CLAIMS

1. A method for wireless communications by a user equipment (UE), comprising:

obtaining an indication of a key area identifier (ID) of a first cell node, wherein the key area ID identifies a set of cell nodes that are associated with a network node that uses a first key for enciphering or deciphering messages;

communicating a first set of messages with the first cell node using the first key for enciphering or deciphering the first set of messages;

receiving an indication of a key change and a corresponding counter from the first cell node or a second cell node;

deriving a second key based on the first key and the corresponding counter; and

using the second key for enciphering or deciphering a second set of messages to or from the first cell node or the second cell node.

2. The method of claim 1, further comprising:

obtaining another indication of the key area ID from the second cell node; and

communicating the second set of messages with the second cell node using the second key for enciphering or deciphering portions of each of the second set of messages.

3. The method of claim 2, wherein the second set of messages comprise radio resource control (RRC) connection request messages.

4. The method of claim 1, further comprising:

obtaining another indication of the key area ID from the second cell node; and

communicating a third set of messages with the second cell node using the first key for enciphering or deciphering the third set of messages.

5. The method of claim 1, further comprising:

receiving a third set of messages, enciphered using the first key, indicating a second key from the first cell node;

using a third key for enciphering or deciphering a fourth set of messages to or from the

first cell node.

6. A method for wireless communication by a user equipment (UE), comprising:

obtaining an indication of a key area identifier (ID) of a first cell node, wherein the key area ID identifies a set of cell nodes that are associated with a network node that uses a first key for enciphering or deciphering messages;

communicating a first set of messages with the first cell node using the first key for enciphering or deciphering the first set of messages;

obtaining another indication of the key area ID from a second cell node;

communicating a second set of messages with the second cell node using a second key for enciphering or deciphering portions of each of the second set of messages;

receiving a third set of messages, enciphered using the second key, indicating a third key from the second cell node; and

using the third key for enciphering or deciphering a fourth set of messages to or from the second cell node.

7. A method for wireless communications performed by a cell node, comprising:

providing an indication of a key area identifier (ID) of the cell node, wherein the key area ID identifies a set of cell nodes that are associated with a network node that uses a first key for enciphering or deciphering messages;

communicating a first set of messages with a user equipment (UE) using the first key for enciphering or deciphering the first set of messages;

providing an indication to the UE of a key change and a corresponding counter;

deriving a second key based on the first key and the corresponding counter; and

communicating a second set of messages with the UE using the second key for enciphering or deciphering the second set of messages.

8. The method of claim 7, wherein the second set of messages comprise radio resource control (RRC) connection request messages.

9. An apparatus for wireless communications, comprising:

a hardware processor configured to:

obtain an indication of a key area identifier (ID) of a first cell node, wherein the key area ID identifies a set of cell nodes that are associated with a network node that uses a first key for enciphering or deciphering messages;

communicate a first set of messages with the first cell node using the first key for enciphering or deciphering the first set of messages;

receive an indication of a key change and a corresponding counter from the first cell node or a second cell node;

derive a second key based on the first key and the corresponding counter; and

use the second key for enciphering or deciphering a second set of messages to or from the first cell node or the second cell node; and

a memory coupled with the processor.

10. The apparatus of claim 9, wherein the processor is further configured to:

obtain another indication of the key area ID from the second cell node; and

communicate the second set of messages with the second cell node using the second key, related to the first key, for enciphering or deciphering portions of each of the second set of messages.

11. The apparatus of claim 10, wherein the second set of messages comprise radio resource control (RRC) connection request messages.

12. The apparatus of claim 9, wherein the processor is further configured to:

obtain another indication of the key area ID from the second cell node; and

communicate a third set of messages with the second cell node using the first key for enciphering or deciphering the third set of messages.

13. The apparatus of claim 9, wherein the processor is further configured to:

receive a third set of messages, enciphered using the first key, indicating a second key from the first cell node; and

use a third key for enciphering or deciphering a fourth set of messages to or from the first

cell node.

14. An apparatus for wireless communications, comprising:

a hardware processor configured to:

obtain an indication of a key area identifier (ID) of a first cell node, wherein the key area ID identifies a set of cell nodes that are associated with a network node that uses a first key for enciphering or deciphering messages;

communicate a first set of messages with the first cell node using the first key for enciphering or deciphering the first set of messages;

obtain another indication of the key area ID from a second cell node;

communicate a second set of messages with the second cell node using a second key, related to the first key, for enciphering or deciphering portions of each of the second set of messages;

receive a third set of messages, enciphered using the second key, indicating a third key from the second cell node; and

use the third key for enciphering or deciphering a fourth set of messages to or from the second cell node; and

a memory coupled with the processor.

15. The apparatus of claim 14, wherein the processor is further configured to:

obtain another indication of the key area ID from the second cell node; and

communicate the second set of messages with the second cell node using the second key, related to the first key, for enciphering or deciphering portions of each of the second set of messages.

16. The apparatus of claim 15, wherein the second set of messages comprise radio resource control (RRC) connection request messages.

17. The apparatus of claim 14, wherein the processor is further configured to:

obtain another indication of the key area ID from the second cell node; and

communicate the second set of messages with the second cell node using the first key for

enciphering or deciphering the second set of messages.

18. The apparatus of claim 14, wherein the processor is further configured to:

receive the second set of messages, enciphered using the first key, indicating the second key from the first cell node;

use the second key for enciphering or deciphering a third set of messages to or from the first cell node.

19. An apparatus for wireless communications, comprising:

a hardware processor configured to:

provide an indication of a key area identifier (ID) of a cell node, wherein the key area ID identifies a set of cell nodes that are associated with a network node that uses a first key for enciphering or deciphering messages;

communicate a first set of messages with a user equipment (UE) using the first key for enciphering or deciphering the first set of messages;

provide an indication to the UE of a key change and a corresponding counter;

derive a second key based on the first key and the corresponding counter; and

communicate a second set of messages with the UE using the second key for enciphering or deciphering the second set of messages; and

a memory coupled with the processor.

20. The apparatus of claim 19, wherein the second set of messages comprise radio resource control (RRC) connection request messages.