CLAIMS

What is claimed is:

1. A data communication method, performed by an electronic device, comprising:

obtaining application data for an application connected to a public network for data transmission;

determining, according to the application data, whether the application needs to connect to a network slice; and

in response to determining that the application needs to connect to a network slice, requesting a network operator to create a network slice channel and transmitting the created network slice channel to the application, so that the application switches the connected public network to another network slice corresponding to the network slice channel.

2. The method according to claim 1, wherein the determining, according to the application data, whether the application needs to connect to a network slice comprises:

determining a network quality indicator of the application according to a network quality parameter comprised in the application data, wherein the network quality indicator characterizes transmission performance of the application for data transmission based on the public network;

determining that the application needs to connect to a network slice, in response to the network quality indicator not reaching a standard network quality indicator interval corresponding to the application, wherein different types of applications correspond to different standard network quality indicator intervals; and

determining that the application does not need to connect to a network slice, in response to the network quality indicator reaching the standard network quality indicator interval, wherein the network slice channel is configured to provide the application with a dedicated channel for connecting to the network slice.

3. The method according to claim 2, wherein the determining a network quality indicator of the application according to a network quality parameter comprised in the application data comprises:

obtaining the network quality parameter comprised in the application data and

determining a preset bit rate of the application, wherein the network quality parameter comprises at least one of a round-trip time, a packet loss rate, or a bit rate, and the application achieves smooth user experience at the preset bit rate; and

calculating the network quality indicator of the application according to the network quality parameter and the preset bit rate.

4. The method according to claim 3, wherein the network quality indicator of the application is determined according to the round-trip time, the packet loss rate, and a difference between a bit rate and the preset bit rate.

5. The method according to claim 2, further comprising:

obtaining user attribute parameters comprised in the application data after determining that the network quality indicator does not reach the standard network quality indicator interval corresponding to the application, wherein the user attribute parameters describe basic attributes and behavior attributes associated with a user account logged in the application; and

determining, according to the user attribute parameters, whether the application needs to connect to a network slice.

6. The method according to claim 2, further comprising:

obtaining a region in which the application is located after determining that the network quality indicator does not reach the standard network quality indicator interval corresponding to the application; and

determining whether the application needs to connect to a network slice, based on whether the network operator provides a network slice service in the region.

7. The method according to claim 1, wherein the requesting a network operator to create a network slice channel and transmitting the created network slice channel to the application comprises:

determining a channel parameter of a network slice channel to be created, wherein the network slice channel is configured to provide the application with a dedicated channel for connecting to the network slice, and the channel parameter comprises at least one of a channel size or a connection period; and

calling a network slice interface provided by the network operator, and transmitting the

channel parameter to the network slice interface to request the network operator to create a network slice channel matching the channel parameter.

8. The method according to claim 7, wherein the determining a channel parameter of a network slice channel to be created comprises:

determining the channel parameter according to at least one of a total quantity of applications that connect to the public network in a region in which the application is located and within a specified time period, or a preset bit rate of the application.

9. The method according to claim 1, further comprising:

monitoring a running status of the application after the application switches the connected public network to the network slice corresponding to the network slice channel, wherein the network slice channel is configured to provide the application with a dedicated channel for connecting to the network slice; and

calling a network slice interface provided by the network operator to request the network operator to exit the application from the network slice channel, in response to detecting that the running status is exiting the application or completing a currently running task.

10. The method according to claim 1, further comprising:

obtaining a network quality indicator for the application to connect to a network slice for data transmission; and

comparing the network quality indicator for the application to connect to a network slice for data transmission with a network quality indicator for the application to connect to a public network for data transmission to obtain a comparison result.

11. The method according to claim 1, wherein the network operator transmits the created network slice channel to the application according to a UE Route Selection Policy (URSP) rule.

12. A data communication apparatus, comprising:

at least one memory, storing computer-readable instructions; and

at least one processor, configured to execute the computer-readable instructions stored in the at least one memory to

obtain application data for an application connected to a public network for data

transmission;

determine, according to the application data, whether the application needs to connect to a network slice; and

in response to determining that the application needs to connect to a network slice, request a network operator to create a network slice channel and transmit the created network slice channel to the application, so that the application switches the connected public network to another network slice corresponding to the network slice channel.

13. The apparatus according to claim 12, wherein the at least one processor is further configured to:

determine a network quality indicator of the application according to a network quality parameter comprised in the application data, wherein the network quality indicator characterizes transmission performance of the application for data transmission based on the public network; and

determine that the application needs to connect to a network slice, in response to the network quality indicator not reaching a standard network quality indicator interval corresponding to the application, wherein different types of applications correspond to different standard network quality indicator intervals; and

determine that the application does not need to be connected to the network slice, in response to the network quality indicator reaching the standard network quality indicator interval, wherein the network slice channel is configured to provide the application with a dedicated channel for connecting to the network slice.

14. The apparatus according to claim 13, wherein the at least one processor is further configured to:

obtain the network quality parameter comprised in the application data and determine a preset bit rate of the application, wherein the network quality parameter comprises at least one of a round-trip time, a packet loss rate, or a bit rate, and the application achieves smooth user experience at the preset bit rate; and

calculate the network quality indicator of the application according to the network quality parameter and the preset bit rate.

15. The apparatus according to claim 13, wherein the at least one processor is further

configured to:

obtain user attribute parameters comprised in the application data after determining that the network quality indicator does not reach the standard network quality indicator interval corresponding to the application, wherein the user attribute parameters describe basic attributes and behavior attributes associated with a user account logged in the application; and

determine, according to the user attribute parameters, whether the application requires network acceleration.

16. The apparatus according to claim 13, wherein the at least one processor is further configured to:

obtain a region in which the application is located after it is determined that the network quality indicator does not reach the standard network quality indicator interval corresponding to the application; and

determine whether the application needs to connect to a network slice, based on whether the network operator provides a network slice service in the region.

17. The apparatus according to claim 12, wherein the at least one processor is further configured to:

determine a channel parameter of the network slice channel to be created, wherein the channel parameter comprise at least one of a channel size or a connection period; and

call a network slice interface provided by the network operator, and transmit the channel parameter to the network slice interface to request the network operator to create a network slice channel matching the channel parameter, wherein the network slice channel is configured to provide the application with a dedicated channel for connecting to the network slice.

18. The apparatus according to claim 17, wherein the at least one processor is further configured to:

determine the channel parameter according to at least one of a total quantity of applications that connect to the public network in a region in which the application is located and within a specified time period, or a preset bit rate of the application.

19. The apparatus according to claim 12, wherein the at least one processor is further

configured to:

monitor a running status of the application after the application switches the connected public network to the network slice corresponding to the network slice channel, wherein the network slice channel is configured to provide the application with a dedicated channel for connecting to the network slice; and

call a network slice interface provided by the network operator to request the network operator to exit the application from the network slice channel, in response to detecting that the running status is exiting the application or completing a currently running task.

20. A non-transitory computer-readable storage medium, storing computer-readable instructions, the computer-readable instructions, when executed by at least one processor of a computer, causing the computer to perform:

obtaining application data for an application connected to a public network for data transmission;

determining, according to the application data, whether the application needs to connect to a network slice; and

in response to determining that the application needs to connect to a network slice, requesting a network operator to create a network slice channel and transmitting the created network slice channel to the application, so that the application switches the connected public network to another network slice corresponding to the network slice channel.