

CLAIMS

1. A method, at a second node configured for communications with a first node, comprising:

transmitting, to the first node, a task request, the task request including one or
5 more task requirements and requiring configuration of at least one of a wireless
functionality of the second node or a local artificial intelligence, AI, model stored in a
memory of the second node; and

receiving, from the first node, a first set of configuration information including a
set of model parameters for the local AI model stored in the memory, the local AI model
10 being configured by the set of model parameters to generate inference data including at
least one inferred control parameter for configuring the second node for wireless
communication.

2. The method of claim 1, further comprising:

executing the local AI model using the set of model parameters, to generate the at
15 least one inferred control parameter; and

configuring at least one wireless communication functionality of the second node in
accordance with the at least one inferred control parameter.

3. The method of claim 1 or claim 2, further comprising:

collecting local data, including at least one of: local network data useable for
20 training the local AI model; or locally trained model parameters of the local AI model; and
transmitting, to the first node, the collected local data.

4. The method of claim 3, further comprising:

performing near-real-time training of the local AI model using the local network
data to obtain an updated local AI model; and
25 executing the updated local AI model, to generate at least one updated control
parameter to configure the second node.

5. The method of any one of claims 1 to 4, wherein communications with the first node are received and transmitted over an AI-related logical layer in a protocol stack implemented by the second node.

6. The method of claim 5, wherein the AI-related logical layer is a higher layer in the
5 protocol stack above a radio resource control, RRC, layer, the AI-related logical layer being part of an AI-related control plane.

7. The method of claim 6, wherein the AI-related logical layer is a highest layer in the protocol stack above a non-access stratum, NAS, layer.

8. The method of any one of claims 1 to 7, wherein the second node is a node in an access
10 network serving a user equipment, UE, and wherein the method further comprises:

transmitting, to the UE, a second set of configuration information including at least the at least one inferred control parameter.

9. A method, at a first node configured for communications with a second node, comprising:

15 receiving a task request including one or more task requirements and requiring configuration of at least one of a wireless communication functionality or a local artificial intelligence, AI, model of the second node; and

transmitting, to the second node, a first set of configuration information including a set of model parameters for configuring the local AI model at the second node to
20 generate at least one inferred control parameter for the second node, the set of model parameters being based on a configuration of at least one selected global AI model at the first node, the at least one selected global AI model being selected, from a plurality of global AI models stored in a memory of the first node, in accordance with the one or more task requirements included in the task request.

25 10. The method of claim 9, further comprising:

executing the at least one selected global AI model, to generate at least one globally inferred control parameter for configuring the second node; and

wherein the first set of configuration information includes the at least one globally inferred control parameter.

11. The method of claim 9 or claim 10, further comprising:

receiving, from the second node, data collected locally by the second node
5 including at least one of: local network data useable for training the global AI model; or
locally trained model parameters of the local AI model;

performing training of the at least one selected global AI model using the received data to obtain at least one updated global AI model; and

transmitting, to the second node, updated configuration information based on a
10 configuration of the at least one updated global AI model.

12. The method of any one of claims 9 to 11, wherein communications with the second node are received and transmitted over an AI-related logical layer in a protocol stack implemented by the first node.

13. The method of claim 12, wherein the AI-related logical layer is a higher layer in the
15 protocol stack above a radio resource control, RRC, layer, the AI-related logical layer being part of an AI-related control plane.

14. The method of claim 13, wherein the AI-related logical layer is a highest layer in the protocol stack above a non-access stratum, NAS, layer.

15. An apparatus comprising a processor configured to cause the apparatus to perform the
20 method of any one of claims 1 to 14.