

CLAIMS

What is claimed is:

1. A packet transmission method applied to a first network device, comprising:
receiving a packet sent by a second network device;
forwarding, after buffering the received packet for a preset time duration, the received packet.

2. The method of claim 1, further comprising:
reorganizing received packets such that, after reorganization, packets belonging to a same flow are arranged in order.

3. The method of claim 2, wherein, the reorganizing the received packets comprises:

reorganizing, according to a first mapping rule, the received packets.

4. The method of claim 3, wherein the first mapping rule comprises a scheduling queue; the scheduling queue is to buffer packets of the same flow;

or wherein the first mapping rule comprises the preset time duration.

5. The method of claim 3, wherein the first mapping rule comprises a scheduling cycle; the scheduling cycle is to indicate a time period for packet forwarding;

the forwarding, after buffering the received packet for a preset time duration, the received packet comprises:

forwarding, after the scheduling cycle of the received packet expires and after buffering the received packet for a preset time duration, the received packet.

6. The method of claim 5, wherein, for a same flow, a time difference between a scheduling cycle of the first network device and a scheduling cycle of the second network device is greater than or equal to a target time delay, and the target time delay is a time delay between the first network device and the second network device.

~~7. The method of claim 3, wherein the first mapping rule comprises the preset time duration.~~

~~7.~~ The method of any of claims 3-~~6~~7, wherein, the first mapping rule is carried in

a header of the packet.

~~98~~. The method of any of claims 1-~~67~~, wherein, a quintuple is carried in a header of the packet, and the quintuple is to determine a flow to which the packet belongs; or, a flow identity is carried in the header of the packet, and the flow identity is to determine a flow to which the packet belongs.

~~109~~. The method of any of claims 1-~~67~~, wherein, the first network device and the second network device have a same scheduling frequency, and the scheduling frequency is a frequency with which scheduling cycles are divided.

~~110~~. The method of any of claims 1-~~67~~, further comprising:
receiving a telemetry packet sent by the second network device; the telemetry packet is to detect quality of service of each path between the second network device and the first network device;
sending the telemetry packet to a controller.

~~111~~. The method of claim ~~110~~, wherein the quality of service comprises time delay and jitter;
a tail of the telemetry packet carries a timestamp of each network device in the path.

~~123~~. A packet transmission method applied to a controller, comprising:
sending a first mapping rule to a first network device; the first mapping rule is to indicate the first network device to buffer a packet sent by a second network device for a preset time duration, and then forward the received packet.

~~134~~. The method of claim ~~123~~, further comprising:
sending a second mapping rule to a second network device;
the first mapping rule and the second mapping rule include a scheduling cycle; the scheduling cycle is to indicate a time period for packet forwarding;
for a same flow, a time difference between a scheduling cycle of the first network device and a scheduling cycle of the second network device is greater than or equal to a target time delay, and the target time delay is a time delay between the first network device and the second network device.

145. The method of claim 123, further comprising:

receiving a telemetry packet sent by the first network device; the telemetry packet is to detect quality of service of each path between the second network device and the first network device;

determining, according to information carried in the telemetry packet, the quality of service of each path.

156. The method of claim 123, wherein the quality of service includes time delay and jitter; a tail of the telemetry packet carries a timestamp of each network device in the path.

167. The method of claim 123, wherein before sending the first mapping rule to the first network device, the method further comprises:

receiving a request packet sent by the second network device; the request packet is to request a mapping rule for transmission packets between the second network device and the first network device;

determining the first mapping rule according to the request packet.

178. The method of claim 167, wherein the request packet carries target transmission parameters;

determining the first mapping rule according to the request packet comprises:

determining, according to the quality of service of each path between the first network device and the second network device, a path whose quality of service meets the target transmission parameters and the first mapping rule.

~~19. A packet transmission apparatus applied to a first network device, comprising:
a first receiving unit, to receive a packet sent by a second network device;
a forwarding unit, to forward, after buffering the received packet for a preset time duration, the received packet.~~

~~20. A packet transmission apparatus applied to a controller, comprising:
a first sending unit, to send a first mapping rule to a first network device; the first mapping rule is to indicate the first network device to buffer a packet sent by a second network device for a preset time duration, and then forward the received packet.~~

~~21~~18. A network device, comprising a processor and a machine-readable storage medium, where the machine-readable storage medium stores machine-executable instructions that can be executed by the processor, and the processor is caused by the machine executable instructions to implement the method of any one of claims 1-112.

~~22~~19. A controller, comprising a processor and a machine-readable storage medium, where the machine-readable storage medium stores machine-executable instructions that can be executed by the processor, and the processor is caused by the machine executable instructions to implement the method of any one of claims ~~123~~-178.

~~23~~20. A computer readable storage medium, wherein the computer readable storage medium stores instructions thereon which, when executed by a processor, cause the processor to implement the method of any one of claims 1-112 or claims ~~123~~-178.