WHAT IS CLAIMED IS:

1. A method for determining a hyper frame number (HFN) of a packet data convergence protocol (PDCP) entity, performed by a terminal device, comprising:

receiving indication information sent by a network device, wherein the indication information comprises HFN information; and

determining a HFN value of the PDCP entity based on the HFN information.

2. The method of claim 1, wherein the HFN information comprises ~~any~~ at least one of the HFN value or a count value (COUNT).

3. The method of claim 1, wherein determining the HFN value of the PDCP entity based on the HFN information comprises:

in response to an applicable condition of the HFN information being satisfied, determining the HFN value of the PDCP entity based on the HFN information;

wherein the method further comprises one of: receiving the applicable condition of the HFN information sent by the network device; or determining the applicable condition of the HFN information based on an agreement;

wherein the applicable condition of the HFN information comprises any one of a sequence number (SN) value or a system frame number (SFN) value.

~~4. The method of claim 3, further comprising:~~

~~receiving the applicable condition of the HFN information sent by the network device;~~

~~or,~~

~~determining the applicable condition of the HFN information based on an agreement.~~

~~5. The method of claim 4, wherein the applicable condition of the HFN information comprises any one of a sequence number (SN) value or a system frame number (SFN) value.~~

~~6~~4. The method of claim 3~~5~~, wherein the SN value comprises ~~any~~ at least one of:

a minimum SN value;

a maximum SN value;

the minimum SN value and the maximum SN value;

a section number corresponding to the SN value; or

a parameter pair (m, n) corresponding to the SN value, wherein m denotes a number of sections after equally segmenting all the SN values into sections in a specified order, n denotes a section number of a section containing a current SN value among the m sections, and n is an integer less than or equal to m; or

wherein the SFN value comprises at least one of:

a minimum SFN value;

a maximum SFN value;

the minimum SFN value and the maximum SFN value;

a section number corresponding to the SFN value; or

a parameter pair (i, j) corresponding to the SFN value, wherein i denotes a number of sections after equally segmenting all the SFN values into sections in a specified order, j denotes a section number of a section containing a current SFN value among the i sections, and j is an integer less than or equal to i.

~~7. The method of claim 5, wherein the SFN value comprises any one of:~~

~~a minimum SFN value;~~

~~a maximum SFN value;~~

~~the minimum SFN value and the maximum SFN value;~~

~~a section number corresponding to the SFN value; or~~

~~a parameter pair (i, j) corresponding to the SFN value, wherein i denotes a number of sections after equally segmenting all the SFN values into sections in a specified order, j denotes a section number of a section containing a current SFN value among the i sections, and j is an integer less than or equal to i.~~

~~8~~5. The method of ~~any one of claims 5 to 7~~claim 3 or 4, wherein the applicable condition being satisfied comprises one of:

a SN value corresponding to a PDCP data packet received by the terminal device satisfying the applicable condition;

or,

a SFN value corresponding to the PDCP data packet received by the terminal device satisfying the applicable condition;

wherein the indication information further comprises multicast broadcast service

(MBS) service information, and the received PDCP data packet is a first PDCP data packet received by the terminal device from a MBS radio bearer (MRB) corresponding to the MBS service information;

wherein the SFN value corresponding to the received PDCP data packet comprises one of:

a SFN value corresponding to a time location of a last physical data channel on which the PCDP data packet is successfully received;

a SFN value corresponding to a time location of a first physical data channel on which the PCDP data packet is successfully received; or

the SFN value corresponding to successfully receiving the PDCP data packet.

~~9. The method of claim 8, wherein the indication information further comprises multicast broadcast service (MBS) service information, and the received PDCP data packet is a first PDCP data packet received by the terminal device from a MBS radio bearer (MRB) corresponding to the MBS service information.~~

~~10. The method of claim 8, wherein the SFN value corresponding to the received PDCP data packet comprises any one of:~~

~~a SFN value corresponding to a time location of a last physical data channel on which the PCDP data packet is successfully received;~~

~~a SFN value corresponding to a time location of a first physical data channel on which the PCDP data packet is successfully received; or~~

