WHAT IS CLAIMED IS:

1. A method of communicating beacon messages in a base station subsystem comprising an access point and an access terminal, the method comprising:

transmitting from the access point to the access terminal a repeating finite sequence of beacon messages, the sequence comprising a first beacon message comprising a relative position identifier to indicate timing of subsequent beacon messages in the finite sequence and to identify content contained in the subsequent beacon messages, the subsequent beacon messages including information not contained in the first beacon message;

decoding at the access terminal the first beacon message and a proper subset of the sequence of beacon messages based upon the relative position identifier, the access terminal in a low power state during transmission of a second subset of sequence of beacon messages, the second subset of beacon messages comprising beacon messages not in the proper subset and not including the first beacon message.

2. The method of claim 1, the first beacon message having information comprising network bandwidth for the base station subsystem.

3. The method of claim 1, the first beacon message having information indicating a second beacon message in the sequence has information comprising capabilities of the access point.

4. The method of claim 3, the capabilities including the number of antennas of the access point.

5. The method of claim 1, the first beacon message including a full beacon follows field to indicate if the access point transmits a full beacon message immediately following in sequence the first beacon message.

6. The method of claim 1, further comprising:

decoding by the access terminal a second beacon message providing an absolute time; and

decoding by the access terminal a third beacon message subsequent to the second beacon message, the third beacon message comprising a sequence number relative to the first beacon message and a time offset, the time offset indicating a time difference between when the third beacon message was scheduled to be transmitted by the access point and when it actually was transmitted.

7. The method of claim 6, wherein the second beacon message is the first beacon message.

8. The method of claim 6, the second beacon message comprising a physical layer preamble having a length field consisting of all zeros.

9. The method of claim 1, the repeating sequence of beacon messages having a short beacon interval and a beacon interval, the beacon interval an integer multiple of the short beacon interval.

10. The method of claim 1, the base system substation having a BSSID (Basic Service Set Identification), the first beacon message having information comprising a compressed value of the BSSID.

11. The method of claim 10, wherein the compressed BSSID value is a CRC (Cyclic Redundancy Check) of the BSSID.

12. The method of claim 1, the access point having a timestamp, the first beacon message having a four-byte timestamp consisting of the four least significant bytes of the access point timestamp.

13. The method of claim 1, first beacon message comprising a one byte change sequence field, the access point to increase the value of the change sequence field to indicate a change in network information.

14. The method of claim 1, the first beacon message comprising a frame control field, wherein the frame control field includes a three-bit BW (Bandwidth) field.

15. A method of communicating in a base station subsystem comprising an access point and an access terminal, the base station subsystem identified by a BSSID (Basic Service Set Identification), the method comprising:

transmitting beacon messages from the access point to the access terminal, each beacon message an instance of a full beacon message type or an instance of a short beacon message type;

transmitting beacon messages of the short beacon message type at a first time interval, and transmitting full beacon messages of the full beacon message type at a second time interval, the second time interval equal to an integer multiple of the first time interval;

wherein each beacon message of the short beacon message type includes a compressed BSSID field having a value indicative of a cyclic redundancy check of the BSSID.

16. The method of claim 15, the access point providing a timestamp, wherein each beacon message of the short beacon message type includes a four-byte timestamp consisting of the four least significant bytes of the access point timestamp.

17. The method of claim 15, wherein each beacon message of the short beacon message type includes a one-byte change sequence field having a value, the method further comprising:

incrementing the value of the change sequence field in a beacon message of the short beacon message type to indicate a change in information regarding the base station subsystem.

18. The method of claim 15, wherein each beacon message of the short beacon message type includes a full beacon follows field to indicate if an immediately subsequent beacon message is of the full beacon message type.

19. The method of claim 18, the access point providing a timestamp, wherein the time of a next beacon message indicated in the full beacon follows field is the higher three bytes of the four least significant bytes of the value of the timestamp when the next beacon message of the full beacon message type is scheduled for transmission.

20. The method of claim 15, wherein each beacon message of the short beacon message type includes a frame control field and a three-bit BW (Bandwidth) field contained in the frame control field.

21. A method of communicating beacon messages in a base station subsystem comprising an access point and an access terminal, the method comprising:

decoding by the access terminal a first beacon message providing an absolute time; and

decoding by the access terminal a second beacon message subsequent to the first beacon message, the second beacon message comprising a sequence number relative to the first beacon message and a time offset, the time offset indicating a time difference between when the second beacon message was scheduled to be transmitted by the access point and when it actually was transmitted.

22. A method of communicating a set of information elements in a base station subsystem comprising an access point and an access terminal, the method comprising:

transmitting beacon messages from the access point to the access terminal, each beacon message an instance of a full beacon message type or an instance of a short beacon message type, wherein each beacon message of the full beacon message type comprises the set of information elements;

transmitting a plurality of beacon messages of the short beacon message type, each beacon message in the plurality of beacon messages comprising a proper subset of the set of information elements, wherein the plurality of beacon messages comprises the set of information elements.

23. The method of claim 22, wherein the set of information elements comprise full network information of the base station subsystem.

24. A method of communicating in a base station subsystem comprising an access point and an access terminal, the method comprising:

transmitting beacon messages from the access point to the access terminal, each beacon message an instance of a full beacon message type or an instance of a short beacon message type,

transmitting a first beacon message comprising content information, the content information specifying content of information contained in beacon messages of the short beacon message type transmitted subsequently to the first beacon message.

25. The method of claim 24, the method further comprising:

transmitting a plurality of beacon messages of the short beacon message type subsequent to the first beacon message, each beacon message in the plurality of beacon messages comprising information according to the content information;

changing a power state of the access terminal into a low power state for a portion of the plurality of beacon messages of the short beacon message type based upon the content information.

26. The method of claim 24, wherein the first beacon message is of the short beacon message type.

27. A method of communicating in a base station subsystem comprising an access point and an access terminal, the method comprising:

transmitting beacon messages from the access point to the access terminal, each beacon message an instance of a full beacon message type or an instance of a short beacon message type;

transmitting a plurality of beacon messages of the short beacon message type, each beacon message in the plurality of beacon messages comprising a physical layer preamble comprising a SIG field, the SIG field comprising a length field;

decoding at the access terminal the plurality of beacon messages, wherein beacon messages in the plurality of beacon messages are decoded as synchronization beacon messages provided their length field is set to all zeroes.

28. The method of claim 27, wherein each beacon message decoded as a synchronization beacon messages comprises a subsequent relative position field to

indicate the sequence position of the synchronizing beacon with respect to the first beacon message in a sequence of beacon messages.

29. The method of claim 28, wherein each beacon message decoded as a synchronization beacon message comprises a subsequent offset field to indicate the offset time at which the synchronizing beacon is transmitted with respect to the time the synchronizing beacon was expected to be transmitted.

30. A system for communicating beacon messages in a base station subsystem comprising an access point and an access terminal, the system comprising:

an access point comprising a transmitter to transmit a repeating finite sequence of beacon messages, the sequence comprising a first beacon message comprising a relative position identifier to indicate timing of subsequent beacon messages in the finite sequence and to identify content contained in the subsequent beacon messages, the subsequent beacon messages including information not contained in the first beacon message;

an access terminal comprising

a decoding module to decode the first beacon message and a proper subset of the sequence of beacon messages based upon the relative position identifier;

a processor to change the state of the access terminal to a low power state when the transmitter of the access point transmits a second subset of sequence of beacon messages, the second subset of beacon messages comprising beacon messages not in the proper subset and not including the first beacon message.

