

PCT Application No. PCT/US2010/052384
Docket No. 100102WO

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**Clean Copy of Claims for Response to Written Opinion of the International Preliminary
Examining Authority issued 10 November 2011**

1. A method, comprising:
determining information relating to a location of a mobile device based at least in part on one or more signals received by the mobile device;
transmitting, by the mobile device, the information relating to the location of the mobile device to one or more network elements;
receiving from the one or more network elements, by the mobile device, information relating to indoor context information for an indoor environment based at least in part on the information relating to the location of the mobile device, wherein the indoor context information includes map information for the indoor environment associated with the one or more network elements and location information of the one or more network elements within the indoor environment; and
obtaining an estimate of the location of the mobile device based at least in part on the information relating to the location of the mobile device and the information relating to indoor context information.
2. The method of claim 1, further comprising transmitting the estimate of the location of the mobile device to the one or more network elements.
3. The method of claim 1, wherein the acquiring of the information relating to indoor context information is received wirelessly.
4. The method of claim 1, wherein the information relating to indoor context information comprises a link to indoor context information.
5. The method of claim 1, wherein the information relating to indoor context information is received via one or more wired connections.

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6. The method of claim 1, wherein the one or more network elements comprise a Secure User Plane Location (SUPL) agent.
7. The method of claim 1, wherein the one or more network elements comprise a Home Secure User Plane Location Platform (H-SLP).
8. The method of claim 1, wherein the information relating to indoor context information comprises a base station almanac.
9. The method of claim 8, wherein the base station almanac comprises information for Wi-Fi access points.
10. The method of claim 1, wherein the information relating to indoor context information comprises one or more maps of the indoor environment.
11. The method of claim 1, wherein the information relating to indoor context information comprises locations of one or more wireless base stations within the indoor environment.
12. The method of claim 1, wherein the information relating to indoor context information comprises an identifier (ID) of the indoor environment.
13. The method of claim 1, wherein the information relating to indoor context information comprises one or more anchor points to map a local coordinate system with a global coordinate system.
14. The method of claim 1, wherein the information relating to indoor context information comprises identifiers of available enhanced indoor positioning support.
15. An apparatus, comprising:
 - a receiver to receive one or more first wireless signals;
 - a transmitter to transmit one or more second wireless signals;

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a processor to:

determine information relating to a location of the apparatus based at least in part on the one or more first wireless signals;

initiate transmission of the information relating to the location of a mobile device to one or more network elements;

process information relating to indoor context information for an indoor environment received from the one or more network elements, wherein the information relating to indoor context information is based at least in part on the information relating to the location of the apparatus, wherein the indoor context information includes map information for the indoor environment associated with the one or more network elements and location information of the one or more network elements within the indoor environment; and

obtain an estimate of the location of the apparatus based at least in part on the information relating to the location of the apparatus and the information relating to indoor context information.

16. The apparatus of claim 15, wherein the processor is further adapted to initiate transmission of the estimate of the location of the apparatus to the one or more network elements.

17. The apparatus of claim 15, wherein the information relating to indoor context information comprises a link to the indoor context information.

18. The apparatus of claim 15, wherein the information relating to indoor context information comprises a base station almanac.

19. The apparatus of claim 18, wherein the base station almanac comprises information for Wi-Fi access points.

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20. The apparatus of claim 15, wherein the information relating to indoor context information comprises one or more maps of the indoor environment.

21. The apparatus of claim 15, wherein the information relating to indoor context information comprises locations of one or more wireless base stations within the indoor environment.

22. The apparatus of claim 15, wherein the information relating to indoor context information comprises an identifier (ID) of the indoor environment.

23. The apparatus of claim 15, wherein the information relating to indoor context information comprises one or more anchor points to map a local coordinate system to a global coordinate system.

24. The apparatus of claim 15, wherein the information relating to indoor context information comprises identifiers of available enhanced indoor positioning support.

25. The apparatus of claim 15, wherein the one or more network elements comprise a Secure User Plane Location (SUPL) agent.

26. The apparatus of claim 15, wherein the one or more network elements comprise a Home Secure User Plane Location Platform (H-SLP).

