CLAIMS

1. A communication method, and the method comprises:

obtaining unavailability period information, wherein the unavailability period information includes a period in which a reference point is in unavailability of a satellite; and

determining a period of a first timer based on the unavailability period information, wherein the first timer is used by a terminal device to send a message to a core network device through the satellite.

2. The method according to claim 1, wherein the reference point comprises a first reference point and a second reference point; and

the unavailability period information comprises information about a first period and information about a second period, the first period is an unavailability period of an access connection corresponding to the first reference point, and the second period is an unavailability period of a feeder link corresponding to the second reference point; or

the unavailability period information comprises information about a sum of an unavailability period of an access connection corresponding to the first reference point and an unavailability period of a feeder link corresponding to the second reference point.

3. The method according to claim 2, wherein the determining the period of the first timer based on the unavailability period information comprises:

determining the period of the first timer based on a preset period of the first timer, the information about the first period, and the information about the second period.

4. The method according to claim 3, wherein the period of the first timer is longer than or equal to a sum of the preset period of the first timer, the first period, and the second period.

5. The method according to any one of claims 2 to 4, wherein the first reference point and the second reference point are the same, or the first reference point and the second reference point are different.

6. The method according to any one of claims 2 to 5, wherein the first reference point comprises at least one of the following: a location of the terminal device, a location of a first gateway station, an area in which the first gateway station is located, or an area in which the terminal device is located; and

the second reference point comprises at least one of the following:

the location of the terminal device, the location of the first gateway station, the area in which the first gateway station is located, or the area in which the terminal device is located.

7. The method according to any one of claims 1 to 6, wherein the obtaining the unavailability period information comprises:

receiving the unavailability period information from an access network device of the terminal device.

8. The method according to claim 7, wherein the receiving the unavailability period information from the access network device of the terminal device comprises:

receiving a broadcast message from the access network device, wherein the broadcast message comprises the unavailability period information; and

receiving a radio resource control RRC reconfiguration message from the access network device, wherein the RRC reconfiguration message comprises the unavailability period information.

9. The method according to any one of claims 1 to 8, wherein before the determining the period of the first timer based on the unavailability period information, the method further comprises:

receiving first indication information from the access network device of the terminal device, wherein

the first indication information indicates the terminal device to determine the period of the first timer based on the unavailability period, or indicates that the terminal device is in a discontinuous availability scenario.

10. A communication method, and the method comprises:

determining unavailability period information based on ephemeris information, wherein the unavailability period information includes a period in which a reference point is in unavailability of a satellite; and

sending the unavailability period information to a terminal device.

11. The method according to claim 10, wherein the reference point comprises a first reference point and a second reference point; and

the unavailability period information comprises information about a first period and information about a second period, the first period is an unavailability period of an access connection corresponding to the first reference point, and the second period is an unavailability period of a feeder link corresponding to the second reference point; or

the unavailability period information comprises information about a sum of an unavailability period of an access connection corresponding to the first reference point and an unavailability period of a feeder link corresponding to the second reference point.

12. The method according to claim 11, wherein the first reference point and the second reference point are the same, or the first reference point and the second reference point are different.

13. The method according to claim 11 or 12, wherein the first reference point comprises at least one of the following: a location of the terminal device, a location of a first gateway station, an area in which the first gateway station is located, or an area in which the terminal device is located; and

the second reference point comprises at least one of the following:

the location of the terminal device, the location of the first gateway station, the area in which the first gateway station is located, or the area in which the terminal device is located.

14. The method according to any one of claims 10 to 13, wherein the sending the unavailability period information to the terminal device comprises:

sending a broadcast message to the terminal device, wherein the broadcast message comprises the unavailability period information; and

sending a radio connection resource RRC reconfiguration message to the terminal device, wherein the RRC reconfiguration message comprises the unavailability period information.

15. The method according to any one of claims 10 to 14, wherein the determining the unavailability period information based on the ephemeris information comprises:

determining the information about the first period based on the ephemeris information, wherein the first period is the unavailability period of the access connection corresponding to the first reference point.

16. The method according to claim 15, wherein the determining the information about the first period based on the ephemeris information comprises:

determining, based on the ephemeris information, one or more unavailability periods of one or more access connections corresponding to at least one reference point; and

determining, based on the one or more unavailability periods of the one or more access connections corresponding to the at least one reference point, that the information about the first period is information about the unavailability period of the access connection corresponding to the first reference point, wherein the unavailability period of the access connection corresponding to the first reference point is a longest period of the one or more unavailability periods of the one or more access connections corresponding to the at least one reference point.

17. The method according to any one of claims 10 to 16, wherein the determining the unavailability period information based on the ephemeris information comprises:

determining the information about the second period based on the ephemeris information, wherein the second period is the unavailability period of the feeder link corresponding to the second reference point.

18. The method according to any one of claims 10 to 17, wherein the method further

comprises:

sending first indication information to the terminal device, wherein

the first indication information indicates the terminal device to determine a period of a first timer based on the unavailability period, or indicates that the terminal device is in a discontinuous availability scenario.

19. An apparatus, wherein the apparatus is configured to perform the method according to any one of claims 1 to 9 or to perform the method according to any one of claims 10 to 18.

20. A computer readable storage medium comprising instructions, wherein which, when executed by a computer device, cause the computer device to perform the method according to any one of claims 1 to 9 or to perform the method according to any one of claims 10 to 18.

21. A computer program product, comprising instructions, wherein which, when executed by a computer device, cause the computer device to perform the method according to any one of claims 1 to 9 or to perform the method according to any one of claims 10 to 18.

22. A communication system, comprising a terminal device and an access network device, wherein

the terminal device is configured to perform the method according to any one of claims 1 to 9; and

the access network device is configured to perform the method according to any one of claims 10 to 18.