31. The system of claim 30, the first beacon message having information comprising network bandwidth for the base station subsystem.

32. The system of claim 30, the first beacon message having information indicating a second beacon message in the sequence has information comprising capabilities of the access point.

33. The system of claim 32, the capabilities including the number of antennas of the access point.

34. The system of claim 30, the first beacon message including a full beacon follows field to indicate if the access point transmits a full beacon message immediately following in sequence the first beacon message.

35. The system of claim 30, wherein the decoding module

decodes a second beacon message providing an absolute time; and

decodes a third beacon message subsequent to the second beacon message, the third beacon message comprising a sequence number relative to the first beacon message and a time offset, the time offset indicating a time difference between when the third beacon message was scheduled to be transmitted by the access point and when it actually was transmitted.

36. The system of claim 35, wherein the second beacon message is the first beacon message.

37. The system of claim 35, the second beacon message comprising a physical layer preamble having a length field consisting of all zeros.

38. The system of claim 30, the repeating sequence of beacon messages having a short beacon interval and a beacon interval, the beacon interval an integer multiple of the short beacon interval.

39. The system of claim 30, comprising a base system substation, the base system substation comprising the access point and having a BSSID (Basic Service Set Identification), the first beacon message having information comprising a compressed value of the BSSID.

40. The system of claim 39, wherein the compressed BSSID value is a CRC (Cyclic Redundancy Check) of the BSSID.

41. The system of claim 30, the access point having a timestamp, the first beacon message having a four-byte timestamp consisting of the four least significant bytes of the access point timestamp.

42. The system of claim 30, first beacon message comprising a one byte change sequence field, the access point to increase the value of the change sequence field to indicate a change in network information.

43. The system of claim 30, the first beacon message comprising a frame control field, wherein the frame control field includes a three-bit BW (Bandwidth) field.

44. An access point identified by a BSSID (Basic Service Set Identification), the access point comprising:

a transmitter to transmit beacon messages, each beacon message an instance of a full beacon message type or an instance of a short beacon message type, the transmitter to transmit beacon messages of the short beacon message type at a first time interval, and to transmit full beacon messages of the full beacon message type at a second time interval, the second time interval equal to an integer multiple of the first time interval;

wherein each beacon message of the short beacon message type includes a compressed BSSID field having a value indicative of a cyclic redundancy check of the BSSID.

45. The access point of claim 44, the access point providing a timestamp, wherein each beacon message of the short beacon message type includes a four-byte timestamp consisting of the four least significant bytes of the access point timestamp.

46. The access point of claim 44, wherein each beacon message of the short beacon message type includes a one-byte change sequence field having a value, the access point to increment the value of the change sequence field in a beacon message of the short beacon message type to indicate a change in information regarding the base station subsystem.

47. The access point of claim 44, wherein each beacon message of the short beacon message type includes a full beacon follows field to indicate if an immediately subsequent beacon message is of the full beacon message type.

48. The access point of claim 47, the access point providing a timestamp, wherein the time of a next beacon message indicated in the full beacon follows field is the higher three bytes of the four least significant bytes of the value of the timestamp when the next beacon message of the full beacon message type is scheduled for transmission.

49. The access point of claim 44, wherein each beacon message of the short beacon message type includes a frame control field and a three-bit BW (Bandwidth) field contained in the frame control field.

50. An access terminal to receive beacon messages in a base station subsystem, the access terminal comprising:

a decoding module to decode a first beacon message providing an absolute time, and to decode a second beacon message subsequent to the first beacon message, the second beacon message comprising a sequence number relative to the first beacon message and a time offset, the time offset indicating a time difference between when the second beacon message was scheduled to be transmitted and when it actually was transmitted.

51. An access point to communicate a set of information elements in a base station subsystem, the access point comprising:

a transmitter to transmit beacon messages, each beacon message an instance of a full beacon message type or an instance of a short beacon message type, wherein each beacon message of the full beacon message type comprises the set of information elements;

the transmitter to transmit a plurality of beacon messages of the short beacon message type, each beacon message in the plurality of beacon messages comprising a proper subset of the set of information elements, wherein the plurality of beacon messages comprises the set of information elements.

52. The access point of claim 51, wherein the set of information elements comprise full network information of the base station subsystem.

53. A system comprising an access point, the access point comprising:

a transmitter to transmit beacon messages, each beacon message an instance of a full beacon message type or an instance of a short beacon message type,

the transmitter to transmit a first beacon message comprising content information, the content information specifying content of information contained in beacon messages of the short beacon message type transmitted subsequently to the first beacon message.

54. The system of claim 53,

the transmitter to transmit a plurality of beacon messages of the short beacon message type subsequent to the first beacon message, each beacon message in the plurality of beacon messages comprising information according to the content information;

the system further comprising an access terminal, the access terminal comprising a processor to change a power state of the access terminal into a low power state for a portion of the plurality of beacon messages of the short beacon message type based upon the content information.

55. The system of claim 53, wherein the first beacon message is of the short beacon message type.

56. An access terminal to receive beacon messages for a base station subsystem, each beacon message an instance of a full beacon message type or an instance of a short beacon message type, the access terminal comprising:

a receiver to receive a plurality of beacon messages of the short beacon message type, each beacon message in the plurality of beacon messages comprising a physical layer preamble comprising a SIG field, the SIG field comprising a length field;

a decoding module to decode the plurality of beacon messages, wherein beacon messages in the plurality of beacon messages are decoded as synchronization beacon messages provided their length field is set to all zeroes.

57. The access terminal of claim 56, wherein each beacon message decoded as a synchronization beacon messages comprises a subsequent relative position field to indicate the sequence position of the synchronizing beacon with respect to the first beacon message in a sequence of beacon messages.

58. The access terminal of claim 57, wherein each beacon message decoded as a synchronization beacon message comprises a subsequent offset field to indicate the offset time at which the synchronizing beacon is transmitted with respect to the time the synchronizing beacon was expected to be transmitted.

59. A system for communicating beacon messages in a base station subsystem comprising an access point and an access terminal, the system comprising:

an access point comprising a means for transmitting to transmit a repeating finite sequence of beacon messages, the sequence comprising a first beacon message comprising a relative position identifier to indicate timing of subsequent beacon messages in the finite sequence and to identify content contained in the subsequent beacon messages, the subsequent beacon messages including information not contained in the first beacon message;

an access terminal comprising

a means for decoding to decode the first beacon message and a proper subset of the sequence of beacon messages based upon the relative position identifier;

a means for processing to change the state of the access terminal to a low power state when the means for transmitting of the access point transmits a second subset of sequence of beacon messages, the second subset of beacon messages comprising beacon messages not in the proper subset and not including the first beacon message.

60. The system of claim 59, the first beacon message having information comprising network bandwidth for the base station subsystem.

61. The system of claim 59, the first beacon message having information indicating a second beacon message in the sequence has information comprising capabilities of the access point.

62. The system of claim 61, the capabilities including the number of antennas of the access point.

63. The system of claim 59, the first beacon message including a full beacon follows field to indicate if the access point transmits a full beacon message immediately following in sequence the first beacon message.

64. The system of claim 59, wherein the means for decoding

decodes a second beacon message providing an absolute time; and

decodes a third beacon message subsequent to the second beacon message, the third beacon message comprising a sequence number relative to the first beacon message and a time offset, the time offset indicating a time difference between when the third beacon message was scheduled to be transmitted by the access point and when it actually was transmitted.