27. An apparatus, comprising:
means for determining information relating to a location of the apparatus based at least in part on one or more signals received by the apparatus;
means for transmitting, by the apparatus, the information relating to the location of the apparatus to one or more network elements;
means for receiving from the one or more network elements, by the apparatus, information relating to indoor context information for an indoor environment based at least in part on the information relating to the location of the apparatus, wherein the indoor context information includes map information for the indoor environment associated with the one or

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more network elements and location information of the one or more network elements within the indoor environment; and

means for obtaining an estimate of the location of the apparatus based at least in part on the information relating to the location of the apparatus and the information relating to indoor context information.

28. The apparatus of claim 27, further comprising means for transmitting the estimate of the location of the apparatus to the one or more network elements.

29. The apparatus of claim 27, further comprising means for wirelessly receiving the information relating to indoor context information.

30. The apparatus of claim 27, wherein the information relating to indoor context information comprises a link to indoor context information.

31. The apparatus of claim 27, further comprising means for receiving the information relating to indoor context information via one or more wired connections.

32. The apparatus of claim 27, wherein the information relating to indoor context information comprises a base station almanac.

33. The apparatus of claim 32, wherein the base station almanac comprises information for Wi-Fi access points.

34. The apparatus of claim 27, wherein the information relating to indoor context information comprises one or more maps of the indoor environment.

35. The apparatus of claim 27, wherein the information relating to indoor context information comprises a link to a server that is capable of transmitting one or more maps of the indoor environment to the apparatus.

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36. The apparatus of claim 27, wherein the information relating to indoor context information comprises locations of one or more wireless base stations within the indoor environment.

37. The apparatus of claim 27, wherein the information relating to indoor context information comprises an identifier (ID) of the indoor environment.

38. The apparatus of claim 27, wherein the information relating to indoor context information comprises one or more anchor points to map a local coordinate system to a global coordinate system.

39. The apparatus of claim 27, wherein the information relating to indoor context information comprises identifiers of available enhanced indoor positioning support.

40. The apparatus of claim 27, wherein the one or more network elements comprise a Secure User Plane Location (SUPL) agent.

41. The apparatus of claim 27, wherein the one or more network elements comprise a Home Secure User Plane Location Platform (H-SLP).

42. An article, comprising:

a storage medium comprising machine-readable instructions executable by a special purpose apparatus to:

determine information relating to a location of a mobile device based at least in part on one or more signals received by the mobile device;

initiate transmission, by the mobile device, of the information relating to the location of the mobile device to one or more network elements;

process information relating to indoor context information for an indoor environment received from the one or more network elements, wherein the information relating to indoor context information is based at least in part on the information relating to the location of the mobile device, wherein the indoor context information includes map information for the indoor

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environment associated with the one or more network elements and location information of the one or more network elements within the indoor environment; and

obtain an estimate of the location of the mobile device based at least in part on the information relating to the location of the mobile device and the information relating to indoor context information.

43. The article of claim 42, wherein the machine-readable instructions are further executable by the special purpose apparatus to initiate transmission of the estimate of the location of the mobile device to the one or more network elements.

44. The article of claim 42, wherein the information relating to indoor context information comprises a link to indoor context information.

45. The article of claim 42, wherein the information relating to indoor context information comprises a base station almanac.

46. The article of claim 42, wherein the information relating to indoor context information comprises one or more maps of the indoor environment.

47. The article of claim 42, wherein the information relating to indoor context information comprises locations of one or more wireless base stations within the indoor environment.

48. The article of claim 42, wherein the information relating to indoor context information comprises an identifier (ID) of the indoor environment.

49. The article of claim 42, wherein the information relating to indoor context information comprises one or more anchor points to map a local coordinate system to a global coordinate system.

50. The article of claim 42, wherein the information relating to indoor context information comprises identifiers of available enhanced indoor positioning support.

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51. A method, comprising:

receiving, by a network element, a signal transmitted by a mobile device, the signal comprising information relating to a location of the mobile device within an indoor environment;

determining, by the network element, information relating to indoor context information for an indoor environment based at least in part on the information relating to the location of the mobile device, wherein the indoor context information includes map information for the indoor environment and location information of one or more network elements within the indoor environment;

estimating the location of the mobile device based at least in part on the information relating to the location of the mobile device and the information relating to indoor context information; and

performing one or more location-based services based at least in part on the location of the mobile device.

52. The method of claim 51, wherein the one or more location-based services comprise periodically locating the mobile device within the indoor environment.

