Implementation and performance Comparison of Rate Adaptation Algorithms for WLANs

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B. Tech. Project

Mentor: Dr. Venkata Ramana Badarla

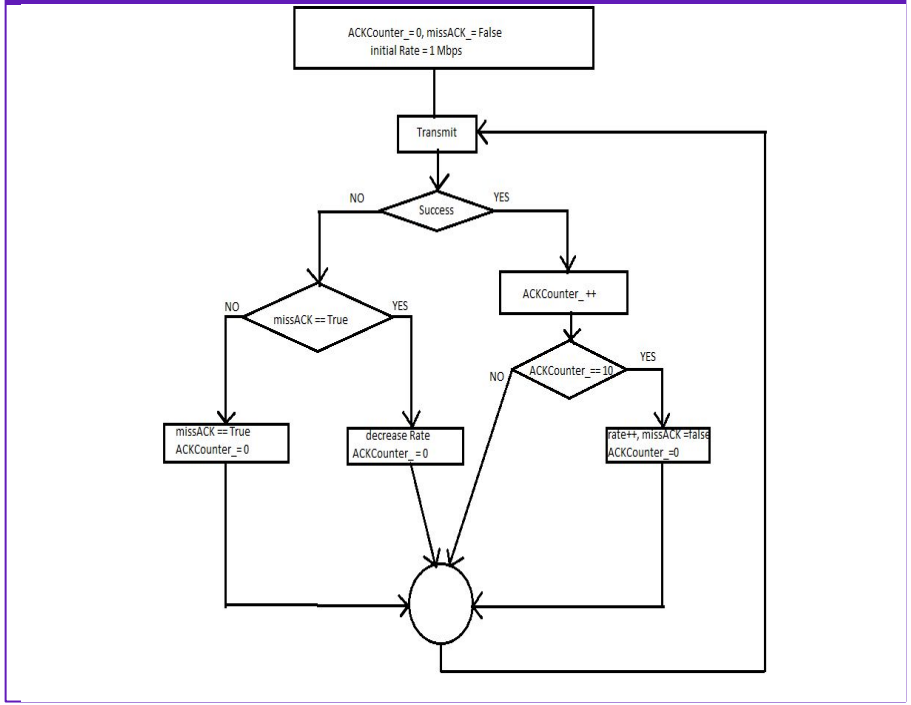
OVERVIEW

We have implemented two rate adaptation algorithms in NS2 and compared their performance. The algorithms implemented were:

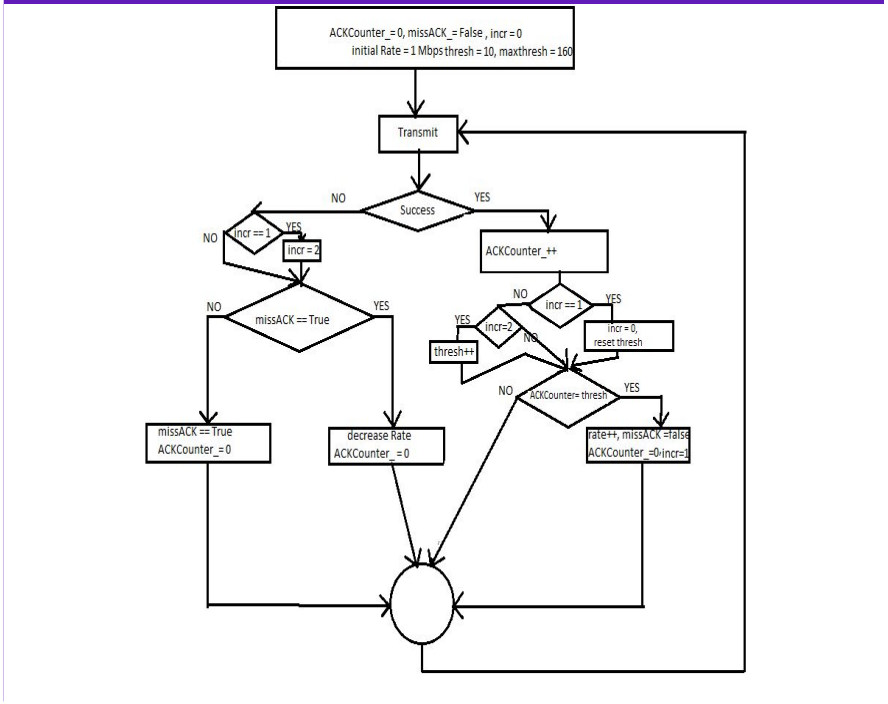
1. Auto Rate Fallback (ARF)
2. Adaptive Auto Rate Fallback (AARF)

