Claims

What is claimed is:

1. A method for generating a security table entry, which is applied to a first network device, wherein the first network device comprises a first interface, and the first interface is an incoming interface for receiving target link state information, the method comprises:

acquiring the target link state information from a link state data base, wherein the target link state information comprises a first source prefix;

generating a security table entry for the incoming interface, wherein the security table entry comprises an identifier of the incoming interface and the first source prefix.

2. The method according to claim 1, wherein acquiring the target link state information from a link state data base comprises:

searching for first link state information of the first network device from the link state data base, wherein the first link state information comprises a connection relationship between the first network device and at least one network device of a next level ;

setting the next level as a current traverse level, and for each network device at the current traverse level, searching for second link state information of the network device from the link state data base;

if the second link state information comprises a source prefix, setting the second link state information as the target link state information;

if the second link state information comprises a connection relationship between the network device and at least one network device of a next level, setting the next level as the current traverse level;

repeating a process of, for each network device at the current traverse level, searching for second link state information of the network device from the link state data base, if the second link state information comprises

the source prefix, setting the second link state information as the target link state information, if the second link state information comprises a connection relationship between the network device and at least one network device of a next level, setting the next level as the current traverse level, until it is determined that there is no network device of a next level for the network device at the current traverse level.

3. The method according to claim 2, wherein the network device of the next level is a network device other than the first network device in an AS domain.

4. The method according to claim 1, wherein the target link state information further comprises an access tag corresponding to the first source prefix; after generating a security table entry for the incoming interface, the method further comprises:

searching for third link state information comprising the access tag from the link state data base, wherein the third link state information comprises a second source prefix corresponding to the access tag;

adding the second source prefix to the security table entry.

5. The method according to claim 1, wherein the incoming interface is configured with an access tag; the method further comprises:

searching for fourth link state information comprising the access tag from the link state data base, wherein the fourth link state information comprises a third source prefix corresponding to the access tag;

generating, for the incoming interface, a security table entry comprising an identifier of the incoming interface and the third source prefix.

6. The method according to claim 1, wherein before acquiring target link state information from a link state data base, the method further comprises:

receiving a first packet sent by a network device in an AS domain,

wherein the first packet comprises the target link state information;

storing the target link state information in the link state data base.

7. The method according to claim 6, wherein,

the first packet comprises a first TLV comprising a first flag bit and an address prefix, wherein the first flag bit is to indicate that the address prefix is the first source prefix; or,

the first packet comprises a second TLV comprising an address prefix and a first Sub-TLV, wherein the first Sub-TLV comprises a second flag bit, and the second flag bit is to indicate that the address prefix comprised in the second TLV is the first source prefix; or,

the first packet comprises a third TLV comprising the first source prefix.

8. The method according to claim 7, wherein,

each of the first TLV, the second TLV and the third TLV comprises a second Sub-TLV comprising a tag field, wherein the tag field is to carry an access tag corresponding to the first source prefix; or,

the third TLV comprises an access tag corresponding to the first source prefix, and the access tag is located in a tag field before the first source prefix and adjacent to the first source prefix.

9. An apparatus for generating a security table entry, which is applied to a first network device, wherein the first network device comprises a first interface, and the first interface is an incoming interface for receiving target link state information, the apparatus comprises:

an acquiring module, to acquire the target link state information from a link state data base, wherein the target link state information comprises a first source prefix;

a generating module, to generate a security table entry for an incoming interface, wherein the security table entry comprises an identifier of the

incoming interface and the first source prefix.

10. The apparatus according to claim 9, wherein the acquiring module is specifically to:

search for first link state information of the first network device from the link state data base, wherein the first link state information comprises a connection relationship between the first network device and at least one network device of a next level ;

set the next level as a current traverse level, and for each network device at the current traverse level, search for second link state information of the network device from the link state data base;

if the second link state information comprises a source prefix, set the second link state information as the target link state information;

if the second link state information comprises a connection relationship between the network device and at least one network device of a next level , set the next level as the current traverse level;

repeat a process of, for each network device at the current traverse level, search for second link state information of the network device from the link state data base, if the second link state information comprises the source prefix, set the second link state information as the target link state information, if the second link state information comprises a connection relationship between the network device and at least one network device of a next level, set the next level as the current traverse level, until it is determined that there is no network device of a next level for the network device at the current traverse level;

wherein the network device of a next level is a network device other than the first network device in an AS domain.

11. The apparatus according to claim 9, wherein the target link state information further comprises an access tag corresponding to the first source prefix;

the acquiring module is further to search for third link state information comprising the access tag from the link state data base, wherein the third link state information comprises a second source prefix corresponding to the access tag;

the generating module is further to add the second source prefix to the security table entry.

12. The apparatus according to claim 9, wherein the incoming interface is configured with an access tag;

the acquiring module is further to search for fourth link state information comprising the access tag from the link state data base, wherein the fourth link state information comprises a third source prefix corresponding to the access tag;

the generating module is further to generate, for the incoming interface, a security table entry comprising an identifier of the incoming interface and the third source prefix.

13. The apparatus according to claim 9, further comprising:

a receiving module, to receive a first packet sent by a network device in an AS domain, wherein the first packet comprises the target link state information;

a storing module, to store the target link state information in the link state data base.

14. The apparatus according to claim 13, wherein,

the first packet comprises a first TLV comprising a first flag bit and an address prefix, wherein the first flag bit is to indicate that the address prefix is the first source prefix; or,

the first packet comprises a second TLV comprising an address prefix and a first Sub-TLV, wherein the first Sub-TLV comprises a second flag bit, and the second flag bit is to indicate that the address prefix comprised

in the second TLV is the first source prefix; or,

the first packet comprises a third TLV comprising the first source prefix.

15. The apparatus according to claim 14, wherein,

each of the first TLV, the second TLV and the third TLV comprises a second Sub-TLV comprising a tag field, wherein the tag field is to carry an access tag corresponding to the first source prefix; or,

the third TLV comprises an access tag corresponding to the first source prefix, and the access tag is located in a tag field before the first source prefix and adjacent to the first source prefix.