~~the SFN value corresponding to successfully receiving the PDCP data packet.~~

~~11~~6. The method of any one of claims ~~4~~ 3 to ~~10~~5, wherein the applicable condition is the SN value, and determining the HFN value of the PDCP entity based on the HFN information comprises:

in response to the applicable condition not being satisfied and a difference between the SN value corresponding to the PDCP data packet received by the terminal device and the SN value of the applicable condition being s, generating updated HFN information by updating the HFN information based on the difference s; and

determining the HFN value of the PDCP entity based on the updated HFN information; or

wherein the applicable condition is the SFN value, and determining the HFN value of the PDCP entity based on the HFN information comprises:

in response to the applicable condition not being satisfied and a difference between the SFN value corresponding to the PDCP data packet received by the terminal device and the SFN value of the applicable condition being k, generating updated HFN information by updating the HFN information based on the difference k; and

determining the HFN value of the PDCP entity based on the updated HFN information.

~~12. The method of any one of claims 4 to 10, wherein the applicable condition is the SFN value, and determining the HFN value of the PDCP entity based on the HFN information comprises:~~

~~in response to the applicable condition not being satisfied and a difference between the SFN value corresponding to the PDCP data packet received by the terminal device and the SFN value of the applicable condition being k, generating updated HFN information by updating the HFN information based on the difference k; and~~

~~determining the HFN value of the PDCP entity based on the updated HFN information.~~

~~13~~7. The method of any one of claims 1 to ~~10~~5, wherein the indication information further comprises an update mode of the HFN information, and determining the HFN value of the PDCP entity based on the HFN information comprises:

in response to the applicable condition not being satisfied, generating updated HFN information by updating the HFN information based on the update mode; and

determining the HFN value of the PDCP entity based on the updated HFN information; or

wherein the update mode comprises an update step size and an update direction.

~~14. The method of claim 13, wherein the update mode comprises an update step size and an update direction.~~

~~15~~8. The method of any one of claims 1 to ~~14~~7, wherein receiving the indication information sent by the network device comprises one of:

receiving, based on a system message, the indication information sent by the network

device;

~~or,~~

receiving, based on a multicast broadcast service (MBS) control channel message, the indication information sent by the network device;

or,

receiving, based on a dedicated configuration message of the terminal device, the indication information sent by the network device.

~~16~~9. The method of any one of claims 1 to ~~14~~7, wherein the indication information further comprises multicast broadcast service (MBS) service information, and determining the HFN value of the PDCP entity based on the HFN information comprises:

determining the HFN value of the PDCP entity corresponding to the MBS service information based on the HFN information,

wherein the MBS service information comprises at least one of a MBS service identifier (ID), a MBS bearer ID, or protocol entity configuration information of a MBS bearer;

wherein the method further comprises: decrypting or verifying an integrity of received data corresponding to the MBS service information based on the HFN information.

~~17. The method of claim 16, wherein the MBS service information comprises at least one of a MBS service identifier (ID), a MBS bearer ID, or protocol entity configuration information of a MBS bearer.~~

~~18. The method of claim 16, further comprising:~~

~~decrypting or verifying an integrity of received data corresponding to the MBS service information based on the HFN information.~~

~~19~~10. The method of any one of claims 1 to ~~18~~9, wherein determining the HFN value of the PDCP entity based on the HFN information comprises:

in response to the terminal device being a device newly accessing a multicast broadcast service (MBS) service, determining the HFN value of the PDCP entity based on the HFN information.

~~20~~11. A method for determining a hyper frame number (HFN) of a packet data

convergence protocol (PDCP) entity, performed by a network device, comprising:

sending indication information to a terminal device, wherein the indication information comprises HFN information.

~~21~~12. The method of claim ~~20~~11, wherein the HFN information comprises ~~any~~ at least one of a HFN value or a count value (COUNT).

~~22~~13. The method of claim ~~20~~12, further comprising:

sending an applicable condition of the HFN information to the terminal device;

wherein the applicable condition of the HFN information comprises any one of a sequence number (SN) value or a system frame number (SFN) value.