65. The system of claim 64, wherein the second beacon message is the first beacon message.

66. The system of claim 64, the second beacon message comprising a physical layer preamble having a length field consisting of all zeros.

67. The system of claim 59, the repeating sequence of beacon messages having a short beacon interval and a beacon interval, the beacon interval an integer multiple of the short beacon interval.

68. The system of claim 59, comprising a base system substation, the base system substation comprising the access point and having a BSSID (Basic Service Set Identification), the first beacon message having information comprising a compressed value of the BSSID.

69. The system of claim 68, wherein the compressed BSSID value is a CRC (Cyclic Redundancy Check) of the BSSID.

70. The system of claim 59, the access point having a timestamp, the first beacon message having a four-byte timestamp consisting of the four least significant bytes of the access point timestamp.

71. The system of claim 59, first beacon message comprising a one byte change sequence field, the access point to increase the value of the change sequence field to indicate a change in network information.

72. The system of claim 59, the first beacon message comprising a frame control field, wherein the frame control field includes a three-bit BW (Bandwidth) field.

73. An access point identified by a BSSID (Basic Service Set Identification), the access point comprising:

a means for transmitting to transmit beacon messages, each beacon message an instance of a full beacon message type or an instance of a short beacon message type, the means for transmitting to transmit beacon messages of the short beacon message type at a first time interval, and to transmit full beacon messages of the full beacon message type at a second time interval, the second time interval equal to an integer multiple of the first time interval;

wherein each beacon message of the short beacon message type includes a compressed BSSID field having a value indicative of a cyclic redundancy check of the BSSID.

74. The access point of claim 73, the access point providing a timestamp, wherein each beacon message of the short beacon message type includes a four-byte timestamp consisting of the four least significant bytes of the access point timestamp.

75. The access point of claim 73, wherein each beacon message of the short beacon message type includes a one-byte change sequence field having a value, the access point

to increment the value of the change sequence field in a beacon message of the short beacon message type to indicate a change in information regarding the base station subsystem.

76. The access point of claim 73, wherein each beacon message of the short beacon message type includes a full beacon follows field to indicate if an immediately subsequent beacon message is of the full beacon message type.

77. The access point of claim 76, the access point providing a timestamp, wherein the time of a next beacon message indicated in the full beacon follows field is the higher three bytes of the four least significant bytes of the value of the timestamp when the next beacon message of the full beacon message type is scheduled for transmission.

78. The access point of claim 73, wherein each beacon message of the short beacon message type includes a frame control field and a three-bit BW (Bandwidth) field contained in the frame control field.

79. An access terminal to receive beacon messages in a base station subsystem, the access terminal comprising:

a means for decoding to decode a first beacon message providing an absolute time, and to decode a second beacon message subsequent to the first beacon message, the second beacon message comprising a sequence number relative to the first beacon message and a time offset, the time offset indicating a time difference between when the second beacon message was scheduled to be transmitted and when it actually was transmitted.

80. An access point to communicate a set of information elements in a base station subsystem, the access point comprising:

a means for transmitting to transmit beacon messages, each beacon message an instance of a full beacon message type or an instance of a short beacon message type, wherein each beacon message of the full beacon message type comprises the set of information elements;

the means for transmitting to transmit a plurality of beacon messages of the short beacon message type, each beacon message in the plurality of beacon messages comprising a proper subset of the set of information elements, wherein the plurality of beacon messages comprises the set of information elements.

81. The access point of claim 80, wherein the set of information elements comprise full network information of the base station subsystem.

82. A system comprising an access point, the access point comprising:

a means for transmitting to transmit beacon messages, each beacon message an instance of a full beacon message type or an instance of a short beacon message type,

the means for transmitting to transmit a first beacon message comprising content information, the content information specifying content of information contained in beacon messages of the short beacon message type transmitted subsequently to the first beacon message.

83. The system of claim 82,

the means for transmitting to transmit a plurality of beacon messages of the short beacon message type subsequent to the first beacon message, each beacon message in the plurality of beacon messages comprising information according to the content information;

the system further comprising an access terminal, the access terminal comprising a means for processing to change a power state of the access terminal into a low power state for a portion of the plurality of beacon messages of the short beacon message type based upon the content information.

84. The system of claim 82, wherein the first beacon message is of the short beacon message type.

85. An access terminal to receive beacon messages for a base station subsystem, each beacon message an instance of a full beacon message type or an instance of a short beacon message type, the access terminal comprising:

a means for receiving to receive a plurality of beacon messages of the short beacon message type, each beacon message in the plurality of beacon messages comprising a physical layer preamble comprising a SIG field, the SIG field comprising a length field;

a means for decoding to decode the plurality of beacon messages, wherein beacon messages in the plurality of beacon messages are decoded as synchronization beacon messages provided their length field is set to all zeroes.

86. The access terminal of claim 85, wherein each beacon message decoded as a synchronization beacon messages comprises a subsequent relative position field to indicate the sequence position of the synchronizing beacon with respect to the first beacon message in a sequence of beacon messages.

87. The access terminal of claim 86, wherein each beacon message decoded as a synchronization beacon message comprises a subsequent offset field to indicate the offset time at which the synchronizing beacon is transmitted with respect to the time the synchronizing beacon was expected to be transmitted.

88. An article of manufacture comprising computer readable storage medium having instructions stored thereon to perform a method when executed by at least one processor, the method for communicating beacon messages in a base station subsystem comprising an access point and an access terminal, the method comprising:

transmitting from the access point to the access terminal a repeating finite sequence of beacon messages, the sequence comprising a first beacon message comprising a relative position identifier to indicate timing of subsequent beacon messages in the finite sequence and to identify content contained in the subsequent beacon messages, the subsequent beacon messages including information not contained in the first beacon message;

decoding at the access terminal the first beacon message and a proper subset of the sequence of beacon messages based upon the relative position identifier, the access terminal in a low power state during transmission of a second subset of sequence of beacon messages, the second subset of beacon messages comprising beacon messages not in the proper subset and not including the first beacon message.

89. The article of manufacture of claim 88, the first beacon message having information comprising network bandwidth for the base station subsystem.

90. The article of manufacture of claim 88, the first beacon message having information indicating a second beacon message in the sequence has information comprising capabilities of the access point.

91. The article of manufacture of claim 90, the capabilities including the number of antennas of the access point.

92. The article of manufacture of claim 88, the first beacon message including a full beacon follows field to indicate if the access point transmits a full beacon message immediately following in sequence the first beacon message.

93. The article of manufacture of claim 88, the method further comprising:

decoding by the access terminal a second beacon message providing an absolute time; and

decoding by the access terminal a third beacon message subsequent to the second beacon message, the third beacon message comprising a sequence number relative to the first beacon message and a time offset, the time offset indicating a time difference between when the third beacon message was scheduled to be transmitted by the access point and when it actually was transmitted.

94. The article of manufacture of claim 93, wherein the second beacon message is the first beacon message.

95. The article of manufacture of claim 93, the second beacon message comprising a physical layer preamble having a length field consisting of all zeros.

96. The article of manufacture of claim 88, the repeating sequence of beacon messages having a short beacon interval and a beacon interval, the beacon interval an integer multiple of the short beacon interval.

97. The article of manufacture of claim 88, the base system substation having a BSSID (Basic Service Set Identification), the first beacon message having information comprising a compressed value of the BSSID.

