CLAIMS

What is claimed is:

1. A method for supporting port control, applied to a first communications device, wherein the first communications device comprises a network-side time-sensitive networking (TSN) translator (NW-TT), or, a NW-TT and a user plane function (UPF), and the method further comprises:

receiving port related control information; and

performing a port related operation on a port according to the port related control information; wherein

the port related control information comprises first routing information;

the first routing information comprises at least one of the following: a port identifier, media access control (MAC) address related information, and virtual local area network (VLAN) identification information;

the performing a port related operation comprises: forwarding a data flow carrying the MAC address related information and/or VLAN ID information through an NW-TT port corresponding to the port identifier.

2. The method according to claim 1, wherein the port related control information further comprises at least one of the following: a port identifier, traffic class information, first routing information, priority regeneration related information, port transmission rate related information, bandwidth availability parameter related information, and transmission selection algorithm related information.

3. The method according to claim 1 or 2, wherein the performing a port related operation further comprises at least one of the following: configuring the port, controlling whether to forward a data flow, controlling scheduling of a data flow, controlling queuing of a data flow, and controlling regenerating of a priority of a data flow.

4. The method according to claim 1 or 2, wherein the receiving port related control information comprises: receiving a port related information container, and the port related information container comprises the port related control information.

5. The method according to claim 2, wherein the first routing information further comprises port operation control information;

and/or

the priority regeneration related information comprises at least one of the following: a first priority and a second priority, wherein the priority regeneration related information is used to map a priority of a data flow having the first priority to the second priority;

and/or

the port transmission rate related information comprises at least one of the following: a port identifier and a port transmission rate.

6. The method according to claim 1, wherein the first routing information is Static Filtering Entry.

7. The method according to claim 2, wherein the bandwidth availability parameter related information comprises at least one of the following: deltaBandwidth, adminIdleSlope, operIdleSlope, classMeasurementInterval, lockClassBandwidth, and traffic class information;

and/or

the transmission selection algorithm related information comprises at least one of the following: traffic class information and a transmission selection algorithm.

8. The method according to claim 1, further comprising:

transmitting port related control information in a case that a first condition is met; wherein

the first condition comprises at least one of the following: that a read request for port related control information is received; that a port related protocol data unit (PDU) session is successfully established; and that the port related control information is generated or updated.

9. A method for supporting port control, applied to a first communications device, wherein the first communications device comprises a network-side time-sensitive networking (TSN) translator (NW-TT), or, a NW-TT and a user plane function (UPF), and the method comprises:

transmitting port related control information in a case that a first condition is met; wherein

the port related control information comprises traffic class information;

the first routing information comprises at least one of the following: a port identifier, media access control (MAC) address related information, and virtual local area network (VLAN) identification information;

wherein the first condition comprises at least one of the following: that a read request for port related control information is received; that a port related protocol data unit (PDU) session is successfully established; and that the port related control information is generated or updated.

10. The method according to claim 9, wherein the port related control information further comprises at least one of the following: a port identifier, traffic class information, first routing information, priority regeneration related information, port transmission rate related information, bandwidth availability parameter related information, and transmission selection algorithm related information.

11. The method according to claim 9, wherein the first routing information further comprises port operation control information;

and/or

the priority regeneration related information comprises at least one of the following: a first priority and a second priority, wherein the priority regeneration related information is used to map a priority of a data flow having the first priority to the second priority;

and/or

the port transmission rate related information comprises at least one of the following: a port identifier and a port transmission rate.

12. The method according to claim 9, wherein the transmitting port related control information comprises: transmitting a port related information container, and the port related information container comprises the port related control information.

13. A method for supporting port control, applied to a second communications device, wherein the second communication device comprises at least one of the following: an application function (AF) a policy control function (PCF) and a session management function (SMF), and the method comprises:

transmitting port related control information to a first communications device; wherein the first communications device comprises a network-side time-sensitive networking (TSN) translator (NW-TT) or, a NW-TT and a user plane function (UPF)

wherein

the port related control information comprises: first routing information;

the first routing information comprises at least one of the following: a port identifier, media access control (MAC) address related information, and virtual local area network (VLAN) identification information;

the first routing information is used to enable the first communications device to forward a data flow carrying the MAC address related information and/or VLAN ID information through an NW-TT port corresponding to the port identifier.

14. The method according to claim 13, wherein the first routing information further comprises port operation control information;

the port related control information further comprises at least one of the following: a port identifier, traffic class information, priority regeneration related information, port transmission rate related information, bandwidth availability parameter related information, and transmission selection algorithm related information;

the priority regeneration related information comprises at least one of the following: a first priority and a second priority, wherein the priority regeneration related information is used to map a priority of a data flow having the first priority to the second priority.

15. A method for supporting port control, applied to a second communications device, wherein the second communication device comprises at least one of the following: an application function (AF) a policy control function (PCF) and a session management function (SMF), and the method comprises:

receiving a read request for bridge related control information and/or a read request for port related control information; and

transmitting the read request for port related control information; wherein

the read request for port related control information comprises a request for first routing information;

the first routing information comprises at least one of the following: media access control (MAC) address related information, virtual local area network VLAN identification information.

16. The method according to claim 15, wherein the read request for bridge related control information comprises: a bridge identifier.

17. The method according to claim 15, wherein the transmitting the read request for port related control information comprises:

transmitting the read request for port related control information to a first communications device.

18. A first communications device, wherein the first communications device comprises a network-side time-sensitive networking (TSN) translator (NW-TT), or, a NW-TT and a user plane function (UPF), and the first communications device comprises: a processor, a memory, and a program stored in the memory and capable of running on the processor, and, when the program is executed by the processor, causes the first communications device to carry out the steps of the method for supporting port control according to any one of claims 1 to 8; or, when the program is executed by the processor, causes the first communications device to carry out the steps of the method for supporting port control according to any one of claims 9 to 12.

19. A second communications device, wherein the second communications device comprises at least one of the following: an application function (AF) a policy

control function (PCF) and a session management function (SMF), comprises a processor, a memory, and a program stored in the memory and capable of running on the processor, and, when the program is executed by the processor, causes the second communications device to carry out the steps of the method for supporting port control according to any one of claims 13 to 14; or, when the program is executed by the processor, causes the second communications device to carry out the steps of the method for supporting port control according to any one of claims 15 to 17.