CLAIMS

WHAT IS CLAIMED IS:

1. An access terminal, comprising:

a wireless communications interface adapted to facilitate wireless communications; and

a processing circuit coupled to the wireless communications interface, the processing circuit adapted to:

conduct a security mode procedure for reconfiguring security parameters of the access terminal;

initiate a mobility procedure while the security mode procedure is ongoing;

abort the security mode procedure and revert back to old security parameters as a result of initiating the mobility procedure; and

send a mobility update message via the wireless communications interface, the mobility update message including a dedicated security status indicator adapted to indicate that the access terminal has reverted back to the old security parameters.

2. The access terminal of claim 1, wherein the security mode procedure comprises an Access Stratum security mode procedure for reconfiguring Access Stratum security parameters of the access terminal.

3. The access terminal of claim 2, wherein the processing circuit is adapted to conduct the Access Stratum security mode procedure using a radio resource control (RRC) layer of a protocol stack.

4. The access terminal of claim 1, wherein the processing circuit is further adapted to:

generate and send a security mode complete message to the access network via the wireless communications interface as part of the security mode procedure.

5. The access terminal of claim 1, wherein the mobility procedure comprises a cell update procedure.

6. The access terminal of claim 1, wherein the mobility update message comprises one of a cell reselection message, a radio link control (RLC) unrecoverable error message, or an out of service message.

7. The access terminal of claim 1, wherein the mobility update message comprises a radio resource control (RRC) message.

8. The access terminal of claim 1, wherein the dedicated security status indicator comprises an information element (IE) of the mobility update message.

9. The access terminal of claim 1, wherein the dedicated security status indicator comprises one or more bits of the mobility update message.

10. The access terminal of claim 1, wherein the processing circuit is adapted to abort the security mode procedure and revert back to the old security parameters when an acknowledgement message is not received from the access network before the mobility procedure is initiated.

11. The access terminal of claim 1, wherein the processing circuit is further adapted to:

receive a mobility update confirmation message from the access network, wherein the mobility update confirmation message is ciphered according to the old security parameters.

12. A method operational on an access terminal, comprising:

conducting a security mode procedure for reconfiguring security parameters of the access terminal;

initiating a mobility procedure while the security mode procedure is ongoing;

aborting the security mode procedure and reverting back to old security parameters as a result of initiating the mobility procedure; and

sending a mobility update message including a dedicated status indicator adapted to indicate that the access terminal has reverted back to the old security parameters.

13. The method of claim 12, wherein conducting the security mode procedure comprises:

conducting an Access Stratum security mode procedure for reconfiguring Access Stratum security parameters of the access terminal.

14. The method of claim 13, wherein conducting the Access Stratum security mode procedure comprises:

conducting the Access Stratum security mode procedure using a radio resource control (RRC) layer of a protocol stack.

15. The method of claim 12, wherein conducting the security mode procedure comprises:

generating and sending a security mode complete message to an access network.

16. The method of claim 12, wherein:

initiating the mobility procedure comprises initiating a cell update procedure; and

sending the mobility update message comprises sending a cell update message.

17. The method of claim 16, wherein sending the cell update message comprises:

sending one of a cell reselection message, a radio link control (RLC) unrecoverable error message, or an out of service message.

18. The method of claim 12, wherein sending the mobility update message comprises:

sending the mobility update message to the access network as a radio resource control (RRC) message.

19. The method of claim 12, wherein sending the mobility update message including the dedicated status indicator adapted to indicate that the access terminal has reverted back to the old security parameters comprises:

sending the mobility update message including an information element (IE) adapted to indicate that the access terminal has reverted back to the old security parameters.

20. The method of claim 12, wherein sending the mobility update message including the dedicated status indicator adapted to indicate that the access terminal has reverted back to the old security parameters comprises:

sending the mobility update message including one or more bits adapted to indicate that the access terminal has reverted back to the old security parameters.

21. The method of claim 12, further comprising:

aborting the security mode procedure and reverting back to the old security parameters when an acknowledgement message is not received from the access network before the mobility procedure is initiated.

22. An access terminal, comprising:

means for conducting a security mode procedure for reconfiguring security parameters of the access terminal;

means for initiating a mobility procedure while the security mode procedure is ongoing;

means for aborting the security mode procedure and reverting back to old security parameters as a result of initiating the mobility procedure; and

means for sending a mobility update message including a dedicated status indicator adapted to indicate that the access terminal has reverted back to the old security parameters.

