

The apparatus is applicable to the above cloud computing network system 100, and runs on an intranet switch. The apparatus includes:

- a data receiving module 210, configured for receiving data from a public network, and determining receiver information for the data according to information contained in the received data;

- a target gateway cluster determination module 220, configured for determining a target gateway cluster corresponding to the receiver information according to the receiver information and a preset binding relationship between data receivers and gateway clusters;

- a target gateway determination module 230, configured for determining a target gateway from the target gateway cluster according to a preset rule;

- a data forwarding module 240, configured for sending the received data to the target gateway, to cause the target gateway to forward the received data to a data receiver (a cloud host) corresponding to the receiver information.

As an implementation, the cloud computing network system 100 also includes a server installed with an SDN controller. The preset binding relationship between data receivers and gateway clusters is obtained by binding the data receivers to the gateway clusters that are matched with the data receivers in advance through the SDN controller in the server according to user requirements.

As an implementation, the cloud computing network system 100 also includes a server installed with an SDN controller. The gateway clusters are preset to have different security levels. The preset binding relationship between data receivers and gateway clusters is obtained by binding the data receivers to the gateway clusters that are matched with the data receivers and have corresponding security levels in advance through the SDN controller in the server according to user requirements.

As an implementation, the target gateway determination module 230 is specifically configured for determining the target gateway from the target gateway cluster according to a classless inter-domain routing (CIDR) longest prefix matching rule.

CLAIMS

What is claimed is:

1. A method for transmitting data, applicable to an intranet switch in a cloud computing network system, wherein the system comprises the intranet switch, at least two gateway clusters, and a plurality of data receivers having a binding relationship with the at least two gateway clusters, and each of the gateway clusters comprises a plurality of gateways; wherein the method comprises:

receiving data from a public network, and determining receiver information for the data according to information contained in the received data;

determining a target gateway cluster corresponding to the receiver information according to the receiver information and a preset binding relationship between data receivers and gateway clusters;

determining a target gateway from the target gateway cluster according to a preset rule; and

sending the received data to the target gateway, to cause the target gateway to forward the received data to a data receiver corresponding to the receiver information.

2. The method of claim 1, wherein the system further comprises a server, and the method further comprises:

receiving the binding relationship sent by the server, wherein the binding relationship is obtained by binding the data receivers to the gateway clusters that are matched with the data receivers in advance through an SDN controller in the server according to user requirements.

3. The method of claim 1, wherein the system further comprises a server, and the gateway clusters are preset to have different security levels; and

the preset binding relationship between data receivers and gateway clusters is obtained by binding the data receivers to the gateway clusters that are matched with the data receivers and have corresponding security levels in advance through an SDN controller in the server according to user requirements.

4. The method of any one of claims 1-3, wherein determining a target gateway from the target gateway cluster according to a preset rule comprises:

determining the target gateway from the target gateway cluster according to a classless inter-domain routing (CIDR) longest prefix matching rule.

5. A method for transmitting data, applicable to a cloud host in a cloud computing network system, wherein the system comprises an intranet switch, at least two gateway clusters, and a plurality of cloud hosts having a binding relationship with the at least two gateway clusters, and each of the gateway clusters comprises a plurality of gateways; wherein the method comprises:

determining, by a cloud host as a data sender, a target gateway according to a preset binding relationship between data senders and gateway clusters, wherein the target gateway is a gateway in a gateway cluster bound to the cloud host; and

sending, by the cloud host, data to the target gateway, to cause the target gateway to send the data to the corresponding intranet switch.

6. The method of claim 5, wherein the system further comprises a server, and the cloud hosts run on a host machine; and

the preset binding relationship between data senders and gateway clusters is a binding relationship between the cloud hosts and the gateway clusters that are matched with the cloud hosts, which is configured by an SDN controller in the server in advance on the host machine for the cloud hosts according to user requirements.

7. The method of claim 5, wherein the system further comprises a server, the cloud hosts run on a host machine, and the gateway clusters are preset to have different security levels; and

the preset binding relationship between data senders and gateway clusters is a binding relationship between the cloud hosts and the gateway clusters that are matched with the cloud hosts and have corresponding security levels, which is configured by an SDN controller in the server in advance on the host machine for the cloud hosts according to user requirements.

