Mobile Agent-based Routing (MAR) Protocol and Ad-hoc Network Simulator (NetSim)

MAR protocol provides automatic rerouting of connections in an ad-hoc mobile network while guaranteeing QoS.

MAR Features
- Ad-hoc routing with QoS guarantee
- Hybrid approach
- Priority based link preemption
- Negotiation-based topology exchange for overhead reduction
- Supports reconnection, preventive, opportunistic and priority rerouting
- Automatic multi-channel routes
- Hidden terminal interference considered during routing
- Seamless integration with IP networks (no bridges required)

NetSim is a distributed agent-based network simulation tool, built on IAI's Cybele® agent infrastructure, for the implementation and evaluation of advanced routing algorithms designed for a massive (1000's of nodes) mobile ad-hoc network.

NetSim Features
- Independent OSI layer simulation
- Modeling of node mobility and connectivity
- Multiple levels of fidelity
- Evaluation of multiple routing and transport protocols
- Ability to run domain applications (e.g., data mining) on simulated nodes
- Node logging and connection tracing
- Node implementation portable to Linux

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