CLAIMS

What is claimed is:

1. A communication method, comprising:

obtaining, by a control network element, real-time control capability information of a plurality of execution network elements managed by the control network element, wherein the real-time control capability information indicates performance parameters used by the execution network element to implement various real-time control functions;

determining, by the control network element, at least one target network element from the plurality of execution network elements based on the real-time control capability information of the plurality of execution network elements and real-time control capability information of the control network element, wherein each of the at least one target network element and the control network element both support each real-time control function in a first function set, and the first function set comprises at least one real-time control function; and

sending, by the control network element, transmission channel configuration information to each of the at least one target network element, wherein the transmission channel configuration information is used to establish a real-time control transmission channel connecting the control network element and the target network element, and the real-time control transmission channel is used for transmission of real-time control information.

2. The method according to claim 1, wherein a non-empty intersection exists between a value of a performance parameter of a real-time control function indicated by the real-time control capability information of the control network element and a value of a performance parameter of the same real-time control function indicated by the real-time control capability information of the target network element.

3. The method according to claim 1 or 2, wherein the transmission channel configuration information comprises a transmission resource of the real-time control transmission channel and/or a transmission rate of the real-time control transmission channel.

4. The method according to claim 3, wherein the real-time control capability information comprises upper and lower limits of a transmission rate supported by the execution network element; and

before the sending, by the control network element, transmission channel configuration information to each of the at least one target network element, the method further comprises:

determining, by the control network element, the transmission rate of the real-time control transmission channel based on the upper and lower limits of the transmission rate of the at least one target network element.

5. The method according to any one of claims 1 to 4, wherein the method further comprises:

determining, by the control network element, function configuration information of each target network element based on the real-time control capability information of the at least one target network element, wherein the function configuration information is used to configure the real-time control functions in the first function set for the target network element; and

sending, by the control network element to each target network element, the function configuration information corresponding to the target network element.

6. The method according to claim 5, wherein the function configuration information comprises a performance parameter corresponding to the at least one real-time control function, and each real-time control function corresponds to at least one performance parameter and/or an index of the at least one performance parameter.

7. The method according to claim 6, wherein the method further comprises:

sending, by the control network element, the real-time control information to the target network element, wherein the real-time control information comprises a value of each performance parameter indicated by the function configuration information.

8. The method according to any one of claims 1 to 7, wherein the method further comprises:

sending, by the control network element, a transmission resource ratio to each target network element, wherein the transmission resource ratio indicates a ratio of a transmission resource occupied for transmitting the real-time control information to a transmission resource occupied for transmitting service data.

9. The method according to any one of claims 1 to 7, wherein the method further comprises:

obtaining, by the control network element, status information of the real-time control transmission channel, wherein the status information indicates a running status of the real-time control transmission channel; and

managing, by the control network element, the real-time control transmission channel based on the status information.

10. A communication method, comprising:

sending, by an execution network element, real-time control capability information of the execution network element to a control network element, wherein the real-time control capability information indicates performance parameters used by the execution network element to implement various real-time control functions; and

when the execution network element is determined as a target network element, receiving, by the execution network element, transmission channel configuration information from the control network element, wherein the transmission channel configuration information is used to establish a real-time control transmission channel connecting the control network element and the execution

network element, the real-time control transmission channel is used for transmission of real-time control information, the control network element and the execution network element both support each real-time control function in a first function set, and the first function set comprises at least one real-time control function.

11. The method according to claim 10, wherein a non-empty intersection exists between a value of a performance parameter of a real-time control function indicated by real-time control capability information of the control network element and a value of a performance parameter of the same real-time control function indicated by the real-time control capability information of the execution network element.

12. The method according to claim 10 or 11, wherein the transmission channel configuration information comprises a transmission resource of the real-time control transmission channel and/or a transmission rate of the real-time control transmission channel.

13. The method according to claim 12, wherein the real-time control capability information comprises upper and lower limits of a transmission rate supported by the execution network element, and the upper and lower limits of the transmission rate are used to determine the transmission rate of the real-time control transmission channel.

14. The method according to any one of claims 10 to 13, wherein the method further comprises:

receiving, by the execution network element from the control network element, function configuration information corresponding to the execution network element, wherein the function configuration information is used to configure the real-time control functions in the first function set for the target network element.

15. The method according to claim 14, wherein the function configuration information comprises a performance parameter corresponding to the at least one real-time control function, and each real-time control function corresponds to at least one performance parameter and/or an index of the at least one performance parameter.

16. The method according to claim 15, wherein the method further comprises:

receiving, by the execution network element, the real-time control information from the control network element, wherein the real-time control information comprises a value of each performance parameter indicated by the function configuration information.

17. A communication apparatus, comprising a processor and a memory, wherein

the memory stores a computer program, and

the processor invokes the computer program, to enable the communication apparatus to perform the method according to any one of claims 1 to 9.

18. A communication apparatus, comprising a processor and a memory, wherein

the memory stores a computer program, and

the processor invokes the computer program, to enable the communication apparatus to perform the method according to any one of claims 10 to 16.

19. A communication system, comprising:

a communication apparatus that performs the method according to any one of claims 1 to 9, and a communication apparatus that performs the method according to any one of claims 10 to 16.

20. A computer-readable storage medium, storing instructions, wherein when the instructions are run on a computer, the computer is enabled to perform the method according to any one of claims 1 to 9, or perform the method according to any one of claims 10 to 16.