53. The method of claim 51, wherein the indoor context information comprises a base station almanac.

54. The method of claim 51, wherein the indoor context information comprises locations of one or more wireless base stations within the indoor environment.

55. The method of claim 51, wherein the indoor context information comprises one or more anchor points to map a local coordinate system to a global coordinate system.

56. An apparatus, comprising:

a transceiver to receive one or more signals;

a processor to:

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determine information relating to a location of a mobile device located within an indoor environment based at least in part on the one or more signals;

determine information relating to indoor context information for an indoor environment based at least in part on the information relating to the location of the mobile device, wherein the indoor context information includes map information for the indoor environment and location information of one or more network elements within the indoor environment;

estimate the location of the mobile device based at least in part on the information relating to the location of the mobile device and the information relating to indoor context information; and

perform one or more location-based services based at least in part on the location of the mobile device.

57. The apparatus of claim 56, wherein the one or more location-based services comprise periodically locating the mobile device within the indoor environment.

58. The apparatus of claim 56, wherein the indoor context information comprises a base station almanac.

59. The apparatus of claim 56, wherein the indoor context information comprises locations of one or more wireless base stations within the indoor environment.

60. The apparatus of claim 56, wherein the indoor context information comprises one or more anchor points to map a local coordinate system to a global coordinate system.

61. The apparatus of claim 56, wherein the apparatus comprises a Home Secure User Plane Location Platform (H-SLP).

62. An apparatus, comprising:
means for receiving one or more signals;

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means for processing information received from a mobile device and relating to a location of the mobile device within an indoor environment;

means for determining, by the apparatus, information relating to indoor context information for an indoor environment based at least in part on the information relating to the location of the mobile device, wherein the indoor context information includes map information for the indoor environment and location information of one or more network elements within the indoor environment;

estimating the location of the mobile device based at least in part on the information relating to the location of the mobile device and the information relating to indoor context information; and

means for performing one or more location-based services based at least in part on the location of the mobile device.

63. The apparatus of claim 62, wherein the one or more location-based services comprise periodically locating the mobile device within the indoor environment.

64. The apparatus of claim 62, further comprising means for initiating transmission of the location of the mobile device to the mobile device.

65. The apparatus of claim 62, wherein the indoor context information comprises a base station almanac.

66. The apparatus of claim 62, wherein the indoor context information comprises locations of one or more wireless base stations within the indoor environment.

67. The apparatus of claim 62, wherein the indoor context information comprises one or more anchor points to map a local coordinate system to a global coordinate system.

68. The apparatus of claim 62, wherein the apparatus comprises a Home Secure User Plane Location Platform (H-SLP).

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69. An article, comprising:

a storage medium comprising machine-readable instructions executable by a special purpose apparatus to:

process a signal from a mobile device, the signal comprising information relating to a location of the mobile device within an indoor environment;

determine, by a network element, information relating to indoor context information for an indoor environment based at least in part on the information relating to the location of the mobile device, wherein the indoor context information includes map information for the indoor environment and location information of one or more network elements within the indoor environment;

estimate the location of the mobile device based at least in part on the information relating to the location of the mobile device and the information relating to indoor context information; and

perform one or more location-based services based at least in part on the location of the mobile device.

70. The article of claim 69, wherein the one or more location-based services comprise periodically locating the mobile device within the indoor environment.

71. The article of claim 69, wherein the indoor context information comprises a base station almanac.

72. The article of claim 69, wherein the indoor context information comprises locations of one or more wireless base stations within the indoor environment.

73. The article of claim 69, wherein the indoor context information comprises one or more anchor points to map a local coordinate system to a global coordinate system.

CLAIMS

1. A method, comprising:

determining information relating to a location of a mobile device based at least in part on one or more signals received by the mobile device;

transmitting, by the mobile device, the information relating to the location of the mobile device to one or more first network elements;

receiving from one or more second network elements, by the mobile device, information relating to indoor context information for an indoor environment based at least in part on the information relating to the location of the mobile device, wherein the information relating to the indoor context information includes information identifying the position of one or more first wireless access points within the indoor environment;

determining the position of one or more second wireless access points not included with the indoor context information;

generating updated indoor context information by updating the information relating to the indoor context information to include the position of the one or more second wireless access points;

sending the updated indoor context information to the one or more second network elements; and

obtaining an estimate of the location of the mobile device based at least in part on the information relating to the location of the mobile device and the updated indoor context information.