98. The article of manufacture of claim 97, wherein the compressed BSSID value is a CRC (Cyclic Redundancy Check) of the BSSID.

99. The article of manufacture of claim 88, the access point having a timestamp, the first beacon message having a four-byte timestamp consisting of the four least significant bytes of the access point timestamp.

100. The article of manufacture of claim 88, first beacon message comprising a one byte change sequence field, the method further comprising:

increasing the value of the change sequence field to indicate a change in network information.

101. The article of manufacture of claim 88, the first beacon message comprising a frame control field, wherein the frame control field includes a three-bit BW (Bandwidth) field.

102. An article of manufacture comprising computer readable storage medium having instructions stored thereon to perform a method when executed by at least one processor, the method for communicating beacon messages in a base station subsystem comprising an access point and an access terminal, the base station subsystem identified by a BSSID (Basic Service Set Identification), the method comprising:

transmitting beacon messages from the access point to the access terminal, each beacon message an instance of a full beacon message type or an instance of a short beacon message type;

transmitting beacon messages of the short beacon message type at a first time interval, and transmitting full beacon messages of the full beacon message type at a second time interval, the second time interval equal to an integer multiple of the first time interval;

wherein each beacon message of the short beacon message type includes a compressed BSSID field having a value indicative of a cyclic redundancy check of the BSSID.

103. The article of manufacture of claim 102, the access point providing a timestamp, wherein each beacon message of the short beacon message type includes a four-byte timestamp consisting of the four least significant bytes of the access point timestamp.

104. The article of manufacture of claim 102, wherein each beacon message of the short beacon message type includes a one-byte change sequence field having a value, the method further comprising:

incrementing the value of the change sequence field in a beacon message of the short beacon message type to indicate a change in information regarding the base station subsystem.

105. The article of manufacture of claim 102, wherein each beacon message of the short beacon message type includes a full beacon follows field to indicate if an immediately subsequent beacon message is of the full beacon message type.

106. The article of manufacture of claim 105, the access point providing a timestamp, wherein the time of a next beacon message indicated in the full beacon follows field is the higher three bytes of the four least significant bytes of the value of the timestamp when the next beacon message of the full beacon message type is scheduled for transmission.

107. The article of manufacture of claim 102, wherein each beacon message of the short beacon message type includes a frame control field and a three-bit BW (Bandwidth) field contained in the frame control field.

108. An article of manufacture comprising computer readable storage medium having instructions stored thereon to perform a method when executed by at least one processor, the method for communicating beacon messages in a base station subsystem comprising an access point and an access terminal, the method comprising:

decoding by the access terminal a first beacon message providing an absolute time; and

decoding by the access terminal a second beacon message subsequent to the first beacon message, the second beacon message comprising a sequence number relative to the first beacon message and a time offset, the time offset indicating a time difference between when the second beacon message was scheduled to be transmitted by the access point and when it actually was transmitted.

109. An article of manufacture comprising computer readable storage medium having instructions stored thereon to perform a method when executed by at least one processor, the method for communicating a set of information elements in a base station subsystem comprising an access point and an access terminal, the method comprising:

transmitting beacon messages from the access point to the access terminal, each beacon message an instance of a full beacon message type or an instance of a short beacon message type, wherein each beacon message of the full beacon message type comprises the set of information elements;

transmitting a plurality of beacon messages of the short beacon message type, each beacon message in the plurality of beacon messages comprising a proper subset of the set of information elements, wherein the plurality of beacon messages comprises the set of information elements.

110. The article of manufacture of claim 109, wherein the set of information elements comprise full network information of the base station subsystem.

111. An article of manufacture comprising computer readable storage medium having instructions stored thereon to perform a method when executed by at least one processor, the method for communicating beacon messages in a base station subsystem comprising an access point and an access terminal, the method comprising:

transmitting beacon messages from the access point to the access terminal, each beacon message an instance of a full beacon message type or an instance of a short beacon message type,

transmitting a first beacon message comprising content information, the content information specifying content of information contained in beacon messages of the short beacon message type transmitted subsequently to the first beacon message.

112. The article of manufacture of claim 111, the method further comprising:

transmitting a plurality of beacon messages of the short beacon message type subsequent to the first beacon message, each beacon message in the plurality of beacon messages comprising information according to the content information;

changing a power state of the access terminal into a low power state for a portion of the plurality of beacon messages of the short beacon message type based upon the content information.

113. The article of manufacture of claim 111, wherein the first beacon message is of the short beacon message type.

114. An article of manufacture comprising computer readable storage medium having instructions stored thereon to perform a method when executed by at least one processor, the method for communicating beacon messages in a base station subsystem comprising an access point and an access terminal, the method comprising:

transmitting beacon messages from the access point to the access terminal, each beacon message an instance of a full beacon message type or an instance of a short beacon message type;

transmitting a plurality of beacon messages of the short beacon message type, each beacon message in the plurality of beacon messages comprising a physical layer preamble comprising a SIG field, the SIG field comprising a length field;

decoding at the access terminal the plurality of beacon messages, wherein beacon messages in the plurality of beacon messages are decoded as synchronization beacon messages provided their length field is set to all zeroes.

115. The article of manufacture of claim 114, wherein each beacon message decoded as a synchronization beacon messages comprises a subsequent relative position field to indicate the sequence position of the synchronizing beacon with respect to the first beacon message in a sequence of beacon messages.

116. The article of manufacture of claim 115, wherein each beacon message decoded as a synchronization beacon message comprises a subsequent offset field to indicate the offset time at which the synchronizing beacon is transmitted with respect to the time the synchronizing beacon was expected to be transmitted.

CLAIMS

1. A method of communicating beacon messages in a base station subsystem comprising an access point and an access terminal, the method comprising: transmitting, from the access point to the access terminal, a repeating finite sequence of beacon messages, the sequence comprising a first beacon message comprising a relative position identifier to indicate timing of subsequent beacon messages in the finite sequence and to identify content included in the subsequent beacon messages, wherein the subsequent beacon messages include information not included in the first beacon message; transmitting, from the access point to the access terminal, a time offset, an absolute time, and a sequence number to enable the access terminal to transition from a low power state to a high power state at a time determined from the time offset, the absolute time, and the sequence number; and decoding, at the access terminal, the first beacon message and a proper subset of the sequence of beacon messages based upon the relative position identifier, wherein the access terminal is in a low power state during transmission of a second subset of sequence of beacon messages, and the second subset of beacon messages comprises beacon messages not in the proper subset and does not include the first beacon message.

2. The method of claim 1, wherein the first beacon message includes information comprising network bandwidth for the base station subsystem.

3. The method of claim 1, wherein the first beacon message includes information indicating a second beacon message in the sequence has information comprising capabilities of the access point.

4. The method of claim 3, wherein the capabilities includes a number of antennas of the access point.

5. The method of claim 1, wherein the first beacon message includes a full beacon follows field indicating if the access point transmits a full beacon message immediately following in sequence the first beacon message.

6. The method of claim 1, further comprising: decoding, by the access terminal, a second beacon message providing the absolute time; and decoding, by the access terminal, a third beacon message subsequent to the second beacon message, wherein the third beacon message comprises the sequence number relative to the first beacon message and the time offset, and the time offset indicates a time difference between when the third beacon message was scheduled to be transmitted by the access point and when the third beacon message was transmitted.