23. A processor-readable medium comprising instructions operational on an access terminal, which when executed by a processor causes the processor to:

conduct a security mode procedure for reconfiguring security parameters of the access terminal;

initiate a mobility procedure while the security mode procedure is ongoing;

abort the security mode procedure and reverting back to old security parameters as a result of initiating the mobility procedure; and

send a mobility update message including a dedicated status indicator adapted to indicate that the access terminal has reverted back to the old security parameters.

24. A network entity, comprising:

a communications interface; and

a processing circuit coupled to the communications interface, the processing circuit adapted to:

receive a security mode complete message from an access terminal;

update to new security parameters in response to the security mode complete message;

receive a mobility update message from the access terminal, the mobility update message including a dedicated security status indicator adapted to indicate that the access terminal has reverted back to old security parameters; and

revert to the old security parameters in response to the received mobility update message.

25. The network entity of claim 24, wherein:

the security mode complete message comprises an Access Stratum security mode complete message;

the new security parameters comprise new Access Stratum security parameters; and

the old security parameters comprise old Access Stratum security parameters.

26. The network entity of claim 25, wherein the Access Stratum security mode complete message is received at a radio resource control (RRC) layer of a protocol stack.

27. The network entity of claim 24, wherein the mobility update message comprises one of a cell reselection message, a radio link control (RLC) unrecoverable error message, or an out of service message.

28. The network entity of claim 24, wherein the mobility update message is received as a radio resource control (RRC) message.

29. The network entity of claim 24, wherein the dedicated security status indicator comprises an information element (IE) of the received mobility update message.

30. The network entity of claim 24, wherein the dedicated security status indicator comprises one or more bits of the received mobility update message.

31. The network entity of claim 24, wherein the processing circuit is further adapted to:

send a mobility update confirmation message to the access terminal, wherein the mobility update confirmation message is ciphered according to the old security parameters.

32. The network entity of claim 24, wherein the network entity comprises a radio network controller (RNC).

33. A method operational on a network entity, comprising:

receiving a security mode complete message from an access terminal;

updating to new security parameters in response to the security mode complete message;

receiving a mobility update message from the access terminal, the mobility update message including a dedicated security status indicator adapted to indicate that the access terminal has reverted back to old security parameters; and

reverting to the old security parameters in response to the received mobility update message.

34. The method of claim 33, wherein receiving the security mode complete message comprises:

receiving an Access Stratum security mode complete message.

35. The method of claim 34, wherein receiving the Access Stratum security mode complete message comprises:

receiving the Access Stratum security mode complete message at a radio resource control (RRC) layer of a protocol stack.

36. The method of claim 33, wherein receiving the mobility update message comprises:

receiving a cell update message.

37. The method of claim 36, wherein receiving the cell update message comprises:

receiving one of a cell reselection message, a radio link control (RLC) unrecoverable error message, or an out of service message.

38. The method of claim 33, wherein receiving the mobility update message comprises:

receiving a radio resource control (RRC) message.

39. The method of claim 33, wherein receiving the mobility update message including the dedicated security status indicator adapted to indicate that the access terminal has reverted back to the old security parameters comprises:

receiving the mobility update message including an information element (IE) adapted to indicate that the access terminal has reverted back to the old security parameters.

40. The method of claim 33, wherein receiving the mobility update message including the dedicated security status indicator adapted to indicate that the access terminal has reverted back to the old security parameters comprises:

receiving the mobility update message including one or more bits adapted to indicate that the access terminal has reverted back to the old security parameters.

41. The method of claim 33, further comprising:

sending a mobility update confirmation message to the access terminal, wherein the mobility update confirmation message is ciphered according to the old security parameters.

42. A network entity, comprising:

means for receiving a security mode complete message from an access terminal;

means for updating to new security parameters in response to the security mode complete message;

means for receiving a mobility update message from the access terminal, the mobility update message including a dedicated security status indicator adapted to indicate that the access terminal has reverted back to old security parameters; and

means for reverting to the old security parameters in response to the received mobility update message.

43. A processor-readable medium comprising instructions operational on a network entity, which when executed by a processor causes the processor to:

receive a security mode complete message from an access terminal;

update to new security parameters in response to the security mode complete message;

receive a mobility update message from the access terminal, the mobility update message including a dedicated security status indicator adapted to indicate that the access terminal has reverted back to old security parameters; and

revert to the old security parameters in response to the received mobility update message.

CLAIMS

WHAT IS CLAIMED IS:

1. An access terminal (900), comprising:

means for conducting a security mode procedure for reconfiguring security parameters of the access terminal (902, 910);

means for initiating a mobility procedure while the security mode procedure is ongoing (902, 910);

means for aborting the security mode procedure and reverting back to old security parameters as a result of initiating the mobility procedure (902, 910); characterised by

means for sending a mobility update message including a dedicated status indicator adapted to indicate that the access terminal has reverted back to the old security parameters (902, 914).

2. The access terminal of claim 1, wherein the security mode procedure comprises an Access Stratum security mode procedure using a radio resource control (RRC) layer of a protocol stack for reconfiguring Access Stratum security parameters of the access terminal.

3. The access terminal of claim 1, wherein the means are provided by a wireless communications interface adapted to facilitate wireless communications and a processing circuit, the processing circuit further adapted to:

generate and send a security mode complete message to the access network via the wireless communications interface as part of the security mode procedure (804).

4. The access terminal of claim 1, wherein the mobility update message comprises:

(i) a radio resource control (RRC) message; or

(ii) one of a cell reselection message, a radio link control (RLC) unrecoverable error message, or an out of service message.

5. The access terminal of claim 1, wherein the dedicated security status indicator comprises:

(i) an information element (IE) of the mobility update message; or

(ii) one or more bits of the mobility update message.

6. The access terminal of claim 1, wherein the means are provided by a wireless communications interface adapted to facilitate wireless communications and a processing circuit, the processing circuit is further adapted to abort the security mode procedure and revert back to the old security parameters when an acknowledgement message is not received from the access network before the mobility procedure is initiated.

7. The access terminal of claim 1, wherein the means are provided by a wireless communications interface adapted to facilitate wireless communications and a processing circuit, the processing circuit further adapted to:

receive a mobility update confirmation message from the access network, wherein the mobility update confirmation message is ciphered according to the old security parameters.

8. A method operational on an access terminal, comprising:

conducting a security mode procedure for reconfiguring security parameters of the access terminal (1002);

initiating a mobility procedure while the security mode procedure is ongoing (1004);

aborting the security mode procedure and reverting back to old security parameters as a result of initiating the mobility procedure (1006); characterised by

sending a mobility update message including a dedicated status indicator adapted to indicate that the access terminal has reverted back to the old security parameters (1008).

9. The method of claim 8, wherein:

initiating the mobility procedure comprises initiating a cell update procedure; and

sending the mobility update message comprises sending a cell update message from one of a cell reselection message, a radio link control (RLC) unrecoverable error message, or an out of service message.

10. The method of claim 8, wherein sending the mobility update message including the dedicated status indicator adapted to indicate that the access terminal has reverted back to the old security parameters comprises:

sending the mobility update message including:

(i) an information element (IE) adapted to indicate that the access terminal has reverted back to the old security parameters; or

(ii) one or more bits adapted to indicate that the access terminal has reverted back to the old security parameters.

11. A method operational on a network entity, comprising:

receiving a security mode complete message from an access terminal (1402; 1502);

updating to new security parameters in response to the security mode complete message (1404; 1504); and

reverting to the old security parameters; characterized by

receiving a mobility update message from the access terminal, the mobility update message including a dedicated security status indicator adapted to indicate that the access terminal has reverted back to old security parameters (1406); wherein the step of reverting to the old security parameters is in response to the received mobility update message (1408).

12. The method of claim 11, further comprising:

sending a mobility update confirmation message to the access terminal, wherein the mobility update confirmation message is ciphered according to the old security parameters (1514).

13. A network entity (1300), comprising:

means for receiving a security mode complete message from an access terminal (1314);

means for updating to new security parameters in response to the security mode complete message (1302, 1308, 1310);

and

means for reverting to the old security parameters (1302, 1308, 1310); characterized by

means for receiving a mobility update message from the access terminal (1314), the mobility update message including a dedicated security status indicator adapted to indicate that the access terminal has reverted back to old security parameters; wherein the means for reverting to the old security parameters respond to the received mobility update message.

14. The network entity of claim 13, wherein the network entity comprises a radio network controller (RNC) (114).

15. A processor-readable medium comprising instructions, which when executed by a processor causes the processor to carry out the method of any of claims 8 to 10 when operational on an access terminal or to carry out the method of any of claims 11 to 12 when operational on a network entity.