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IEEE Journal on Selected Areas in Communications
Special issue on ***Wireless Ad Hoc Networks***

Traditional wireless and mobile networks are based on cellular network infrastructures; mobile nodes communicate with centralized entities (i.e., the base-stations), which serve as point of wireless access to a fixed network. In contrast, **ad hoc networks** represent a different communication paradigm, which is not dependent on any preexisting infrastructure. Thus, ad hoc networks can be rapidly deployed, without prior planning and in unknown radio propagation conditions. In ad hoc networks, communications between adjacent nodes is allowed, giving rise to multi-hop routing. The topology of ad hoc networks is distributed. Nodes in an ad hoc network can migrate freely, joining, leaving, and rejoining the network often, without warning, and without disruption to communication between other nodes. The challenges in the design of ad hoc networks stem from the lack of centralized entities, from the multi-hop mode of communication, and from the fact that all communication is carried over the wireless medium.

Ad hoc networks have long been considered for the military tactical communication environment under the more familiar name of Packet Radio Networks. Recently, however, use of ad hoc networking technology in commercial systems has been investigated. For example, one may consider such applications as law enforcement, rescue missions, virtual classrooms, or local area networks.

We are seeking papers that describe original and unpublished contributions addressing various aspects of ad hoc networking technology. Possible topics of interest (strictly related to ad hoc networks) include, but are not limited to:

- physical layer issues
- MAC schemes
- self-organizing topologies
- routing protocols
- mobility management
- integration with wired networks
- applications
- security
- node implementation
- energy-conserving protocols
- effects on existing protocols
- quality of service
- multicasting
- multimedia and traffic integration
- experiments and testbeds

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