Understanding the algorithms

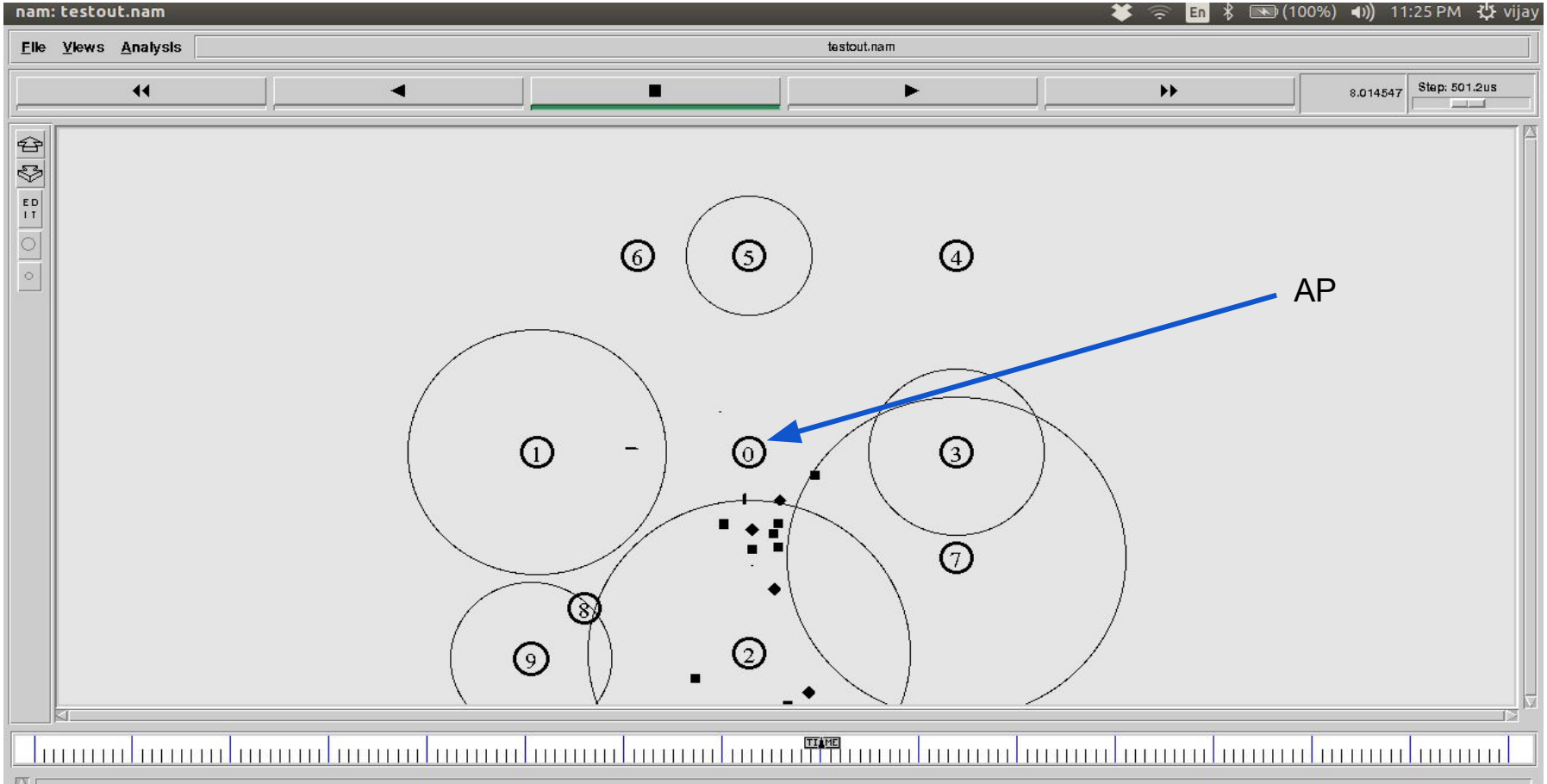
ARF



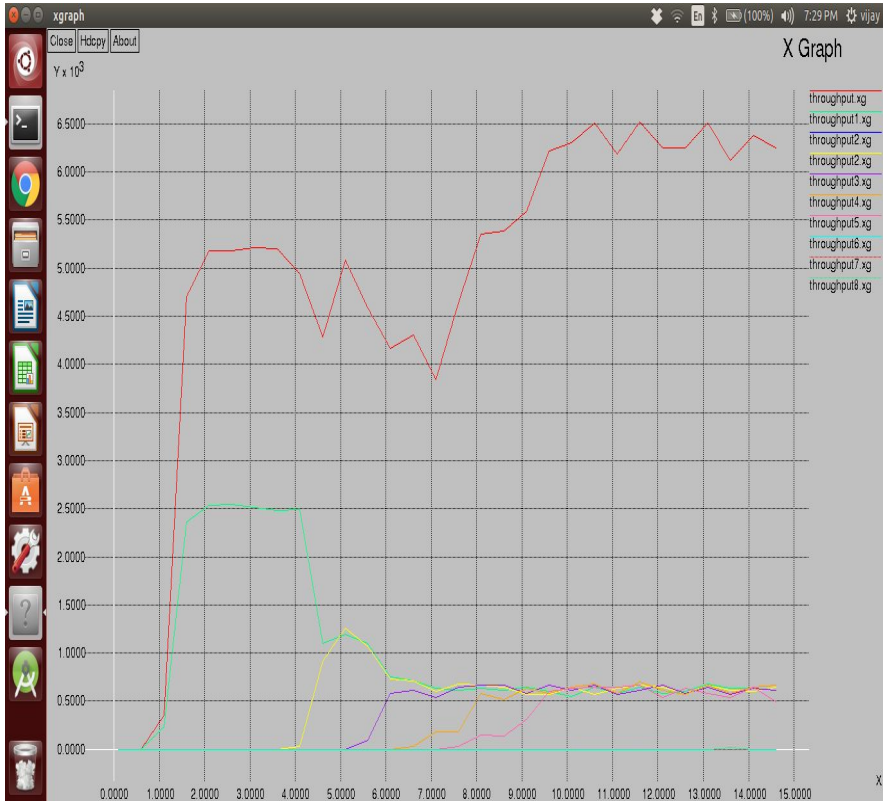
AARF



TEST SCENARIO



COMPARISON OF RESULTS



RESULT

➢ DEMONSTRATION

Result of Comparison

Result 1

- AARF has 42% better throughput than ARF in highly congested scenario.
- The algorithm should be robust enough to get stabilized at intermediate rate which is actually desirable.

Result 2

- Ability to understand the environment dynamically and to respond to environment, makes an algorithm better for maximizing the throughput of the system.

Future Scope and Importance

1

- Will help further researchers to get a direction to work towards
- Provide detailed issues in current algorithms

2

- Will inspire for further work in the same direction i.e. implementation of more algos.

3

- Will be a helpful document for further work in this field and applications of its results

The Team

Dinesh Kumar Maurya

B14BS005

maurya.1@iitj.ac.in

Vijay Kumar Paliwal

B14CS040

paliwal.2@iitj.ac.in