SELLER
Konstantinos Amouris

FEATURED PATENT NUMBER
7,082,111

RELATED IP
60/204349; PCT/US01/15754; EP 1290529; DE2001060117539; AU2001000063166

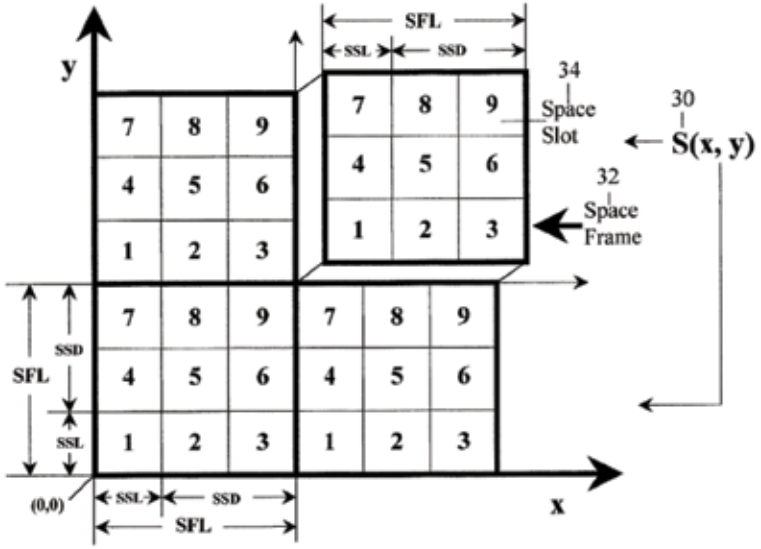
LOT SUMMARY
The disclosed technology relates to Space-Time Division Multiple Access (STDMA) for wireless communications. STDMA is a location-based time slot allocation scheme that creates a virtual cellular TDMA structure with spatial reuse for mobile ad-hoc mesh networks.

STDMA produces a collision-free TDMA broadcast scheduling system for mobile ad-hoc mesh networks that is independent of network size, is independent of node link connectivity, and scales linearly with respect to node density, making it extremely robust and bandwidth-efficient. These properties of STDMA make it ideal for large-scale, highly mobile multi-hop mesh networks whose link connectivity is constantly changing, as well as for highly dense networks, and networks with geographically variable user densities, such as vehicular and airborne networks.

STDMA is ideal for transmitting broadcast data packets, link-status packets, channel access reservation packets, routing overhead packets, and any type of broadcast data traffic that is periodic in nature, such as vehicle location update messages that are transmitted for collision avoidance purposes. In addition to its relevance in today's military and commercial ad-hoc networks, the unique combination of properties of STDMA make it a prime technology candidate for future wireless sensor, vehicular, and airborne networks.

POTENTIAL LICENSEES
- Telecommunications Companies
- Air Traffic Management Providers

EXPECTED VALUE: $115,000+



PATENT
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ASSIGNEE
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TITLE
Method for dynamically allocating time slots of a common TDMA broadcast channel to a network of transceiver nodes

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OF CLAIMS
11

ABSTRACT
A method for allocating a set of time slots belonging to a common time division multiple access (TDMA) channel to a network of transceiver nodes is provided. The method includes the steps of dividing the set of time slots into a plurality of time sLot sub-sets; defining for each transceiver node a common function that assigns one time sLot sub-set of the plurality of time sLot sub-sets to each point in space, where each point in space is identified by a unique set of space coordinates; and performing the following steps for each one of the transceiver nodes: periodically identifying a set of space coordinates; and allocating to each transceiver node time slots belonging to the time sLot sub-set assigned by the common function to the point in space identified by the periodically identified set of space coordinates. The method further includes the step of resolving time sLot allocation conflicts occurring when at least two transceiver nodes are allocated time slots belonging to an identical time sLot sub-set and the distance between the at least two transceiver nodes is less than a predetermined distance threshold. This step includes allocating to each one of the at least two transceiver nodes time slots belonging to a different time sLot sub-set of the identical time sLot sub-set. The periodically identified set of space coordinates corresponds to the current set of space coordinates for each one of the transceiver nodes.