~~23. The method of claim 22, wherein the applicable condition of the HFN information comprises any one of a sequence number (SN) value or a system frame number (SFN) value.~~

~~24~~14. The method of claim ~~23~~13, wherein the SN value comprises ~~any~~ at least one of:

a minimum SN value;

a maximum SN value;

the minimum SN value and the maximum SN value;

a section number corresponding to the SN value; or

a parameter pair (m, n) corresponding to the SN value, wherein m denotes a number of sections after equally segmenting all the SN values into sections in a specified order, n denotes a section number of a section containing a current SN value among the m sections, and n is an integer less than or equal to m; or

wherein the SFN value comprises at least one of:

a minimum SFN value;

a maximum SFN value;

the minimum SFN value and the maximum SFN value;

a section number corresponding to the SFN value; or

a parameter pair (i, j) corresponding to the SFN value, wherein i denotes a number of sections after equally segmenting all the SFN values into sections in a specified order, j denotes a section number of a section containing a current SFN value among the i

sections, and j is an integer less than or equal to i.

~~25. The method of claim 23, wherein the SFN value comprises any one of:~~

~~a minimum SFN value;~~

~~a maximum SFN value;~~

~~the minimum SFN value and the maximum SFN value;~~

~~a section number corresponding to the SFN value; or~~

~~a parameter pair (i, j) corresponding to the SFN value, wherein i denotes a number of sections after equally segmenting all the SFN values into sections in a specified order, j denotes a section number of a section containing a current SFN value among the i sections, and j is an integer less than or equal to i.~~

~~26~~15. The method of claim ~~20~~11, wherein the indication information further comprises multicast broadcast service (MBS) service information;

wherein the MBS service information comprises at least one of a MBS service identifier (ID), a MBS bearer ID, or protocol entity configuration information of a MBS bearer.

~~27. The method of claim 26, wherein the MBS service information comprises at least one of a MBS service identifier (ID), a MBS bearer ID, or protocol entity configuration information of a MBS bearer.~~

~~28~~16. The method of claim ~~20~~11, wherein the indication information further comprises an update mode of the HFN information; wherein the update mode comprises an update step size and an update direction.

~~29. The method of claim 28, wherein the update mode comprises an update step size and an update direction.~~

~~30~~17. The method of any one of claims ~~20~~ 11 to ~~29~~16, wherein sending the indication information to the terminal device comprises one of:

sending the indication information to the terminal device based on a system message;

~~or,~~

sending the indication information to the terminal device based on a multicast broadcast service (MBS) control channel message;

or,

sending the indication information to the terminal device based on a dedicated configuration message of the terminal device;

wherein the method further comprises:

in response to an information change in the system message other than the HFN information, sending first change indication information to the terminal device;

or,

in response to an information change in the MBS control channel message other than the HFN information, sending second change indication information to the terminal device.

~~31. The method of claim 30, further comprising:~~

~~in response to an information change in the system message other than the HFN information, sending first change indication information to the terminal device;~~

~~or,~~

~~in response to an information change in the MBS control channel message other than the HFN information, sending second change indication information to the terminal device.~~

~~32. A communication device, configured on a terminal device side, comprising:~~

~~a transceiver module, configured to receive indication information sent by a network device, wherein the indication information comprises hyper frame number (HFN) information; and~~

~~a processing module, configured to determine a HFN value of a packet data convergence protocol (PDCP) entity based on the HFN information.~~

~~33. A communication device, configured on a network device side, comprising:~~

~~a transceiver module, configured to send indication information to a terminal device, wherein the indication information comprises hyper frame number (HFN) information.~~

~~34~~18. A communicating device comprising a processor and a memory, wherein the memory is configured to store computer programs stored therein, and the processor is configured to execute the computer programs stored in the memory to cause the device to perform the method of any one of claims 1 to ~~19~~ 10 or the method of any one of claims ~~20~~ 11 to ~~31~~17.

~~35~~19. A communicating device, comprising: a processor and an interface circuit, wherein

the interface circuit is configured to receive code instructions and transmit the code instructions to the processor; and

the processor is configured to run the code instructions to perform the method of any one of claims 1 to ~~19~~ 10 or the method of any one of claims ~~20~~ 11 to ~~31~~17.

~~36~~20. A computer-readable storage medium, having instructions stored thereon, wherein when the instructions are executed, the method of any one of claims 1 to ~~19~~ 10 or the method of any one of claims ~~20~~ 11 to ~~31~~ 17 is performed.