part and in the lab rig which was set up for this purpose.

2. Main written part   97 / 100 (A)

The written part is excellent from the perspective of its content. It is easy to read and understand and constitutes a foundational manual for building a fully functional Cisco (and not only) SDN complex simulation, useful especially for the trainers and students to study this modern, state-of-the-art network design. The 3 points I subtracted are for the minor grammar mistakes (with no impact on the clarity of the text) and for the fact that the work was written in the last possible time interval, however successfully, so it is a symbolic grading.

3. Non-written part, attachments   100 / 100 (A)

As mentioned before, fully functional simulation rig for SDN (with accent on Cisco, however with the possibility of expansion for other vendors).

4. Evaluation of results, publication outputs and awards   100 / 100 (A)

The results of the work will be applied next semester at NI(E)-MTI subject while presenting Software Defined Network implementations. I do not think we can allow parallel student work due to hardware limitations (we need more powerful hardware to

allow it). However, the results will be published at a conference (work in progress for the paper) because the lab rig represents a step forward in simulating large deployments of SDN, especially for educational purposes. The student is co-author of the paper.

5. Activity of the student

▸ [1] **excellent activity**
  [2] very good activity
  [3] average activity
  [4] weaker, but still sufficient activity
  [5] insufficient activity

The activity of the student, especially on the practical part was amazing. He has excellent knowledge from the perspective of networking, hardware, operating systems details. He had to dig through tons of documentation to make this implementation and this saved myself a lot of time and energy which I should have spent doing this myself.

6. Self-reliance of the student

▸ [1] **excellent self-reliance**
  [2] very good self-reliance
  [3] average self-reliance
  [4] weaker, but still sufficient self-reliance
  [5] insufficient self-reliance

As above mentioned, excellent independence, he had to take decisions such that the lab could be implemented on the existing hardware. I provided him with firmware for the devices and licensing however in most of the cases he knew exactly what to ask for and how to guide me in order to make it efficiently and swiftly.

The overall evaluation   100 /100 (A)

The fact that in the last days I started my day at 5:30 communicating with him upon the thesis and ended at 0:30 on the same topic says quite a lot about my thrill to work with him and the interest I have in the topic. Excellent job, well done.

Instructions

Fulfillment of the assignment

Assess whether the submitted FT defines the objectives sufficiently and in line with the assignment; whether the objectives are formulated correctly and fulfilled sufficiently. In the comment, specify the points of the assignment that have not been met, assess the severity, impact, and, if appropriate, also the cause of the deficiencies. If the assignment differs substantially from the standards for the FT or if the student has developed the FT beyond the assignment, describe the way it got reflected on the quality of the assignment's fulfilment and the way it affected your final evaluation.

Main written part

Evaluate whether the extent of the FT is adequate to its content and scope: are all the parts of the FT contentful and necessary? Next, consider whether the submitted FT is actually correct – are there factual errors or inaccuracies?

Evaluate the logical structure of the FT, the thematic flow between chapters and whether the text is comprehensible to the reader. Assess whether the formal notations in the FT are used correctly. Assess the typographic and language aspects of the FT, follow the Dean's Directive No. 52/2021, Art. 3.

Evaluate whether the relevant sources are properly used, quoted and cited. Verify that all quotes are properly distinguished from the results achieved in the FT, thus, that the citation ethics has not been violated and that the citations are complete and in accordance with citation practices and standards. Finally, evaluate whether the software and other copyrighted works have been used in accordance with their license terms.

Non-written part, attachments

Depending on the nature of the FT, comment on the non-written part of the thesis. For example: SW work – the overall quality of the program. Is the technology used (from the development to deployment) suitable and adequate? HW – functional sample. Evaluate the technology and tools used. Research and experimental work – repeatability of the experiment.

Evaluation of results, publication outputs and awards

Depending on the nature of the thesis, estimate whether the thesis results could be deployed in practice; alternatively, evaluate whether the results of the FT extend the already published/known results or whether they bring in completely new findings.

Activity of the student

From your experience with the course of the work on the thesis and its outcome, review the student's activity while working on the thesis, his/her punctuality when meeting the deadlines and whether he/she consulted you as he/she went along and also, whether he/she was well prepared for these consultations.

Self-reliance of the student

From your experience with the course of the work on the thesis and its outcome, assess the student's ability to develop independent creative work.

The overall evaluation

Summarize which of the aspects of the FT affected your grading process the most. The overall grade does not need to be an arithmetic mean (or other value) calculated from the evaluation in the previous criteria. Generally, a well-fulfilled assignment is assessed by grade A.