# COMMUNICATION METHOD, NODE, DEVICE, COMMUNICATION SYSTEM, AND STORAGE MEDIUM

## TECHNICAL FIELD

The present application relates to the technical field of wireless communication networks, for example, a communication method, a node, a device, a communication system, and a storage medium.

## BACKGROUND

In recent years, the application of Internet of things technology on a large scale has resulted in a richer market and a richer technical demand. New Internet of things applications continuously emerge, and in the future, a larger number of sensors, Internet of things devices, or modules of other types will penetrate into a variety of traditional or emerging industries such as agriculture, industry, environmental protection, urban management, and human health. For example, all books in a smart library may be equipped with electronic tags, the flow of books throughout the library is tracked all the time, and book searching and positioning, quantity or state statistics, and the like are likely to be completed in real time. For another example, the warehousing and logistics industry may have a high degree of automation now, and administrators can implement electronic item recording, querying, and tracking by using radio-frequency identification (RFID)-based tags. However, the tags need to be read in sequence with a dedicated device, which requires a very huge amount of work.

Taken together, such applications have proposed requirements with relatively large differences from those of existing Internet of things applications. For example, the number of such devices is very huge, and many devices are very small in size, require an extremely simple hardware structure, and even fail to be integrated with batteries. Additionally, even if such devices can be integrated with the batteries, one battery may be difficult to maintain for an extremely long time due to very

## Claims

1. A communication method, comprising:

determining a target device according to a trigger message from a first node;

sending a visit message to the target device, wherein the visit message is used for instructing the target device to perform a corresponding operation; and

sending execution result information of the target device to the first node.

2. The method of claim 1, wherein the trigger message comprises at least one of the following information about at least one device:

a complete identifier or a partial identifier of the device; all or part of data stored in the device; a change instruction for a selected flag or an inventory flag; a selection message of the device; capability information of the device; auxiliary information of the device; an operation type; operation content; a password; an operation message; a connection request; resource information for transmitting data; connection information; or bearer information.

3. The method of claim 1, after determining the target device according to the trigger message from the first node, further comprising:

sending information about the target device to the first node;

wherein the information about the target device comprises at least one of:

a complete identifier or a partial identifier of the target device; all or part of data stored in the target device; a random code corresponding to the target device; an instruction of an access result of the target device; capability information of the target device; auxiliary information of the target device; a feedback message of the target device; a connection request for the target device; or resource information for transmitting data.

4. The method of claim 1, before sending the visit message to the target device, further comprising:

receiving a visit instruction message from the first node, wherein the visit instruction message is used for instructing an operation performed on the target device;

wherein the visit instruction message comprises at least one of the following information about the target device:

a complete identifier or a partial identifier of the target device; a random code corresponding to the target device; an operation type; operation content; a password; an operation message; a connection request for the target device; resource information for transmitting data; capability information of the target device; auxiliary information of the target device; connection information of the target device; or bearer information of the target device.

5. The method of claim 1, wherein the execution result information comprises at least one of:

a complete identifier or a partial identifier of the target device; all or part of data stored in the target device; a random code corresponding to the target device; an instruction of an access result of the target device; auxiliary information of the target device; a feedback message of the target device; an operation type; an execution result; read content; a connection request for the target device; resource information for transmitting data; or an application layer data packet.

6. The method of claim 1, wherein the target device is in one of the following states:

an idle state in which the target device does not support a data transmission;

an access state in which the target device supports an access operation and does not support a visit operation;

a connected state in which the target device supports a visit operation;

an inactive state in which the target device does not operate; or

a silent state in which the target device enters a power saving mode.

7. The method of claim 1, wherein determining the target device according to the trigger message from the first node comprises:

sending a selection message and a query message to at least one device according to the trigger message;

receiving anti-collision information fed back by the at least one device;

sending an acknowledgement message to the at least one device that feeds back the anti-collision information; and

receiving report information, wherein the at least one device that feeds back the anti-collision information sends the report information according to the acknowledgement message, and determining the at least one device that sends the report information to be the target device.

8. The method of claim 1, before sending the visit message to the target device, further comprising:

sending a request message to the target device, wherein the request message is used for instructing the target device to generate a random number; and

receiving the random number returned by the target device.

9. The method of claim 1, wherein the visit message comprises instruction information of at least one of a read operation; a write operation; an inactivation operation; a lock operation; a visit operation; a block write operation; or a block erase operation.

10. The method of claim 1, before sending the visit message to the target device, further comprising:

waking up a third node according to a wake-up message from the first node;

receiving a connection setup request from the third node, and sending a connection setup

request to the first node; and

setting up a connection with the third node according to a connection instruction message from the first node.

11. The method of claim 10, wherein the wake-up message comprises at least one of:

an identifier of the third node; a type of the third node; a wake-up cause; capability information of the third node; auxiliary information of the third node; or an application layer data packet.

12. The method of claim 10, wherein the connection setup request comprises at least one of:

an identifier of the third node; a type of the third node; a wake-up cause; information about devices supported or stored by the third node; a resource for transmitting data; or an application layer data packet.

13. A communication method, comprising:

receiving a visit message from a second node, and performing a corresponding operation according to the visit message; and

sending execution result information to the second node.

14. The method of claim 13, wherein a target device is in one of the following states:

an idle state in which the target device does not support a data transmission;

an access state in which the target device supports an access operation and does not support a visit operation;

a connected state in which the target device supports a visit operation;

an inactive state in which the target device does not operate; or

a silent state in which the target device enters a power saving mode.

15. The method of claim 14, wherein the target device switches from the idle state to the silent state in a case where a first condition is satisfied;

wherein the first condition comprises at least one of the following:

a duration for which the target device is in the idle state reaches a first set time;

a number of times configurations are received in the idle state reaches a first number of times; or

an instruction to switch to the silent state is received.

16. The method of claim 14, wherein the target device switches from the silent state to the idle state in a case where a second condition is satisfied;

wherein the second condition comprises at least one of the following:

a duration for which the target device is in the silent state reaches a second set time;

a number of times configurations are received in the silent state reaches a second number of

times;

a set signal or a set message is detected;

no set signal or no set message is detected;

signal energy is detected to be lower than an energy threshold; or

reference signal received power (RSRP) is detected to be lower than a power threshold.

17. The method of claim 14, wherein the target device switches from the idle state to the access state in a case where a third condition is satisfied;

wherein the third condition comprises at least one of the following:

an excitation signal or a wake-up signal is received;

a selection message is received, and a condition in the selection message is satisfied;

a query message is received, and a condition in the query message is satisfied;

an access request message is received, and a condition in the access request message is satisfied; or

a condition for entering an arbitrate, reply, or acknowledged state is satisfied.

18. The method of claim 14, wherein the target device switches from the access state to the idle state in a case where a fourth condition is satisfied;

wherein the fourth condition comprises at least one of the following:

an error occurs;

no excitation signal or no wake-up signal is received within a set time period; or

an access fails.

19. The method of claim 14, wherein the target device switches from the access state to the connected state in a case where a fifth condition is satisfied;

wherein the fifth condition comprises at least one of the following:

the target device has been determined by the second node;

identifier information has been reported;

anti-collision information has been reported;

a condition for entering an open or secured state is satisfied;

the visit message is received;

a dedicated bearer or a transmission format has been configured; or

a corresponding connection has been set up.

20. A computer-readable storage medium, which is configured to store a computer program which, when executed by a processor, causes the processor to perform the communication method of any one of claims 1 to 19.