

Comparing Performance of Selected Forwarders in ONE and OPS

Prerequisites:	Network Simulation course (OMNeT++)
Recommended background:	Opportunistic networking basics and C/C++ programming
Level:	This topic is appropriate for Master Students
Language:	German or English

INTRODUCTION

Opportunistic Networks (OppNets) are a type of network used to effectively communicate when traditional infrastructure based networks fail or are overloaded. Nodes in OppNets communicate directly with other nodes when nodes come into the communication range of other nodes. Since OppNets use every opportunity to disseminate data when meeting other nodes, a key component is the forwarding protocols adopted by OppNets nodes. There exist many forwarding protocols that consider a variety of algorithms and inputs to decide the optimum way to forward data.

PROJECT DESCRIPTION

Evaluations in OppNets regularly use simulation models to check the performance of different forwarding protocols. Two known model frameworks for OppNets is the ONE simulator, developed in Java and the OPS model framework for OMNeT++. Both of them have differing architectures and differ in the way they operate. A pertinent question is - Would the performance of OppNets scenarios will give similarly differing results? Therefore, in this project, we are interested in performing a comparative study of the two simulation model frameworks to answer this question. To compare, Epidemic, Spray and Wait (S&W), and the ProPHet protocols are used.

PROJECT TASKS

- Understanding the architecture and the operation of the ONE and OPS model frameworks
- Understanding the operation of the evaluated forwarding protocols - Epidemic, S&W and ProPHet
- Identifying the evaluation scenarios and the corresponding parameters
- Performance evaluation of the three protocols in both model frameworks
- Documentation and presentation of work

CONTACT

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