7. The method of claim 6, wherein the second beacon message comprises a physical layer preamble having a length field comprised of all zeros.

8. The method of claim 1, wherein the repeating sequence of beacon messages has a short beacon interval and a beacon interval that is an integer multiple of the short beacon interval.

9. The method of claim 1, wherein the base system substation has a Basic Service Set Identification (BSSID), and the first beacon message has information comprising a compressed value of the BSSID.

10. The method of claim 9, wherein the compressed BSSID value is a cyclic redundancy check of the BSSID.

11. The method of claim 1, wherein the first beacon message has a four-byte timestamp comprised of the four least significant bytes of the access point timestamp.

12. The method of claim 1, wherein the first beacon message comprises a one byte change sequence field, and the method further comprises increasing, by the access point, the value of the change sequence field to indicate a change in network information.

13. The method of claim 1, wherein the first beacon message comprises a frame control field including a three-bit bandwidth field.

14. A method of communicating in a base station subsystem comprising an access point and an access terminal, wherein the base station subsystem is identified by a Basic Service Set Identification (BSSID), the method comprising: transmitting beacon messages from the access point to the access terminal, wherein each beacon message is an instance of a full beacon message type or an instance of a short beacon message type; transmitting, from the access point to the access terminal, a time offset, an absolute time, and a sequence number to enable the access terminal to transition from a low power state to a high power state at a time determined from the time offset, the absolute time, and the sequence number; transmitting beacon messages of the short beacon message type at a first time interval; and transmitting full beacon messages of the full beacon message type at a second time interval equal to an integer multiple of the first time interval, wherein each beacon message of the short beacon message type includes a compressed BSSID field having a value indicative of a cyclic redundancy check of the BSSID.

15. The method of claim 14, wherein the access point provides a timestamp, and each beacon message of the short beacon message type includes a four-byte timestamp comprised of the four least significant bytes of the access point timestamp.

16. The method of claim 14, wherein each beacon message of the short beacon message type includes a one-byte change sequence field having a value, and the method further comprises: incrementing the value of the change sequence field in the beacon message of the short beacon message type to indicate a change in information regarding the base station subsystem.

17. The method of claim 14, wherein each beacon message of the short beacon message type includes a full beacon follows field indicating if an immediately subsequent beacon message is of the full beacon message type.

18. The method of claim 17, wherein the access point provides a timestamp, and the time of a next beacon message indicated in the full beacon follows field is the higher three bytes of the four least significant bytes of the value of the timestamp when the next beacon message of the full beacon message type is scheduled for transmission.

19. The method of claim 14, wherein each beacon message of the short beacon message type includes a frame control field including a three-bit bandwidth field.

20. A method of communicating beacon messages in a base station subsystem comprising an access point and an access terminal, the method comprising: decoding, by the access terminal, a first beacon message providing an absolute time; decoding, by the access terminal, a second beacon message subsequent to the first beacon message, wherein the second beacon message comprises a sequence number relative to the first beacon message and a time offset indicating a time difference between when the second beacon message was scheduled to be transmitted by the access point and when the second beacon message actually was transmitted; and transitioning the access terminal from a low power state to a high power state at a time determined from the time offset, the absolute time, and the sequence number.

21. A method of communicating a set of information elements in a base station subsystem comprising an access point and an access terminal, the method comprising: transmitting beacon messages from the access point to the access terminal, wherein each beacon message is an instance of a full beacon message type or an instance of a short beacon message type, and each beacon message of the full beacon message type comprises the set of information elements; transmitting a plurality of beacon messages of the short beacon message type, wherein each beacon message in the plurality of beacon messages comprises a proper subset of the set of information elements, and the plurality of beacon messages comprises the set of information elements; and transmitting a time offset, an absolute time, and a sequence number to the access terminal to enable the access terminal to transition from a low power state to a high power state at a time determined from the time offset, the absolute time, and the sequence number.

22. The method of claim 21, wherein the set of information elements comprise network information about the base station subsystem.

23. A method of communicating in a base station subsystem comprising an access point and an access terminal, the method comprising: transmitting beacon messages from the access point to the access terminal, wherein each beacon message is an instance of a full beacon message type or an instance of a short beacon message type; transmitting a first beacon message comprising content information specifying information included in beacon messages of the short beacon message type transmitted subsequently to the first beacon message; and transmitting a time offset, an absolute time, and a sequence number to the access terminal to enable the access terminal to transition from a low power state to a high power state at a time determined from the time offset, the absolute time, and the sequence number.

24. The method of claim 23, further comprising: transmitting a plurality of beacon messages of the short beacon message type subsequent to the first beacon message, wherein each beacon message in the plurality of beacon messages comprises information according to the content information; and changing, based upon the content information, a power state of the access terminal into the low power state for a portion of the plurality of beacon messages of the short beacon message type.

25. The method of claim 23, wherein the first beacon message is of the short beacon message type.

26. A method of communicating in a base station subsystem comprising an access point and an access terminal, the method comprising: transmitting beacon messages from the access point to the access terminal, wherein each beacon message is an instance of a full beacon message type or an instance of a short beacon message type; transmitting a plurality of beacon messages of the short beacon message type, wherein each beacon message in the plurality of beacon messages comprises a physical layer preamble comprising a signal field including a length field; and decoding, at the access terminal, the plurality of beacon messages as synchronization beacon messages, provided the length field of the beacon messages is set to all zeroes.

27. The method of claim 26, wherein each beacon message decoded as a synchronization beacon message comprises a subsequent relative position field indicating the sequence position of the synchronizing beacon with respect to the first beacon message in a sequence of beacon messages.

28. The method of claim 27, wherein each beacon message decoded as a synchronization beacon message comprises a subsequent offset field indicating the offset time at which the synchronizing beacon is transmitted with respect to the time the synchronizing beacon was expected to be transmitted.

29. A system for communicating beacon messages in a base station subsystem comprising an access point and an access terminal, the system comprising: the access point comprising a transmitter configured to transmit a repeating finite sequence of beacon messages, wherein the sequence comprises a first beacon message including a relative position identifier indicating timing of subsequent beacon messages in the finite sequence and configured to identify content included in the subsequent beacon messages, and the subsequent beacon messages include information not included in the first beacon message; and the access terminal comprising: a decoding module configured to decode, based upon the relative position identifier, the first beacon message and a proper subset of the sequence of beacon messages; and a processor configured to change a state of the access terminal to a low power state when the transmitter of the access point transmits a second subset of sequence of beacon messages, wherein the second subset of beacon messages comprises beacon messages not in the proper subset and does not include the first beacon message, and are configured to transition the access terminal from the

low power state to a high power state at a time determined from a time offset, an absolute time, and a sequence number.

30. The system of claim 29, wherein the first beacon message includes information comprising network bandwidth for the base station subsystem.

31. The system of claim 29, wherein the first beacon message includes information indicating a second beacon message in the sequence has information comprising capabilities of the access point.

32. The system of claim 31, wherein the capabilities include a number of antennas of the access point.

33. The system of claim 29, wherein the first beacon message includes a full beacon follows field indicating if the access point transmits a full beacon message immediately following the first beacon message.

34. The system of claim 29, wherein the decoding module is configured to: decode a second beacon message providing the absolute time; and decode a third beacon message subsequent to the second beacon message, wherein the third beacon message comprises the sequence number relative to the first beacon message and the time offset, and the time offset indicates a time difference between when the third beacon message was scheduled to be transmitted by the access point and when the third beacon message was transmitted.

