What is claimed is:

1. A data scheduling method, applied to a first communication device, the method comprising:

transmitting or receiving data of at least one flow, wherein there is an association relationship between the data of the at least one flow.

2. The method according to claim 1, wherein the association relationship comprises at least one of the following:

Quality of Service (QoS) coordination;

time synchronization;

belonging to one QoS flow;

belonging to one Protocol Data Unit (PDU) set;

belonging to one radio bearer; or

belonging to one application server; wherein

the QoS coordination indicates that values of QoS parameters are identical, or a difference between the QoS parameters is less than or equal to a predetermined threshold; and the QoS parameter comprises at least one of a packet error rate, latency, jitter, or reliability.

3. The method according to claim 1, wherein the at least one flow comprises at least one of the following:

a service;

a PDU session;

a QoS flow;

a service data flow;

a radio bearer;

a logical channel;

a PDU set;

a PDU;

a sampling flow;

a slice; or

a tile.

4. The method according to claim 1, wherein the method further comprises:

receiving first information delivered by a second communication device, wherein the first information is used to indicate the association relationship between the data of the at least one flow.

5. The method according to claim 1, wherein the data of the at least one flow is carried in a same Transport Block (TB) or is carried in a transmission resource indicated by a same Uplink grant (UL grant);

wherein the method further comprises:

receiving second information and/or third information delivered by a second communication device, wherein

the second information is used to indicate a flow that is allowed to transmit data by using the same TB and/or the transmission resource indicated by the same UL grant, and the third information is used to indicate a transmission configuration when transmitting data of different flows by using the same TB and/or the transmission resource indicated by the same UL grant.

6. The method according to claim 5, wherein the second information comprises at least one of the following:

information indicating at least one logical channel that is allowed to transmit data by using the same TB;

information indicating at least one logical channel that is allowed to transmit data by using the transmission resource indicated by the same UL grant;

information indicating an associated priority of at least one logical channel that is allowed to transmit data by using the same TB; or

information indicating an associated priority of at least one logical channel that is allowed to transmit data by using the transmission resource indicated by the same UL grant;

or,

wherein the transmitting the data of the at least one flow comprises:

transmitting, via a first UL grant, data of at least one logical channel that is allowed to be transmitted by using the same TB as indicated by the second information, under a condition that the following are satisfied:

the second information comprises information indicating a logical channel that is allowed to use the same TB to transmit data; and

content of fourth information corresponding to the first UL grant is consistent with or does not conflict with content of the third information;

wherein the fourth information comprises information of a logical channel that is allowed to transmit for the UL grant.

7. The method according to claim 5 or 6, wherein the method further comprises:

determining the association relationship between the data of the at least one flow according to the second information.

8. The method according to claim 5, wherein the third information is used to indicate at least one of the following:

a number of bytes occupied in the same TB by data of different flows;

a Modulation and Coding Scheme (MCS) used by data of different flows;

a transmission resource occupied, in the transmission resource indicated by the same UL grant, by data of different flows;

a Subcarrier Spacing (SCS) used when transmitting data of different flows by using the transmission resource indicated by the same UL grant; or

a duration of a Physical Uplink Shared Channel (PUSCH) used when transmitting data of different flows by using the transmission resource indicated by the same UL grant;

or,

wherein before the transmitting the data of the at least one flow, the method further comprises:

transmitting a Buffer Status Report (BSR) to the second communication device; wherein content of the BSR may comprise at least one of the following:

an indication that there is an association relationship between a first logical channel and a second logical channel;

a type of an association relationship between a first logical channel and a second logical channel;

buffer data sizes respectively corresponding to a first logical channel and a second logical channel;

buffer data sizes of logical channel groups respectively corresponding to a first logical channel and a second logical channel;

a sum of buffer data sizes of a first logical channel and a second logical channel;

a sum of buffer data sizes of logical channel groups respectively corresponding to a first logical channel and a second logical channel;

Identifiers (IDs) of a first logical channel and a second logical channel that have an association relationship;

IDs of logical channel groups respectively corresponding to a first logical channel and a second logical channel that have an association relationship; or

IDs of the first communication devices respectively corresponding to a first logical channel and a second logical channel that have an association relationship, wherein the first logical channel and the second logical channel respectively belong to different first communication devices.

9. The method according to claim 5 or 6, wherein the at least one flow comprises a first flow

and a second flow that has an association relationship; and the transmitting the data of the at least one flow comprises at least one of the following:

in the case that a number of bytes of data of the second flow is less than and/or equal to a first threshold, transmitting data of the second flow by puncturing data of the first flow; or

in the case that a number of bytes of data of the second flow is greater than and/or equal to the first threshold, transmitting data of the first flow and data of the second flow by using the same TB or the transmission resource indicated by the same UL grant.

10. The method according to claim 1, wherein QoS Identifiers (QFIs) corresponding to different flows in the at least one flow are different or the same.

11. The method according to any one of claims 1 to 3, wherein the data of the at least one flow is carried in different TBs, and the different TBs are transmitted in a same time segment; or the data of the at least one flow is carried in different carriers, and the different carriers are transmitted in a same time segment;

or,

wherein before the transmitting the data of the at least one flow, the method further comprises:

performing data discarding and/or data scheduling on the data of the at least one flow according to a priority and/or an importance level corresponding to the at least one flow.

12. A data scheduling method, applied to a second communication device, the method comprising:

delivering first information to a first communication device, wherein the first information is used to indicate an association relationship between data of at least one flow.

13. The method according to claim 12, wherein the data of the at least one flow is carried in a same Transport Block (TB) or is carried in a transmission resource indicated by a same Uplink grant (UL grant);

wherein the method further comprises:

delivering second information and/or third information to the first communication device, wherein

the second information is used to indicate a flow that is allowed to transmit data by using the same TB and/or the transmission resource indicated by the same UL grant, and the third information is used to indicate a transmission configuration when transmitting data of different flows by using the same TB and/or the transmission resource indicated by the same UL grant.

14. A communication device, comprising a processor and a memory configured to store a computer program executable by the processor, wherein

the processor is configured to execute the computer program to implement the steps of the method according to any one of claims 1 to 11.

15. A communication device, comprising a processor and a memory configured to store a computer program executable by the processor, wherein

the processor is configured to execute the computer program to implement the steps of the method according to claim 12 or 13.