CLAIMS

What is claimed is:

1. A packet forwarding method applied to a first node, comprising:

acquiring a first packet, wherein the first packet comprises a first IPv6 option header, and the first IPv6 option header comprises a first bandwidth which is a minimum value among minimum available bandwidths of nodes in an SRv6 forwarding path, and the nodes in the SRv6 forwarding path comprise the first node and all previous-hop nodes of the first node;

sending the first packet on the SRv6 forwarding path, so that a tail node reports a minimum value among minimum available bandwidths of all nodes in the SRv6 forwarding path.

2. The method according to claim 1, wherein when the first node is a source node, acquiring the first packet comprises:

receiving a second packet;

acquiring a first bandwidth, wherein the first bandwidth is a minimum available bandwidth of an outgoing interface of the first node;

carrying the first bandwidth into the first IPv6 option header, and encapsulating the first IPv6 option header in an outer layer of the second packet to obtain the first packet.

3. The method according to claim 1, wherein when the first node is an intermediate node, acquiring the first packet comprises:

receiving a third packet, wherein the third packet comprises a second IPv6 option header, and the second IPv6 option header comprises a second bandwidth which is a minimum value among minimum available bandwidths of all previous-hop nodes of the first node;

if the second bandwidth is less than or equal to a minimum available bandwidth of the first node, maintaining the second bandwidth to obtain the first packet;

if the second bandwidth is greater than the minimum available bandwidth of the first node, updating the second bandwidth to the minimum available bandwidth of the first node to obtain the first packet.

4. The method according to claim 3, wherein,

the first IPv6 option header is a Hop-by-Hop Options header, the intermediate node is an endpoint node or a transit node, and all the previous-hop nodes comprise endpoint nodes and/or transit nodes; or,

the first IPv6 option header is a Destination Options header, the intermediate node is an endpoint node, and all the previous-hop nodes are endpoint nodes.

5. The method according to any one of claims 1 to 4, wherein the first IPv6 option header comprises an Option Type field, an option data length field and a minimum available bandwidth field, and the minimum available bandwidth field is used to carry the first bandwidth.

6. The method according to claim 2, wherein the second packet is a data packet or an active performance measurement packet.

7. A packet forwarding method applied to a second node, comprising:

receiving a first packet, wherein the first packet comprises a first IPv6 option header, and the first IPv6 option header comprises a first bandwidth which is a minimum value among minimum available bandwidths of all previous-hop nodes of the second node, and all the previous-hop nodes are located in a SRv6 forwarding path;

reporting a third bandwidth, wherein the third bandwidth is a minimum bandwidth among the first bandwidth and a second bandwidth, and the second bandwidth is a minimum available bandwidth of the second node.

8. The method according to claim 7, wherein a data packet is encapsulated in an inner layer of the first packet; reporting the third bandwidth comprises:

if the third bandwidth is a firstly selected minimum value among minimum available bandwidths of all nodes in the SRv6 forwarding path, or the third bandwidth

is different from a previously selected minimum value among the minimum available bandwidths of all nodes in the SRv6 forwarding path, reporting the third bandwidth to a controller; or,

if the third bandwidth is a firstly selected minimum value among minimum available bandwidths of all nodes in the SRv6 forwarding path, or the third bandwidth is different from a previously selected minimum value among minimum available bandwidths of all nodes in the SRv6 forwarding path, sending an IP packet comprising the third bandwidth to a source node.

9. The method according to claim 7, wherein an active performance measurement packet is encapsulated in an inner layer of the first packet; reporting the third bandwidth comprises:

sending a response packet for the active performance measurement packet to a source node, wherein the response packet comprises a TLV structure which is used to carry the third bandwidth.

10. The method according to claim 9, wherein the active performance measurement packet is a STAMP packet, and the TLV structure comprises STAMP TLV Flags, a Type field, a Length field and a minimum available bandwidth field, wherein the minimum available bandwidth field is used to carry the third bandwidth, and the STAMP TLV Flags comprise a U flag with a value of 1.

11. The method according to any one of claims 7-10, wherein,

the first IPv6 option header is a Hop-by-Hop Options header, and all the previous-hop nodes comprise endpoint nodes and/or transit nodes; or,

the first IPv6 option header is a Destination Options header, and all the previous-hop nodes are endpoint nodes,

preferably, wherein the first IPv6 option header comprises an Option Type field, an option data length field and a minimum available bandwidth field, and the minimum available bandwidth field is used to carry the first bandwidth.

12. A network device which is applied to a first node, the network device

comprising:

a processor;

a transceiver;

a machine-readable storage medium having stored therein machine-executable instructions that can be executed by the processor, wherein the machine-executable instructions cause the processor to: carry out the method of any one of claims 1 to 6.

13. A network device which is applied to a second node, the network device comprising:

a processor;

a transceiver;

a machine-readable storage medium having stored therein machine-executable instructions that can be executed by the processor, wherein the machine-executable instructions cause the processor to: carry out the method of any one of claims 7 to 11.

14. A machine-readable storage medium having stored therein machine-executable instructions which, when called and executed by a processor, cause the processor to carry out the method of any one of claims 1 to 11.

15. A computer program product, which causes a processor to carry out the method of any one of claims 1 to 11.