2. The method of claim 1, further comprising transmitting the estimate of the location of the mobile device to the one or more first network elements.

3. The method of claim 1, wherein the acquiring of the information relating to indoor context information is received wirelessly.
4. The method of claim 1, wherein the information relating to indoor context information comprises a link to indoor context information.
5. The method of claim 1, wherein the information relating to indoor context information is received via one or more wired connections.
6. The method of claim 1, wherein at least one of the one or more first network elements and the one or more second network elements comprise a Home Secure User Plane Location Platform (H-SLP).
7. The method of claim 1, wherein the information relating to indoor context information comprises a base station almanac.
8. The method of claim 7, wherein the base station almanac comprises information for Wi-Fi access points.
9. The method of claim 1, wherein the information relating to indoor context information comprises one or more maps of the indoor environment.

10. The method of claim 1, wherein the information relating to indoor context information comprises locations of one or more wireless base stations within the indoor environment.
11. The method of claim 1, wherein the information relating to indoor context information comprises an identifier (ID) of the indoor environment.
12. The method of claim 1, wherein the information relating to indoor context information comprises one or more anchor points to map a local coordinate system with a global coordinate system.
13. The method of claim 1, wherein the information relating to indoor context information comprises identifiers of available enhanced indoor positioning support.
14. An apparatus, comprising:
 - a receiver to receive one or more first wireless signals;
 - a transmitter to transmit one or more second wireless signals;
 - a processor to:
 - determine information relating to a location of the apparatus based at least in part on the one or more first wireless signals;
 - initiate transmission of the information relating to the location of a mobile device to one or more first network elements;
 - process information relating to indoor context information for an indoor environment received from one or more network second elements, wherein the information relating to indoor context information is based at least in part on the information relating to the

location of the apparatus, wherein the information relating to the indoor context information includes information identifying the position of one or more first wireless access points within the indoor environment;

determine the position of one or more second wireless access points not included with the indoor context information;

generate updated indoor context information by updating the information relating to the indoor context information to include the position of the one or more second wireless access points;

send the updated indoor context information to the one or more second network elements; and

obtain an estimate of the location of the apparatus based at least in part on the information relating to the location of the apparatus and the updated indoor context information.

15. The apparatus of claim 14, wherein the processor is further adapted to initiate transmission of the estimate of the location of the apparatus to the one or more first network elements.

16. The apparatus of claim 14, wherein the information relating to indoor context information comprises a link to the indoor context information.

17. The apparatus of claim 14, wherein the information relating to indoor context information comprises a base station almanac.

18. The apparatus of claim 17, wherein the base station almanac comprises information for Wi-Fi access points.
19. The apparatus of claim 14, wherein the information relating to indoor context information comprises one or more maps of the indoor environment.
20. The apparatus of claim 14, wherein the information relating to indoor context information comprises locations of one or more wireless base stations within the indoor environment.
21. The apparatus of claim 14, wherein the information relating to indoor context information comprises an identifier (ID) of the indoor environment.
22. The apparatus of claim 14, wherein the information relating to indoor context information comprises one or more anchor points to map a local coordinate system to a global coordinate system.
23. The apparatus of claim 14, wherein the information relating to indoor context information comprises identifiers of available enhanced indoor positioning support.
24. The apparatus of claim 14, wherein at least one of the one or more first network elements and the one or more second network elements comprise a Home Secure User Plane Location Platform (H-SLP).

25. An apparatus, comprising:

means for determining information relating to a location of the apparatus based at least in part on one or more signals received by the apparatus;

means for transmitting, by the apparatus, the information relating to the location of the apparatus to one or more first network elements;

means for receiving from one or more second network elements, by the apparatus, information relating to indoor context information for an indoor environment based at least in part on the information relating to the location of the apparatus, wherein the information relating to the indoor context information includes information identifying the position of one or more first wireless access points within the indoor environment;

means for determining the position of one or more second wireless access points not included with the indoor context information;

means for generating updated indoor context information by updating the information relating to the indoor context information to include the position of the one or more second wireless access points;

means for sending the updated indoor context information to the one or more second network elements; and

means for obtaining an estimate of the location of the apparatus based at least in part on the information relating to the location of the apparatus and the updated indoor context information.

26. The apparatus of claim 25, further comprising means for transmitting the estimate of the location of the apparatus to the one or more first network elements.