8. The method of claim 6 or 7, wherein the plurality of cloud hosts run on the host machine, and at least two cloud hosts among the plurality of cloud hosts are respectively bound to different gateway clusters.

9. An apparatus for transmitting data, applicable to an intranet switch in a cloud computing network system, wherein the system comprises the intranet switch, at least two gateway clusters, and a plurality of data receivers having a binding relationship with the at least two gateway clusters, and each of the gateway clusters comprises a plurality of gateways, wherein the apparatus comprises:

a data receiving module, configured for receiving data from a public network, and determining receiver information for the data according to information contained in the received data;

a target gateway cluster determination module, configured for determining a target gateway cluster corresponding to the receiver information according to the receiver information and a preset binding relationship between data receivers and gateway clusters;

a target gateway determination module, configured for determining a target gateway from the target gateway cluster according to a preset rule; and

a data forwarding module, configured for sending the received data to the target gateway, to cause the target gateway to forward the received data to a data receiver corresponding to the receiver information.

10. The apparatus of claim 9, wherein the system further comprises a server, and the preset binding relationship between data receivers and gateway clusters is obtained by binding the data receivers to the gateway clusters that are matched with the data receivers in advance through an SDN controller in the server according to user requirements.

11. The apparatus of claim 9, wherein the system further comprises a server, and the gateway clusters are preset to have different security levels; and

the preset binding relationship between data receivers and gateway clusters is

obtained by binding the data receivers to the gateway clusters that are matched with the data receivers and have corresponding security levers in advance through an SDN controller in the server according to user requirements.

12. The apparatus of any one of claims 9-11, wherein the target gateway determination module is further configured for determining the target gateway from the target gateway cluster according to a classless inter-domain routing (CIDR) longest prefix matching rule.

13. An apparatus for transmitting data, applicable to a cloud host in a cloud computing network system, wherein the system comprises an intranet switch, at least two gateway clusters, and a plurality of cloud hosts having a binding relationship with the at least two gateway clusters, and each of the gateway clusters comprises a plurality of gateways; wherein the apparatus comprises:

a gateway determination module, configured for determining a target gateway according to a preset binding relationship between data senders and gateway clusters, wherein the target gateway is a gateway in a gateway cluster bound to the cloud host; and

a data sending module, configured for sending data to the target gateway, to cause the target gateway to send the data to the corresponding intranet switch.

14. The apparatus of claim 13, wherein the system further comprises a server, and the cloud hosts run on a host machine; and

the preset binding relationship between data senders and gateway clusters is a binding relationship between the cloud hosts and the gateway clusters that are matched with the cloud hosts, which is configured by an SDN controller in the server in advance on the host machine for the cloud hosts according to user requirements.

15. The apparatus of claim 13, wherein the system further comprises a server, the cloud hosts run on a host machine, and the gateway clusters are preset to have different security levels; and

the preset binding relationship between data senders and gateway clusters is a

binding relationship between the cloud hosts and the gateway clusters that are matched with the cloud hosts and have corresponding security levels, which is configured by an SDN controller in the server in advance on the host machine for the cloud hosts according to user requirements.

16. The apparatus of claim 14 or 15, wherein the plurality of cloud hosts run on the host machine, and at least two cloud hosts among the plurality of cloud hosts are respectively bound to different gateway clusters.

17. A readable storage medium for storing a plurality of instructions, wherein the plurality of instructions are executed on a computer to cause the computer to carry out the method of any one of claims 1-4.

18. A readable storage medium for storing a plurality of instructions, wherein the plurality of instructions are executed on a computer to cause the computer to carry out the method of any one of claims 5-8.

19. A device for transmitting data, comprising a memory and a processor, wherein the memory is configured for storing executable program codes, and the processor is configured for reading the executable program codes stored in the memory to carry out the method for transmitting data according to any one of claims 1-4.

20. A device for transmitting data, comprising a memory and a processor, wherein the memory is configured for storing executable program codes, and the processor is configured for reading the executable program codes stored in the memory to carry out the method for transmitting data according to any one of claims 5-8.