CLAIMS

1. A method for protecting a truncated parameter, wherein the method comprises:

determining (S101), by a mobility management network element, whether a terminal uses a control plane cellular internet of things, CIoT, 5th generation system, 5GS optimization function; and

sending (S102), by the mobility management network element to the terminal when the terminal uses the control plane CIoT 5GS optimization function, a downlink non-access stratum, NAS, message on which NAS security protection is performed by using a NAS security context, wherein the downlink NAS message comprises a truncated parameter, and the truncated parameter is used to truncate a 5th generation-system architecture evolution-temporary mobile subscriber identity, 5G-S-TMSI, of the terminal.

2. The method according to claim 1, wherein the truncated parameter is configured in the mobility management network element.

3. The method according to claim 1 or 2,

wherein the determining, by the mobility management network element, whether the terminal uses the control plane CIoT 5GS optimization function comprises:

determining, by the mobility management network element, whether the terminal uses the control plane CIoT 5GS optimization function and whether the terminal needs to update the truncated parameter, and

and

wherein the sending (S102), by the mobility management network element to the terminal when the terminal uses the control plane CIoT 5GS optimization function, the downlink NAS message comprises:

sending (S102), by the mobility management network element to the terminal when the terminal uses the control plane CIoT 5GS optimization function and the terminal needs to update the truncated parameter, the downlink NAS message.

4. The method according to any one of claims 1 to 3, wherein the determining, by the mobility

management network element, whether the terminal uses the control plane CIoT 5GS optimization function comprises:

determining, by the mobility management network element based on a preferred network behavior from the terminal, whether the terminal uses the control plane CIoT 5GS optimization function.

5. The method according to claim 4, wherein the determining, by the mobility management network element based on a preferred network behavior from the terminal, whether the terminal uses the control plane CIoT 5GS optimization function comprises:

if the preferred network behavior indicates that the terminal prefers to use the control plane CIoT 5GS optimization function, and the mobility management network element supports the control plane CIoT 5GS optimization function, determining, by the mobility management network element, that the terminal uses the control plane CIoT 5GS optimization function.

6. The method according to claim 4 or 5, wherein the preferred network behavior is carried in a registration request message from the terminal.

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

receiving, by the mobility management network element, a registration request message from the terminal before determining whether the terminal uses the control plane CIoT 5GS optimization function.

8. The method according to any one of claims 1 to 7, wherein the downlink NAS message is a service accept message or a registration accept message.

9. A method for protecting a truncated parameter, wherein the method comprises:

receiving (S102), by a terminal from a mobility management network element, a downlink NAS message on which NAS security protection is performed by using a NAS security context, wherein the downlink NAS message comprises the truncated parameter, and the truncated parameter is used to truncate a 5G-S-TMSI of the terminal, wherein the terminal uses a control plane cellular internet of things, CIoT, 5th generation system, 5GS, optimization function;

performing (S103), by the terminal, security deprotection on the downlink NAS message; and

storing (S104), by the terminal, the truncated parameter after successfully performing security deprotection on the downlink NAS message.

10. The method according to claim 9, wherein the storing, by the terminal, the truncated parameter comprises:

storing, by a NAS layer of the terminal, the truncated parameter.

11. The method according to claim 10, wherein the method further comprises:

sending, by the NAS layer of the terminal, the truncated parameter to a radio resource control, RRC, layer of the terminal; and

truncating, by the RRC layer of the terminal, the 5G-S-TMSI of the terminal based on the truncated parameter, to obtain a truncated 5G-S-TMSI.

12. The method according to claim 11, wherein the method further comprises:

sending, by the terminal, an RRC reestablishment request message to an access network device, wherein the RRC reestablishment request message comprises the truncated 5G-S-TMSI.

13. The method according to any one of claims 9 to 12, wherein the downlink NAS message is a service accept message or a registration accept message.

14. A communications apparatus comprising means for performing the steps of the method for protecting a truncated parameter according to any one of claims 1 to 8.

15. A communications apparatus comprising means for performing the steps of the method for protecting a truncated parameter according to any one of claims 9 to 13.

16. A computer-readable storage medium, wherein the computer-readable storage medium stores instructions, and when the instructions are run on a computer, the computer is enabled to perform the method for protecting a truncated parameter according to any one of claims 1 to 13.

17. A chip comprising instructions and a processor, wherein when the processor executes the

instructions, the chip is enabled to perform the method for protecting a truncated parameter according to any one of claims 1 to 13.