35. The system of claim 34, wherein the second beacon message comprises a physical layer preamble having a length field comprised of all zeros.

36. The system of claim 29, wherein the repeating sequence of beacon messages has a short beacon interval and a beacon interval that is an integer multiple of the short beacon interval.

37. The system of claim 29, comprising a base system substation comprising the access point and having a Basic Service Set Identification (BSSID), wherein the first beacon message includes information comprising a compressed value of the BSSID.

38. The system of claim 37, wherein the compressed BSSID value is a cyclic redundancy check of the BSSID.

39. The system of claim 29, wherein the first beacon message has a four-byte timestamp comprised of the four least significant bytes of the access point timestamp.

40. The system of claim 29, wherein the first beacon message comprises a one byte change sequence field, and the access point is configured to increase the value of the change sequence field to indicate a change in network information.

41. The system of claim 29, wherein the first beacon message comprises a frame control field including a three-bit bandwidth field.

42. An access point identified by a Basic Service Set Identification (BSSID), the access point comprising: a transmitter configured to transmit beacon messages, wherein: each beacon message is an instance of a full beacon message type or an instance of a short beacon message type; the transmitter is configured to: transmit beacon messages of the short beacon message type at a first time interval, transmit full beacon messages of the full beacon message type at a second time interval, the second time interval equal to an integer multiple of the first time interval, and transmit a time offset, an absolute time, and a sequence number to the access terminal to enable the access terminal to transition from a low power state to a high power state at a time determined from the time offset, the absolute time, and the sequence number; and each beacon message of the short beacon message type includes a compressed BSSID field having a value indicative of a cyclic redundancy check of the BSSID.

43. The access point of claim 42, wherein the access point is configure to provide a timestamp, and each beacon message of the short beacon message type includes a four-byte timestamp comprised of the four least significant bytes of the access point timestamp.

44. The access point of claim 42, wherein each beacon message of the short beacon message type includes a one-byte change sequence field having a value, and the access point is configured to increment the value of the change sequence field in a beacon message of the short beacon message type indicating a change in information regarding the base station subsystem.

45. The access point of claim 42, wherein each beacon message of the short beacon message type includes a full beacon follows field indicating if an immediately subsequent beacon message is of the full beacon message type.

46. The access point of claim 45, wherein the access point is configured to provide a timestamp, and the time of a next beacon message indicated in the full beacon follows field is the higher three bytes of the four least significant bytes of the value of the timestamp when the next beacon message of the full beacon message type is scheduled for transmission.

47. The access point of claim 42, wherein each beacon message of the short beacon message type includes a frame control field including a three-bit bandwidth field.

48. An access terminal configured to receive beacon messages in a base station subsystem, the access terminal comprising: a decoding module configured to: decode a first beacon message providing an absolute time; decode a second beacon message subsequent to the first beacon message, wherein the second beacon message comprises a sequence number relative to the first beacon message and a time offset, and the time offset indicates a time difference between when the second beacon message was scheduled to be transmitted and when the second beacon

message actually was transmitted; and transition the access terminal from a low power state to a high power state at a time determined from the time offset, the absolute time, and the sequence number.

49. An access point configured to communicate a set of information elements in a base station subsystem, the access point comprising: a transmitter configured to: transmit beacon messages, wherein each beacon message is an instance of a full beacon message type or an instance of a short beacon message type, and each beacon message of the full beacon message type comprises the set of information elements; transmit a plurality of beacon messages of the short beacon message type, wherein each beacon message in the plurality of beacon messages comprises a proper subset of the set of information elements, and the plurality of beacon messages comprises the set of information elements; and transmit a time offset, an absolute time, and a sequence number to the access terminal to enable the access terminal to transition from a low power state to a high power state at a time determined from the time offset, the absolute time, and the sequence number.

50. The access point of claim 49, wherein the set of information elements comprise network information about the base station subsystem.

51. A system comprising an access point, the access point comprising a transmitter configured to: transmit beacon messages, wherein each beacon message is an instance of a full beacon message type or an instance of a short beacon message type; transmit a first beacon message comprising content information specifying information included in beacon messages of the short beacon message type transmitted subsequently to the first beacon message; and transmit a time offset, an absolute time, and a sequence number to the access terminal to enable the access terminal to transition from a low power state to a high power state at a time determined from the time offset, the absolute time, and the sequence number.

52. The system of claim 51, wherein: the transmitter is further configured to transmit a plurality of beacon messages of the short beacon message type subsequent to the first beacon message; each beacon message in the plurality of beacon messages comprises information according to the content information; and the system further comprises an access terminal comprising a processor configured to change, based upon the content information, a power state of the access terminal into the low power state for a portion of the plurality of beacon messages of the short beacon message type.

53. The system of claim 51, wherein the first beacon message is of the short beacon message type.

54. An access terminal configured to receive beacon messages for a base station subsystem, wherein each beacon message is an instance of a full beacon message type or an instance of a short beacon message type, the access terminal comprising: a receiver configured to receive a plurality of beacon messages of the short beacon message type, wherein each beacon message in

the plurality of beacon messages comprises a physical layer preamble comprising a signal field comprising a length field; and a decoding module configured to decode the plurality of beacon messages, wherein the beacon messages in the plurality of beacon messages are decoded as synchronization beacon messages, provided the length field of the beacon messages is set to all zeroes.

55. The access terminal of claim 54, wherein each beacon message decoded as a synchronization beacon messages comprises a subsequent relative position field indicating the sequence position of the synchronizing beacon with respect to the first beacon message in a sequence of beacon messages.

56. The access terminal of claim 55, wherein each beacon message decoded as a synchronization beacon message comprises a subsequent offset field indicating the offset time at which the synchronizing beacon is transmitted with respect to the time the synchronizing beacon was expected to be transmitted.

57. A system for communicating beacon messages in a base station subsystem comprising an access point and an access terminal, the system comprising: the access point comprising a means for transmitting that is configured to: transmit a repeating finite sequence of beacon messages, wherein the sequence a first beacon message comprising a relative position identifier to indicate timing of subsequent beacon messages in the finite sequence, identify content included in the subsequent beacon messages, wherein the subsequent beacon messages includes information not included in the first beacon message, and transmit a time offset, an absolute time, and a sequence number to an access terminal to enable the access terminal to transition from a low power state to a high power state at a time determined from the time offset, the absolute time, and the sequence number, wherein the access terminal comprises: a means for decoding configured to decode the first beacon message and a proper subset of the sequence of beacon messages based upon the relative position identifier; and a means for processing configured to change the state of the access terminal to a low power state when the means for transmitting of the access point transmits a second subset of sequence of beacon messages, wherein the second subset of beacon messages comprises beacon messages not in the proper subset and does not include the first beacon message.

58. The system of claim 57, wherein the first beacon message includes information comprising network bandwidth for the base station subsystem.

59. The system of claim 57, wherein the first beacon message includes information indicating a second beacon message in the sequence has information comprising capabilities of the access point.

60. The system of claim 59, wherein the capabilities include the number of antennas of the access point.

61. The system of claim 57, wherein the first beacon message includes a full beacon follows field indicating if the access point transmits a full beacon message immediately following in sequence the first beacon message.

62. The system of claim 57, wherein the means for decoding is configured to: decode a second beacon message providing the absolute time; and decode a third beacon message subsequent to the second beacon message, wherein the third beacon message comprises the sequence number relative to the first beacon message and the time offset, and the time offset indicates a time difference between when the third beacon message was scheduled to be transmitted by the access point and when the third beacon message was transmitted.