27. The apparatus of claim 25, further comprising means for wirelessly receiving the information relating to indoor context information.
28. The apparatus of claim 25, wherein the information relating to indoor context information comprises a link to indoor context information.
29. The apparatus of claim 25, further comprising means for receiving the information relating to indoor context information via one or more wired connections.
30. The apparatus of claim 25, wherein the information relating to indoor context information comprises a base station almanac.
31. The apparatus of claim 30, wherein the base station almanac comprises information for Wi-Fi access points.
32. The apparatus of claim 25, wherein the information relating to indoor context information comprises one or more maps of the indoor environment.
33. The apparatus of claim 25, wherein the information relating to indoor context information comprises a link to a server that is capable of transmitting one or more maps of the indoor environment to the apparatus.
34. The apparatus of claim 25, wherein the information relating to indoor context information comprises locations of one or more wireless base stations within the indoor environment.

35. The apparatus of claim 25, wherein the information relating to indoor context information comprises an identifier (ID) of the indoor environment.

36. The apparatus of claim 25, wherein the information relating to indoor context information comprises one or more anchor points to map a local coordinate system to a global coordinate system.

37. The apparatus of claim 25, wherein the information relating to indoor context information comprises identifiers of available enhanced indoor positioning support.

38. The apparatus of claim 25, wherein at least one of the one or more first network elements and the one or more second network elements comprise a Home Secure User Plane Location Platform (H-SLP).

39. An article, comprising:

a non-transitory storage medium comprising machine-readable instructions executable by a special purpose apparatus to:

determine information relating to a location of a mobile device based at least in part on one or more signals received by the mobile device;

initiate transmission, by the mobile device, of the information relating to the location of the mobile device to one or more first network elements;

process information relating to indoor context information for an indoor environment received from one or more second network elements, wherein the information relating to indoor

context information is based at least in part on the information relating to the location of the mobile device, wherein the information relating to the indoor context information includes information identifying the position of one or more first wireless access points within the indoor environment;

determine the position of one or more second wireless access points not included with the indoor context information;

generate updated indoor context information by updating the information relating to the indoor context information to include the position of the one or more second wireless access points;

send the updated indoor context information to the one or more second network elements;
and

obtain an estimate of the location of the mobile device based at least in part on the information relating to the location of the mobile device and the updated indoor context information.

40. The article of claim 39, wherein the machine-readable instructions are further executable by the special purpose apparatus to initiate transmission of the estimate of the location of the mobile device to the one or more first network elements.

41. The article of claim 39, wherein the information relating to indoor context information comprises a link to indoor context information.

42. The article of claim 39, wherein the information relating to indoor context information comprises a base station almanac.

43. The article of claim 39, wherein the information relating to indoor context information comprises one or more maps of the indoor environment.

44. The article of claim 39, wherein the information relating to indoor context information comprises locations of one or more wireless base stations within the indoor environment.

45. The article of claim 39, wherein the information relating to indoor context information comprises an identifier (ID) of the indoor environment.

46. The article of claim 39, wherein the information relating to indoor context information comprises one or more anchor points to map a local coordinate system to a global coordinate system.

47. The article of claim 39, wherein the information relating to indoor context information comprises identifiers of available enhanced indoor positioning support.

48. A method, comprising:

receiving, by a network element information relating to a location of the mobile device within an indoor environment;

determining, by the network element, information relating to indoor context information for an indoor environment based at least in part on the information relating to the location of the mobile device, wherein the information relating to the indoor context information includes

information identifying the position of one or more first wireless access points within the indoor environment;

receiving the position of one or more second wireless access points not included with the indoor context information from the mobile device;

generating updated indoor context information by updating the information relating to the indoor context information to include the position of the one or more second wireless access points;

sending the updated indoor context information to the one or more second network elements;

estimating the location of the mobile device based at least in part on the information relating to the location of the mobile device and the updated indoor context information; and

performing one or more location-based services based at least in part on the location of the mobile device.

49. The method of claim 48, wherein the one or more location-based services comprise periodically locating the mobile device within the indoor environment.

50. The method of claim 48, wherein the indoor context information comprises a base station almanac.

51. The method of claim 48, wherein the indoor context information comprises locations of one or more wireless base stations within the indoor environment.

52. The method of claim 48, wherein the indoor context information comprises one or more anchor points to map a local coordinate system to a global coordinate system.

