

Claims

1. A method for the effective identification of neighbouring nodes in a mobile ad-hoc network, wherein each node
5 transmits within a given time raster ($\Delta T_1, \Delta T_2, \Delta T_3$) a message signalling its presence (1) which is acknowledged through the transmission of an acknowledgement message (2) by at least one node which receives the message signalling the presence (1) for the first time,
10 **characterised in that**
the time raster ($\Delta T_2, \Delta T_3$) in which the message signalling a presence (1) is transmitted is varied by a node which is disposed outside an ad-hoc network,
- 15 2. The method according to claim 1,
characterised in that
the time raster (ΔT_2) in which the message signalling its presence (1) is transmitted from a node disposed outside
20 an ad-hoc network directly after a start-up of the node disposed outside an ad-hoc network, is adjusted to a comparatively high value, which is successively reduced until a previously determined minimal-value time raster (ΔT_3) is reached.
- 25 3. The method according to claim 1 or 2,
characterised in that,
directly after it has identified that it is now disposed outside an ad-hoc network, a node transmits the message
30 signalling its presence (1) in a time raster (ΔT_2) with a comparatively high value, which is successively reduced until a previously determined minimal-value time raster (ΔT_3) is reached.

4. The method according to any one of claims 1 to 3,
characterised in that
the acknowledgement message (2) is transmitted directly
5 after the reception of the message signalling the presence
(1).
5. The method according to claim 4,
characterised in that
10 the acknowledgement message (2) is transmitted immediately
after the reception of the message signalling a presence
(1).
6. The method according to claim 4,
15 **characterised in that**
the acknowledgement message (2) is transmitted after the
reception of the message signalling a presence (1) with
the addition of a statistical delay time (ΔT_s) associated
in each case with the respective node.
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7. The method according to any one of claims 1 to 6,
characterised in that
a node disposed outside an ad-hoc network transmits a
message signalling a presence (1) within a previously
25 specified, constant time raster (ΔT_1) from the time of the
reception of the acknowledgement message (2).
8. The message according to any one of claims 1 to 6,
characterised in that
30 a node disposed outside an ad-hoc network transmits a
message signalling a presence (1) within a previously
specified, constant time raster (ΔT_1) from the time of the
reception of a message signalling a presence (1) of

another node, which it acknowledges with an acknowledgement signal (2).

9. The method according to any one of claims 1 to 8,
5 **characterised in that**

a node is integrated in an ad-hoc network with at least one further node as soon as one of the two nodes receives the acknowledgement message (2) to its transmitted message signalling a presence (1) from the respectively other
10 node.

10. The method according to any one of claims 1 to 9,
characterised in that

a node is disposed within an ad-hoc network so long as it receives a further message signalling a presence (1) of a
15 node of the ad-hoc network within a previously specified time interval (ΔT_4) since the last reception time of a message signalling a presence (1) of a node of the ad-hoc network.

- 20 11. The method according to any one of claims 1 to 10,
characterised in that

a secured and/or encrypted symmetrical data transmission between at least two nodes disposed within an ad-hoc
25 network is implemented as soon as one of the two nodes receives a further acknowledgement message (3) to its transmitted acknowledgement message from the respectively other node.

- 30 12. The method according to any one of claims 1 to 11,
characterised in that

the identification of neighbouring nodes in a mobile ad-hoc network precedes a routing-planning, preferably a

routing-planning according to the Optimised-Link-State-Routing protocol.

13. A mobile ad-hoc network with at least one node disposed
5 inside or outside the mobile ad-hoc network and
transmitting a message signalling its presence (1) within
a given time raster ($\Delta T_1, \Delta T_2, \Delta T_3$) and at least one node
disposed inside or outside the mobile ad-hoc network
receiving the message signalling the presence (1) for the
10 first time and acknowledging the latter through
transmission of an acknowledgement message (2),
characterised in that
the time raster ($\Delta T_2, \Delta T_3$) for the transmission of the
message signalling a presence (1) is varied in the case of
15 a node disposed outside the ad-hoc network.

CLAIMS

1. An invention not claimed in any divisional application.