

## I. IDENTIFICATION DATA

<b>Thesis name:</b>	<b>Distributed Queuing-based Random Access Procedure in Mobile Networks</b>
<b>Author's name:</b>	<b>Ping Hsun Yang</b>
<b>Type of thesis :</b>	master
<b>Faculty/Institute:</b>	Faculty of Electrical Engineering (FEE)
<b>Department:</b>	Department of Telecommunication Engineering
<b>Thesis supervisor:</b>	Doc. Ing. Zdeněk Bečvář, Ph.D.
<b>Supervisor's department:</b>	Department of Telecommunication Engineering

## II. EVALUATION OF INDIVIDUAL CRITERIA

<b>Assignment</b>	<b>challenging</b>
<i>Evaluation of thesis difficulty of assignment.</i>	
The topic requires knowledge of both theoretical as well as practical aspects (deep knowledge of RAP and DQ-RAP, good knowledge of related mathematical tools to develop analytical models and simulation tool to verify models by simulations).	

<b>Satisfaction of assignment</b>	<b>fulfilled</b>
<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 student fulfills all objectives and the thesis is in line with the assignment. The student has even extended the work beyond the original plan by a low complexity model.	

<b>Activity and independence when creating final thesis</b>	<b>A - excellent.</b>
<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 has been attending regular weekly meetings always well prepared and clearly reporting his progress in an understandable way. He has often suggested interesting solutions and ideas how to proceed and how to solve the problem.	

<b>Technical level</b>	<b>B - very good.</b>
<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>	
Technical aspects in the thesis are well explained. A weakness of the thesis is missing mathematical proof of the low complexity model. Even if the results of the low complexity model accurately follow results of the original model, the mathematical proof is needed to comprehensively show that the approach is valid and correct also for a high number of MTC devices. Nevertheless, it is important to say that the low complexity model is an additional work beyond the original work plan.	

<b>Formal and language level, scope of thesis</b>	<b>B - very good.</b>
<i>Assess correctness of usage of formal notation. Assess typographical and language arrangement of thesis.</i>	
The thesis is well written. There are some typos (e.g. M2M vs MTC on page 5, missing dot on the same page, etc.) and grammar mistakes, but its amount is acceptable. Size of Fig 12 should be the same as Figs 13, 14, 15.	

<b>Selection of sources, citation correctness</b>	<b>A - excellent.</b>
<i>Present your opinion to student's activity when obtaining and using study materials for thesis creation. Characterize selection 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.</i>	
The references are used correctly and cited where appropriate. Novelty is clearly distinguished from related work.	

## 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.*

All goals of the thesis have been achieved. Theoretical results are in line with simulations and with results published in the paper introducing DQ-RAP. The work is planned to be submitted to a conference after the defense.

It is worth mentioning that the student is the first double degree student from NTUST defending thesis at CTU.

## III. OVERALL EVALUATION, QUESTIONS FOR DEFENSE, CLASSIFICATION SUGGESTION

*The student has shown high ability to understand a problem, find a suitable solution, and solve the problem. The student has been very active during his work on the thesis and he has convinced me that he is able to work independently and solve even complex problems requiring wide range of knowledge.*

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

Date: **6.6.2016**

Signature: