SUMMARY:

[0008] In an exemplary aspect ~~of the invention~~ there is a method, comprising determining at a network application function a list of desired user equipment security features to be used, the security features of the list ordered by preference of the network application function, sending the list to a database of user security settings via a bootstrapping server function, and receiving by the network application function , via the bootstrapping server function, a security features response comprising a security key, derived from information stored in the database, corresponding to a desired security feature contained in the list, thereby informing the network application function of the availability of at least one of the desired security features in the user equipment.

[0009] In another exemplary aspect ~~of the invention~~ there is a non-transitory computer readable medium embodying computer program instructions, the computer program instructions executed by at least one processor to perform operations comprising determining at a network application function a list of desired user equipment security features to be used, the security features of the list ordered by preference of the network application function, sending the list to a database of user security settings via a bootstrapping server function, and receiving by the network application function, via the bootstrapping server function, a security features response comprising a security key, derived from information stored in the database, corresponding to a desired security feature contained in the list, thereby informing the network application function of the availability of at least one of the desired security features in the user equipment.

[0010] In still another exemplary aspect ~~of the invention~~ there is apparatus comprising at least one processor; and at least one memory including computer program code, where the at least one memory and the computer program code are configured, with the at least one processor, to cause the apparatus to at least determine, at a network application function, a list of desired user equipment security features to be used, the security features of the list ordered by preference of the network application function, send the list to a database of user security settings via a bootstrapping server function, and receive by the network application function, via the bootstrapping server function, a security features response comprising a security key, derived from information stored in the database, corresponding to a desired security feature

CLAIMS

What is claimed is:

1. A method, comprising:

determining at a network application function a list of desired user equipment security features to be used, the security features of the list ordered by preference of the network application function;

sending the list to a database of user security settings via a bootstrapping server function; and

receiving by the network application function, via the bootstrapping server function, a security features response comprising a security key, derived from information stored in the database, corresponding to a desired security feature contained in the list, thereby informing the network application function of the availability of at least one of the desired security features in the user equipment.

2. The method according to claim 1, where the list is sent to the database of user security settings via a home subscriber server.

3. The method according to claim 1 or claim 2, where the database is external to the system that contains the network application function and the bootstrapping server function.

4. The method according to any one of the preceding claims, where the database comprises a field for storing supported security features.

5. The method according to any one of the preceding claims, where the list contains a single entry, or contains two or more entries.

6. The method according to any one of the preceding claims, where the list is sent in a security features request message.

7. The method according to claim 6, wherein the security features request message is sent using an attribute value pair diameter message.

8. The method according to claim 6 or claim 7, where the security features request message comprises the desired user equipment security features separated by semicolons in their preferred order.

9. A non-transitory computer readable medium embodying computer program instructions, the computer program instructions executed by at least one processor to perform operations comprising:

determining, at a network application function, a list of desired user equipment security features to be used, the security features of the list ordered by preference of the network application function;

sending the list to a database of user security settings via a bootstrapping server function; and

receiving by the network application function, via the bootstrapping server function, a security features response comprising a security key, derived from information stored in the database, corresponding to a desired security feature contained in the list, thereby informing the network application function of the availability of at least one of the desired security features in the user equipment.

10. The computer readable medium according to claim 9, where the security features response comprises an indication of the security features common to the list, and where the common security features are ordered as derived from the information stored in the database.

11. The computer readable medium according to claim 9 or claim 10, where the list is sent to the database of user security settings via a home subscriber server

12. The computer readable medium according to any one of claims 9-11, where the database is external to the system that contains the network application function and the

bootstrapping server function.

13. An apparatus comprising

at least one processor; and

at least one memory including computer program code, where the at least one memory and the computer program code are configured, with the at least one processor, to cause the apparatus to at least:

determine, at a network application function, a list of desired user equipment security features to be used, the security features of the list ordered by preference of the network application function;

send the list to a database of user security settings via a bootstrapping server function; and

receive by the network application function, via the bootstrapping server function, a security features response comprising a security key, derived from information stored in the database, corresponding to a desired security feature contained in the list, thereby informing the network application function of the availability of at least one of the desired security features in the user equipment.

14. The apparatus according to claim 13, where the list is sent to the database of user security settings via a home subscriber server.

15. The apparatus according to claim 13 or claim 14, where the database is external to the system that contains the network application function and the bootstrapping server function.

16. The apparatus according to any one of claims 13-15, where the database comprises a field for storing supported security features.

17. The apparatus according to any one of claims 13-16, where the list contains a single entry, or

~~contains two or more entries.~~

18. The apparatus according to claim any one of claims 13-17, where the list is sent in a security features request message.

19. The apparatus according to claim 18, wherein the security features request message is sent using an attribute value pair diameter message.

20. The apparatus according to claim 18 or claim 19, where the security features request message comprises the desired user equipment security features separated by ~~semicolons in their preferred order.~~

CLAIMS

What is claimed is:

1. A method, comprising:

determining at a network application function a list of desired user equipment security features to be used, the security features of the list ordered by preference of the network application function;

sending the list to a database of user security settings via a bootstrapping server function; and

receiving by the network application function, via the bootstrapping server function, a security features response comprising a security key, derived from information stored in the database, corresponding to a desired security feature contained in the list, thereby informing the network application function of the availability of at least one of the desired security features in the user equipment.

2. The method according to claim 1, where the list is sent to the database of user security settings via a home subscriber server.

3. The method according to claim 1, where the database is external to the system that contains the network application function and the bootstrapping server function.

4. The method according to claim 1, where the database comprises a field for storing supported security features.

5. The method according to claim 1, where the list contains a single entry, or contains two or more entries.

6. The method according to claim 1, where the list is sent in a security features request message.

7. The method according to claim 6, wherein the security features request message is sent using an attribute value pair diameter message.

8. The method according to claim 6, where the security features request message comprises the desired user equipment security features separated by semicolons in their preferred order.

9. A non-transitory computer readable medium embodying computer program instructions, the computer program instructions executed by at least one processor to perform operations comprising:

determining, at a network application function, a list of desired user equipment security features to be used, the security features of the list ordered by preference of the network application function;

sending the list to a database of user security settings via a bootstrapping server function; and

receiving by the network application function, via the bootstrapping server function, a security features response comprising a security key, derived from information stored in the database, corresponding to a desired security feature contained in the list, thereby informing the network application function of the availability of at least one of the desired security features in the user equipment.

10. The computer readable medium according to claim 9, where the security features response comprises an indication of the security features common to the list, and where the common security features are ordered as derived from the information stored in the database.

11. The computer readable medium according to claim 9, where the list is sent to the database of user security settings via a home subscriber server

12. The computer readable medium according to claim 9, where the database is external to the system that contains the network application function and the

bootstrapping server function.

13. An apparatus comprising

at least one processor; and

at least one memory including computer program code, where the at least one memory and the computer program code are configured, with the at least one processor, to cause the apparatus to at least:

determine, at a network application function, a list of desired user equipment security features to be used, the security features of the list ordered by preference of the network application function;

send the list to a database of user security settings via a bootstrapping server function; and

receive by the network application function, via the bootstrapping server function, a security features response comprising a security key, derived from information stored in the database, corresponding to a desired security feature contained in the list, thereby informing the network application function of the availability of at least one of the desired security features in the user equipment.

14. The apparatus according to claim 13, where the list is sent to the database of user security settings via a home subscriber server.

15. The apparatus according to claim 13, where the database is external to the system that contains the network application function and the bootstrapping server function.

16. The apparatus according to claim 13, where the database comprises a field for storing supported security features.

17. The apparatus according to claim 13, where the list contains a single entry, or

contains two or more entries.

18. The apparatus according to claim 13, where the list is sent in a security features request message.

19. The apparatus according to claim 18, wherein the security features request message is sent using an attribute value pair diameter message.

20. The apparatus according to claim 18, where the security features request message comprises the desired user equipment security features separated by semicolons in their preferred order.