63. The system of claim 62, wherein the second beacon message comprises a physical layer preamble having a length field comprised of all zeros.

64. The system of claim 57, wherein the repeating sequence of beacon messages has a short beacon interval and a beacon interval, and the beacon interval is an integer multiple of the short beacon interval.

65. The system of claim 57, further comprising a base system substation including the access point and having a Basic Service Set Identification (BSSID), wherein the first beacon message includes information comprising a compressed value of the BSSID.

66. The system of claim 65, wherein the compressed BSSID value is a cyclic redundancy check of the BSSID.

67. The system of claim 57, wherein the first beacon message includes a four-byte timestamp comprised of the four least significant bytes of the access point timestamp.

68. The system of claim 57, wherein first beacon message comprises a one byte change sequence field, and the access point is configured to increase the value of the change sequence field to indicate a change in network information.

69. The system of claim 57, wherein the first beacon message a frame control field including a three-bit bandwidth field.

70. An access point identified by a Basic Service Set Identification (BSSID), the access point comprising: a means for transmitting beacon messages, wherein each beacon message is an instance of a full beacon message type or an instance of a short beacon message type, and the means for transmitting is configured to transmit beacon messages of the short beacon message type at a first time interval; a means for transmitting full beacon messages of the full beacon message type at a second time interval equal to an integer multiple of the first time interval; wherein each beacon message of the short beacon message type includes a compressed BSSID field having a value indicating a cyclic redundancy check of the BSSID; and a means for

transmitting a time offset, an absolute time, and a sequence number to an access terminal to enable the access terminal to transition from a low power state to a high power state at a time determined from the time offset, the absolute time, and the sequence number.

71. The access point of claim 70, wherein the access point is configured to provide a timestamp, and each beacon message of the short beacon message type includes a four-byte timestamp comprised of the four least significant bytes of the access point timestamp.

72. The access point of claim 70, wherein each beacon message of the short beacon message type includes a one-byte change sequence field having a value, and the access point is configured to increment the value of the change sequence field in a beacon message of the short beacon message type to indicate a change in information regarding the base station subsystem.

73. The access point of claim 70, wherein each beacon message of the short beacon message type includes a full beacon follows field indicating if an immediately subsequent beacon message is of the full beacon message type.

74. The access point of claim 73, wherein the access point is configured to provide a timestamp, and the time of a next beacon message indicated in the full beacon follows field is the higher three bytes of the four least significant bytes of the value of the timestamp when the next beacon message of the full beacon message type is scheduled for transmission.

75. The access point of claim 70, wherein each beacon message of the short beacon message type includes a frame control field including a three-bit bandwidth field.

76. An access terminal to receive beacon messages in a base station subsystem, the access terminal comprising: a means for decoding configured to: decode a first beacon message providing an absolute time, decode a second beacon message subsequent to the first beacon message, wherein the second beacon message comprises a sequence number relative to the first beacon message and a time offset, and the time offset indicates a time difference between when the second beacon message was scheduled to be transmitted and when the second beacon message was transmitted; and means for transitioning the access terminal from a low power state to a high power state at a time determined from the time offset, the absolute time, and the sequence number.

77. An access point to communicate a set of information elements in a base station subsystem, the access point comprising: a means for transmitting beacon messages, wherein each beacon message is an instance of a full beacon message type or an instance of a short beacon message type, and each beacon message of the full beacon message type comprises the set of information elements; a means for transmitting a plurality of beacon messages of the short beacon message type, wherein each beacon message in the plurality of beacon messages comprising a proper subset of the set of information elements, and the plurality of beacon messages comprises the set of information elements; and a means for transmitting a time offset, an absolute time, and a

sequence number to the access terminal to enable the access terminal to transition from a low power state to a high power state at a time determined from the time offset, the absolute time, and the sequence number.

78. The access point of claim 77, wherein the set of information elements comprise network information about the base station subsystem.

79. A system comprising an access point, the access point comprising: a means for transmitting beacon messages, wherein each beacon message is an instance of a full beacon message type or an instance of a short beacon message type; a means for transmitting a first beacon message comprising content information specifying information included in beacon messages of the short beacon message type transmitted subsequently to the first beacon message; and a means for transmitting a time offset, an absolute time, and a sequence number to the access terminal to enable the access terminal to transition from a low power state to a high power state at a time determined from the time offset, the absolute time, and the sequence number.

80. The system of claim 79, wherein the means for transmitting beacon messages is configured to transmit beacon messages of the short beacon message type subsequent to the first beacon message, wherein each beacon message in the plurality of beacon messages comprises information according to the content information; and the system further comprises an access terminal comprising a means for changing, based upon the content information, a power state of the access terminal into the low power state for a portion of the plurality of beacon messages of the short beacon message type.

81. The system of claim 79, wherein the first beacon message is of the short beacon message type.

82. An access terminal configured to receive beacon messages for a base station subsystem, based upon the content information each beacon message is an instance of a full beacon message type or an instance of a short beacon message type, the access terminal comprising: a means for receiving a plurality of beacon messages of the short beacon message type, wherein each beacon message in the plurality of beacon messages comprising a physical layer preamble comprising a signal field including a length field; and a means for decoding the plurality of beacon messages, wherein the beacon messages in the plurality of beacon messages are decoded as synchronization beacon messages, provided the length field of the beacon messages is set to all zeroes.

83. The access terminal of claim 82, wherein each beacon message decoded as a synchronization beacon messages comprises a subsequent relative position field indicating the sequence position of the synchronizing beacon with respect to the first beacon message in a sequence of beacon messages.

84. The access terminal of claim 83, wherein each beacon message decoded as a synchronization beacon message comprises a subsequent offset field indicating the offset time at which the

synchronizing beacon is transmitted with respect to the time the synchronizing beacon was expected to be transmitted.

85. A non-transitory computer readable storage medium comprising processor-executable instructions stored thereon configured to cause a processor to execute a method for communicating beacon messages in a base station subsystem comprising an access point and an access terminal, the method comprising: transmitting, from the access point to the access terminal, a repeating finite sequence of beacon messages, wherein the sequence comprises a first beacon message comprising a relative position identifier indicating timing of subsequent beacon messages in the finite sequence and identifying content included in the subsequent beacon messages, and the subsequent beacon messages include information not included in the first beacon message; transmitting, from the access point to the access terminal, a time offset, an absolute time, and a sequence number to enable the access terminal to transition from a low power state to a high power state at a time determined from the time offset, the absolute time, and the sequence number; and decoding, at the access terminal, the first beacon message and a proper subset of the sequence of beacon messages based upon the relative position identifier, wherein the access terminal is in a low power state during transmission of a second subset of sequence of beacon messages, and the second subset of beacon messages comprises beacon messages not in the proper subset and does not include the first beacon message.

86. The non-transitory computer readable storage medium of claim 85, wherein the first beacon message includes information comprising network bandwidth for the base station subsystem.

87. The non-transitory computer readable storage medium of claim 85, wherein the first beacon message includes information indicating a second beacon message in the sequence has information comprising capabilities of the access point.

88. The non-transitory computer readable storage medium of claim 87, wherein the capabilities includes the number of antennas of the access point.

89. The non-transitory computer readable storage medium of claim 85, wherein the first beacon message includes a full beacon follows field indicating if the access point transmits a full beacon message immediately following in sequence the first beacon message.

