Supervisor assessment of Master's Thesis

Student: Zavřel Jan, Bc.
Title: Modeling and Simulation of EIGRP and BGP (id 24993)
Supervisor: Veselý Vladimír, Ing., Ph.D., DIFS FIT BUT

1. **Assignment comments**
   The assignment relates to ongoing scientific research within the ANSA project on automated analysis and verification of computer networks using the OMNeT++ simulator. According to previous common experience, this is a more complex assignment where the goal was to revise the outdated EIGRP and BGPv4 protocol simulation models and make them compatible with the current INET 4.4 framework.
2. **Literature usage**
   The student actively searched for relevant sources and used them in the text. The bibliography contains mostly online resources (whitepapers on technologies), as the researched subject does not have comprehensive scientific publications.
3. **Assignment activity, consultation, communication**
   The student regularly consulted his progress. In addition to the actual solution of his thesis, he also participated as a teaching/research assistant in the NES@FIT group.
4. **Assignment finalisation**
   The work was completed in time and its content consulted/confirmed in advance of the submission deadline. The textual part also contains more insights in far more details than what was asked for in the assignment.
5. **Publications, awards**
   The student presented his work at the two editions of the EXCEL@FIT 2021 (EIGRP part) and 2022 (BGP part) student conferences. He received the expert panel award in both years, and public award in 2022. His simulation model source codes are integrated as part of the OMNeT++ discrete event simulator on GitHub. The tutorials will be published shortly on the official INET framework website (see https://inet.omnetpp.org/docs/tutorials/).

   In addition, he co-authored a paper presented at the OMNeT++ Summit 2021 conference:

   VESELÝ Vladimír and ZAVŘEL Jan. Quality Control Methodology for Simulation Models of Computer Network Protocols. In: Proceedings of 8th Virutal OMNeT++ Community Summit. Ithaca, NY: Cornell University Library, 2021, pp. 1-19. ISSN 2331-8422.
6. **Total assessment** **excellent (A)**
   The student has demonstrated that he has acquired design and programming skills at a proficient level. During his master's studies, he also successfully managed the first steps towards his independent scientific activity. The student's work has contributed significantly to the recognition of Brno University of Technology within the community around OMNeT++. With that being said, student delivered outstanding work and I rate his thesis as excellent.

In Brno 1 June 2022

Veselý Vladimír, Ing., Ph.D.
supervisor