

# Comparative Performance Evaluation of Routing Protocols for Mobile AdHoc Networks(MANETs)

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## Objective

- To study the performance of various routing algorithms in Mobile AdHoc networks with real-time traffic
- This would aid in network management decisions in choosing the appropriate routing protocol for the corresponding traffic scenarios.

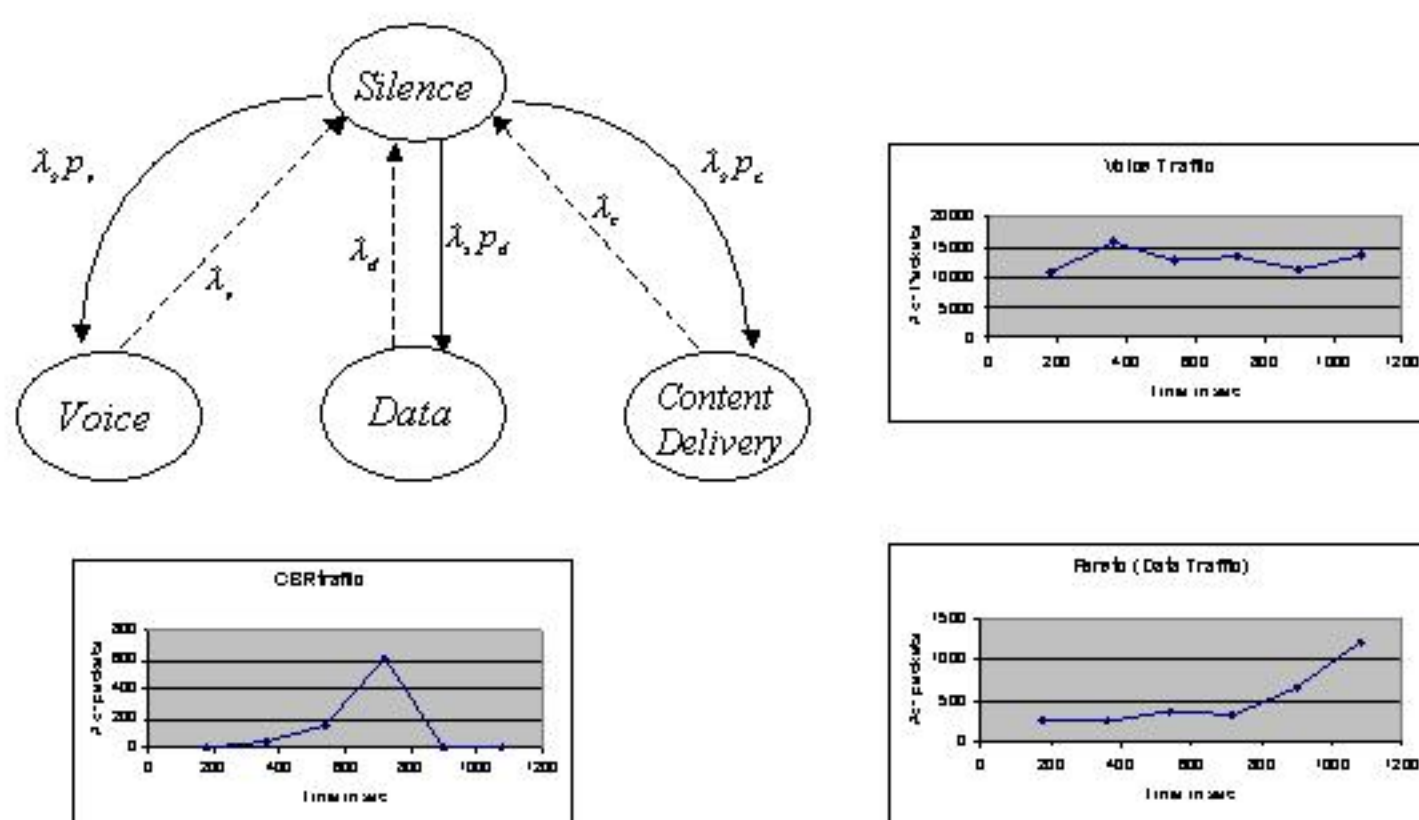
## Simulation Scenario

- 50 nodes move around in a 1500mx500m rectangular grid with a maximum velocity of 40 m/s.
- Mobility Model: Random-waypoint model.
- Radio Propagation: Two-ray ground propagation model.
- Only 20 nodes engage in mutual communication with each other. The other 30 nodes act as routes (if necessary).
- Simulations are run in ns-2 for 20 minutes. Nodes are silent for 60% of the time

## Traffic Models

- **Voice:** ON/OFF model.
  - ON period: Exponentially distributed with mean 0.35 sec.
  - OFF period: Exponentially distributed with mean 0.65 sec.
- **Content Delivery:** CBR connection with a high rate of 300kbps.
- **Data:** ON/OFF model.
  - ON period: Pareto distribution with shape parameter 1.5 and mean 8 sec.
  - OFF period: Pareto distributed with shape parameter 1.5 and mean 20 sec.

## Traffic Models-contd.



## Routing Protocols for AdHoc Networks

The routing protocols considered are:

- AdHoc On-Demand Routing Protocol (AODV)
  - This protocol operates via a QRY-RPY mechanism, and sequence numbering
- Temporally Ordered Routing Algorithm (TORA).
  - This protocol operates by the construction of a Directed Acyclic Graph (DAG).
- Dynamic Source Routing (DSR)
  - This is a source routing based protocol

## Performance Comparison