90. The non-transitory computer readable storage medium of claim 85, the method further comprising: decoding, by the access terminal, a second beacon message providing the absolute time; and decoding, by the access terminal, a third beacon message subsequent to the second beacon message, wherein the third beacon message comprises the sequence number relative to the first beacon message and the time offset, and the time offset indicates a time difference between when the third beacon message was scheduled to be transmitted by the access point and when the third beacon message was transmitted.

91. The non-transitory computer readable storage medium of claim 90, wherein the second beacon message comprises a physical layer preamble having a length field comprised of all zeros.

92. The non-transitory computer readable storage medium of claim 85, wherein the repeating sequence of beacon messages has a short beacon interval and a beacon interval that is an integer multiple of the short beacon interval.

93. The non-transitory computer readable storage medium of claim 85, wherein the base system substation has a Basic Service Set Identification (BSSID), and the first beacon message has information comprising a compressed value of the BSSID.

94. The non-transitory computer readable storage medium of claim 93, wherein the compressed BSSID value is a cyclic redundancy check of the BSSID.

95. The non-transitory computer readable storage medium of claim 85, wherein the first beacon message has a four-byte timestamp comprised of the four least significant bytes of the access point timestamp.

96. The non-transitory computer readable storage medium of claim 85, wherein the first beacon message comprises a one byte change sequence field, and the method further comprises increasing the value of the change sequence field to indicate a change in network information.

97. The non-transitory computer readable storage medium of claim 85, wherein the first beacon message comprises a frame control field, and the frame control field includes a three-bit bandwidth field.

98. A non-transitory computer readable storage medium comprising processor-executable instructions stored thereon configured to cause a processor to execute a method for communicating beacon messages in a base station subsystem comprising an access point and an access terminal, wherein the base station subsystem is identified by a Basic Service Set Identification (BSSID), the method comprising: transmitting beacon messages from the access point to the access terminal, wherein each beacon message is an instance of a full beacon message type or an instance of a short beacon message type; transmitting, from the access point to the access terminal, a time offset, an absolute time, and a sequence number to enable the access terminal to transition from a low power state to a high power state at a time determined from the time offset, the absolute time, and the sequence number; and transmitting beacon messages of the short beacon message type at a first time interval, and transmitting full beacon messages of the full beacon message type at a second time interval, wherein the second time interval is equal to an integer multiple of the first time interval, and each beacon message of the short beacon message type includes a compressed BSSID field having a value indicative of a cyclic redundancy check of the BSSID.

99. The non-transitory computer readable storage medium of claim 98, wherein each beacon message of the short beacon message type includes a four-byte timestamp comprised of the four least significant bytes of the access point timestamp.

100. The non-transitory computer readable storage medium of claim 98, wherein each beacon message of the short beacon message type includes a one-byte change sequence field having a value, and the method further comprises incrementing the value of the change sequence field in a beacon message of the short beacon message type to indicate a change in information regarding the base station subsystem.

101. The non-transitory computer readable storage medium of claim 98, wherein each beacon message of the short beacon message type includes a full beacon follows field indicating if an immediately subsequent beacon message is of the full beacon message type.

102. The non-transitory computer readable storage medium of claim 101, wherein the access point provides a timestamp, and the time of a next beacon message indicated in the full beacon follows field is the higher three bytes of the four least significant bytes of the value of the timestamp when the next beacon message of the full beacon message type is scheduled for transmission.

103. The non-transitory computer readable storage medium of claim 98, wherein each beacon message of the short beacon message type includes a frame control field including a three-bit bandwidth field.

104. A non-transitory computer readable storage medium comprising processor-executable instructions stored thereon configured to cause a processor to execute a method for communicating beacon messages in a base station subsystem comprising an access point and an access terminal, the method comprising: decoding, by the access terminal, a first beacon message providing an absolute time; decoding, by the access terminal, a second beacon message subsequent to the first beacon message, wherein the second beacon message comprises a sequence number relative to the first beacon message and a time offset, and the time offset indicates a time difference between when the second beacon message was scheduled to be transmitted by the access point and when the second beacon message was transmitted; and transitioning the access terminal from a low power state to a high power state at a time determined from the time offset, the absolute time, and the sequence number.

105. A non-transitory computer readable storage medium having instructions stored thereon to perform a method when executed by at least one processor, the method for communicating a set of information elements in a base station subsystem comprising an access point and an access terminal, the method comprising: transmitting beacon messages from the access point to the access terminal, wherein each beacon message is an instance of a full beacon message type or an instance of a short beacon message type, wherein each beacon message of the full beacon message type comprises the set of information elements; transmitting a plurality of beacon

messages of the short beacon message type, wherein each beacon message in the plurality of beacon messages comprises a proper subset of the set of information elements, and the plurality of beacon messages comprises the set of information elements; and transmitting a time offset, an absolute time, and a sequence number to the access terminal to enable the access terminal to transition from a low power state to a high power state at a time determined from the time offset, the absolute time, and the sequence number.

106. The non-transitory computer readable storage medium of claim 105, wherein the set of information elements comprises network information about the base station subsystem.

107. A non-transitory computer readable storage medium comprising processor-executable instructions stored thereon configured to cause a processor to execute a method for communicating beacon messages in a base station subsystem comprising an access point and an access terminal, the method comprising: transmitting beacon messages from the access point to the access terminal, wherein each beacon message is an instance of a full beacon message type or an instance of a short beacon message type; transmitting a first beacon message comprising content information specifying information included in beacon messages of the short beacon message type transmitted subsequently to the first beacon message; and transmitting a time offset, an absolute time, and a sequence number to the access terminal to enable the access terminal to transition from a low power state to a high power state at a time determined from the time offset, the absolute time, and the sequence number.

108. The non-transitory computer readable storage medium of claim 107, the method further comprising: transmitting a plurality of beacon messages of the short beacon message type subsequent to the first beacon message, wherein each beacon message in the plurality of beacon messages comprises information according to the content information; and changing, based upon the content information, a power state of the access terminal into the low power state for a portion of the plurality of beacon messages of the short beacon message type.

109. The non-transitory computer readable storage medium of claim 107, wherein the first beacon message is of the short beacon message type.

110. A non-transitory computer readable storage medium comprising processor-executable instructions stored thereon configured to cause a processor to execute a method for communicating beacon messages in a base station subsystem comprising an access point and an access terminal, the method comprising: transmitting beacon messages from the access point to the access terminal, wherein each beacon message is an instance of a full beacon message type or an instance of a short beacon message type; transmitting a plurality of beacon messages of the short beacon message type, wherein each beacon message in the plurality of beacon messages comprises a physical layer preamble comprising a signal field including a length field; and decoding, at the access terminal, the plurality of beacon messages, wherein the beacon messages in the plurality of beacon messages are decoded as synchronization beacon messages, provided the length field of the beacon messages is set to all zeroes.

111. The non-transitory computer readable storage medium of claim 110, wherein each beacon message decoded as a synchronization beacon messages comprises a subsequent relative position field indicating the sequence position of the synchronizing beacon with respect to the first beacon message in a sequence of beacon messages.

112. The non-transitory computer readable storage medium of claim 111, wherein each beacon message decoded as a synchronization beacon message comprises a subsequent offset field indicating the offset time at which the synchronizing beacon is transmitted with respect to the time the synchronizing beacon was expected to be transmitted.