WHAT IS CLAIMED IS:

1. A method for transmitting assistance information, performed by a network device, comprising:

sending first indication information to a user equipment, wherein the first indication information is configured to instruct the user equipment to report the assistance information of a target moment, and the target moment comprises at least one of a current moment or a future moment.

2. The method of claim 1, further comprising at least one of:

sending second indication information to the user equipment, wherein the second indication information is configured to indicate at least one, corresponding to the target moment, of a first moment, a first duration or a time interval.; or

~~3. The method of claim 2, wherein the first moment is the current moment or a moment as specified in a protocol other than the current moment.~~

~~4. The method of claim 1, further comprising:~~

sending third indication information to the user equipment, wherein the third indication information is configured to indicate at least one, corresponding to the target moment, of a second moment, a quantity or a periodic time interval.

~~5. The method of claim 1, wherein~~ 3. The method of claim 2, wherein the first moment is the current moment or a moment as specified in a protocol other than the current moment; or

the second moment is the current moment or a moment as specified in a protocol other than the current moment.

~~6~~4. The method of ~~claim~~any one of claims 1 to 3, further comprising:

sending fourth indication information to the user equipment, wherein the fourth indication information is configured to indicate the target moment.

~~7~~5. The method of claim ~~6~~4, wherein,

the fourth indication information is configured to indicate a second duration, wherein the target moment is an ending moment of the second duration by taking the current moment as a starting moment; or

the fourth indication information is configured to indicate absolute time information

corresponding to the target moment.

~~8~~6. The method of ~~claim~~any one of claims 1 to 5, further comprising:

sending fifth indication information to the user equipment, wherein the fifth indication information is configured to indicate contents of the assistance information, and the contents of the assistance information comprise at least one of:

location information of the user equipment, a distance between the user equipment and a service satellite, a signal transmission delay between the user equipment and a satellite, a distance difference, or a delay difference;

wherein the distance difference is a difference between a first distance and a second distance, the first distance is the distance between the user equipment and the service satellite, and the second distance is a distance between the user equipment and a satellite of a neighbor cell; and

wherein the delay difference is a difference between a first delay and a second delay, the first delay is the signal transmission delay between the user equipment and the service satellite, and the second delay is a signal transmission delay between the user equipment and the satellite of the neighbor cell.

~~9~~7. The method of ~~claim~~any one of claims 1 to 6, wherein sending the first indication information to the user equipment comprises:

sending broadcast information to the user equipment, wherein the broadcast information comprises the first indication information; or,

sending a dedicated signaling to the user equipment, wherein the dedicated signaling comprises the first indication information.

~~10~~8. The method of ~~claim~~any one of claims 1~~,~~ to 7, further comprising:

receiving, from the user equipment, the assistance information of the target moment reported by the user equipment; and

updating measurement configuration information based on the assistance information of the target moment, wherein the measurement configuration information comprises at least one of: Synchronization Signal Block-Measurement Timing Configuration (SMTC) or a measurement gap.

~~11~~9. The method of claim ~~10~~8, wherein updating the measurement configuration

information based on the assistance information of the target moment comprises at least one of:

updating the measurement configuration information at the target moment based on the assistance information of the target moment.;

~~12. The method of claim 10, wherein updating the measurement configuration information based on the assistance information of the target moment comprises:~~

configuring, based on the assistance information of the target moment, at least one of an offset, a period or a duration for the SMTC of different target moments; or

configuring, based on the assistance information of the target moment, at least one of an offset, a period or a duration for the measurement gap of different target moments.

~~13~~10. A method for transmitting assistance information, performed by a user equipment, comprising:

receiving first indication information from a network device, wherein the first indication information is configured to instruct the user equipment to report the assistance information of a target moment, and the target moment comprises at least one of a current moment or a future moment;

determining the assistance information of the target moment; and

reporting the assistance information of the target moment.

~~14~~11. The method of claim ~~13~~10, further comprising at least one of:

receiving second indication information from the network device, wherein the second indication information is configured to indicate at least one, corresponding to the target moment, of a first moment, a first duration or a time interval. or

receiving third indication information from the network device, wherein the third indication information is configured to indicate at least one, corresponding to the target moment, of a second moment, a quantity or a periodic time interval.

~~15~~12. The method of claim ~~14~~11, further comprising:

determining, based on the first duration and the time interval, at least one target moment that satisfies the time interval within the first duration by taking the first moment as a starting moment, wherein the at least one target moment comprises at least one of a current moment or a future moment.; or

~~16. The method of claim 13 or 14, wherein the first moment is the current moment or a moment as specified in a protocol other than the current moment.~~

~~17. The method of claim 13, further comprising:~~

~~receiving third indication information from the network device, wherein the third indication information is configured to indicate at least one, corresponding to the target moment, of a second moment, a quantity or a periodic time interval.~~

~~18. The method of claim 17, further comprising:~~

determining, based on the quantity and the periodic time interval, at least one target moment that satisfies the time interval by taking the second moment as a starting moment, wherein a number of the at least one target moment equals to the quantity, and the at least one target moment comprises at least one of a current moment or a future moment.