53. An apparatus, comprising:

- a transceiver to receive one or more signals;

- a processor to:

- receive information relating to a location of a mobile device located within an indoor environment;

- determine information relating to indoor context information for an indoor environment based at least in part on the information relating to the location of the mobile device, wherein the information relating to the indoor context information includes information identifying the position of one or more first wireless access points within the indoor environment;

- receive the position of one or more second wireless access points not included with the indoor context information from the mobile device;

- generate updated indoor context information by updating the information relating to the indoor context information to include the position of the one or more second wireless access points;

- send the updated indoor context information to the one or more second network elements; and

- estimate the location of the mobile device based at least in part on the information relating to the location of the mobile device and the updated indoor context information; and

- perform one or more location-based services based at least in part on the location of the mobile device.

54. The apparatus of claim 53, wherein the one or more location-based services comprise periodically locating the mobile device within the indoor environment.
55. The apparatus of claim 53, wherein the indoor context information comprises a base station almanac.
56. The apparatus of claim 53, wherein the indoor context information comprises locations of one or more wireless base stations within the indoor environment.
57. The apparatus of claim 53, wherein the indoor context information comprises one or more anchor points to map a local coordinate system to a global coordinate system.
58. The apparatus of claim 53, wherein the apparatus comprises a Home Secure User Plane Location Platform (H-SLP).
59. An apparatus, comprising:
- means for receiving one or more signals;
 - means for processing information relating to a location of the mobile device within an indoor environment;
 - means for determining, by the apparatus, information relating to indoor context information for an indoor environment based at least in part on the information relating to the location of the mobile device, wherein the information relating to the indoor context information

includes information identifying the position of one or more first wireless access points within the indoor environment;

means for receiving the position of one or more second wireless access points not included with the indoor context information from the mobile device;

means for generating updated indoor context information by updating the information relating to the indoor context information to include the position of the one or more second wireless access points;

means for sending the updated indoor context information to the one or more second network elements; and

means for estimating the location of the mobile device based at least in part on the information relating to the location of the mobile device and the updated indoor context information; and

means for performing one or more location-based services based at least in part on the location of the mobile device.

60. The apparatus of claim 59, wherein the one or more location-based services comprise periodically locating the mobile device within the indoor environment.

61. The apparatus of claim 59, further comprising means for initiating transmission of the location of the mobile device to the mobile device.

62. The apparatus of claim 59, wherein the indoor context information comprises a base station almanac.

63. The apparatus of claim 59, wherein the indoor context information comprises locations of one or more wireless base stations within the indoor environment.

64. The apparatus of claim 59, wherein the indoor context information comprises one or more anchor points to map a local coordinate system to a global coordinate system.

65. The apparatus of claim 59, wherein the apparatus comprises a Home Secure User Plane Location Platform (H-SLP).

66. An article, comprising:

A non-transitory storage medium comprising machine-readable instructions executable by a special purpose apparatus to:

receive information relating to a location of the mobile device within an indoor environment;

determine, by a network element, information relating to indoor context information for an indoor environment based at least in part on the information relating to the location of the mobile device, wherein the information relating to the indoor context information includes information identifying the position of one or more first wireless access points within the indoor environment;

receive the position of one or more second wireless access points not included with the indoor context information from the mobile device;

generate updated indoor context information by updating the information relating to the indoor context information to include the position of the one or more second wireless access points;

send the updated indoor context information to the one or more second network elements;
and
estimate the location of the mobile device based at least in part on the information relating to the location of the mobile device and the updated indoor context information; and
perform one or more location-based services based at least in part on the location of the mobile device.

67. The article of claim 66, wherein the one or more location-based services comprise periodically locating the mobile device within the indoor environment.

68. The article of claim 66, wherein the indoor context information comprises a base station almanac.

69. The article of claim 66, wherein the indoor context information comprises locations of one or more wireless base stations within the indoor environment.

70. The article of claim 66, wherein the indoor context information comprises one or more anchor points to map a local coordinate system to a global coordinate system.

71. The method of claim 1 wherein the at least one first network element and the at least one second network element are the same at least one network element.

72. The method of claim 1, further comprising:

receiving information identifying the location of one or more third wireless access points within the indoor environment from a second mobile device; and

sending the information identifying the location of the one or more third wireless access points within the indoor environment to the one or more second network element.