~~19~~13. The method of claim ~~17~~11 or ~~18~~12, wherein the first moment is the current moment or a moment as specified in a protocol other than the current moment; or the second moment is the current moment or a moment as specified in a protocol other than the current moment.

~~20~~14. The method of ~~claim~~any one of claims 10 to 13, further comprising:

receiving fourth indication information from the network device, wherein the fourth indication information is configured to indicate the target moment~~.~~;

receiving fifth indication information from the network device, wherein the fifth indication information is configured to indicate contents of the assistance information; and determining the contents of the assistance information based on the fifth indication information; or

determining the contents of the assistance information based on a protocol.

~~21~~15. The method of claim ~~13,~~14, further comprising: determining the target moment based on the fourth indication information; wherein,

the fourth indication information is configured to indicate a second duration, wherein the target moment is an ending moment of the second duration by taking the current moment as a starting moment; or,

the fourth indication information is configured to indicate absolute time information corresponding to the target moment~~; and~~ .

~~the method further comprises: determining the target moment based on the fourth indication information.~~

~~22~~16. The method of ~~claim 13~~any one of claims 10 to 15, wherein contents of the assistance information comprise at least one of:

location information of the user equipment, a distance between the user equipment and a service satellite, a signal transmission delay between the user equipment and a satellite, a distance difference, or a delay difference;

wherein the distance difference is a difference between a first distance and a second distance, the first distance is the distance between the user equipment and the service satellite, and the second distance is a distance between the user equipment and a satellite of a neighbor cell; and

wherein the delay difference is a difference between a first delay and a second delay, the first delay is the signal transmission delay between the user equipment and the service satellite, and the second delay is a signal transmission delay between the user equipment and the satellite of the neighbor cell~~.~~; and

wherein the current moment is a moment when the user equipment receives the first indication information or a moment specified by a protocol.

~~23~~17. The method of ~~claim 13, further comprising:~~

~~receiving fifth indication information from the network device, wherein the fifth indication information is configured to indicate contents of the assistance information; and determining the contents of the assistance information based on the fifth indication information; or~~

~~determining the contents of the assistance information based on a protocol.~~

~~24. The method~~any one of ~~claim 13~~claims 10 to 16, wherein determining the assistance information of the target moment comprises:

in response to the target moment being the current moment, determining the assistance information of the current moment based on location information of the user equipment at the current moment and location information of a service satellite at the current moment; or

in response to the target moment being the future moment, determining the

assistance information of the target moment based on location information of the user equipment at the current moment and location information of a service satellite at the target moment; or

in response to the target moment being the future moment, determining the assistance information of the target moment based on location information of the user equipment at the target moment and location information of a service satellite at the target moment.

~~25~~18. The method of any one of claims ~~13~~10 to ~~23, wherein the current moment is a moment when the user equipment receives the first indication information or a moment specified by a protocol.~~

~~26. The method of claim 13~~17, wherein receiving the first indication information from the network device comprises:

receiving broadcast information from the network device, wherein the broadcast message comprises the first indication information; or,

receiving a dedicated signaling from the network device, wherein the dedicated signaling comprises the first indication information.

~~27. A communication apparatus, comprising:~~

~~a transceiver module, configured to send first indication information to a user equipment, wherein the first indication information is configured to instruct the user equipment to report assistance information of a target moment, and the target moment comprises at least one of a current moment or a future moment.~~

~~28. A communication apparatus, comprising:~~

~~a transceiver module, configured to receive first indication information from a network device, wherein the first indication information is configured to instruct a user equipment to report assistance information of a target moment, and the target moment comprises at least one of a current moment or a future moment; and~~

~~a processing module, configured to determine the assistance information of the target moment; wherein~~

~~the transceiver module is further configured to report the assistance information of the target moment.~~

~~29~~19. A communication device, comprising a processor; and

a memory~~, wherein~~

~~the memory is configured to store~~ storing a computer program; ~~and~~

wherein the processor is configured to execute the computer program to perform the method of any one of claims 1 to ~~12~~9.

~~30~~20. A communication device, comprising a processor; and

a memory~~, wherein~~

~~the memory is configured to store~~ storing a computer program; ~~and~~

wherein the processor is configured to execute the computer program to perform the method of any one of claims ~~13~~10 to ~~26.~~

~~31. A computer-readable storage medium having instructions stored thereon, wherein when the instructions are executed by a computer, the computer is caused to perform the method of any one of claims 1 to 12.~~

~~32. A computer-readable storage medium having instructions stored thereon, wherein when the instructions are executed by a computer, the computer is caused to perform the method of any one of claims 13 to 26~~18.