determine a capability of obtaining the management data of the second operator, so that differentiated requirements between a plurality of operators or between an operator and an enterprise can be met.

[00322] FIG. 16 is a schematic flowchart 6 of an access network management configuration method according to an embodiment of this application.

[00323] As shown in FIG. 16, the access network management configuration method includes the following steps:

[00324] S1601: A management unit of a first operator determines a first identifier of the first operator and first management configuration information of an access network management object of the first operator.

[00325] Optionally, the management unit of the first operator may determine an identifier of at least one operator and management configuration information of an access network management object of the at least one operator.

[00326] For example, the identifier of the at least one operator may include one or more of the following: the first identifier of the first operator, an identifier of at least one second operator, or an identifier of at least one external operator. The identifier of the at least one second operator may include a second identifier of a second operator.

[00327] For example, the management configuration information of the access network management object of the at least one operator may include first management configuration information, and management configuration information of an access network management object of the at least one external operator.

[00328] In other words, the management unit of the first operator may not determine the ~~first~~second management configuration information of the access network management object of the second operator.

[00329] For specific implementations of the management configuration information, the identifier of the at least one operator, and the access network management object, refer to S301. Details are not described herein again.

[00330] S1602: The management unit of the first operator sends the first identifier and the first management configuration information to a first management unit. Correspondingly, the first management unit obtains the first identifier and the first management configuration information.

[00331] In a possible design solution, S1602 may include: The management unit of the first

CLAIMS

What is claimed is:

1. An access network management configuration method, comprising:

obtaining a first identifier of a first operator and first management configuration information of an access network management object of the first operator;

obtaining a second identifier of a second operator and second management configuration information of the access network management object of the second operator; and

creating, based on the first management configuration information and the second management configuration information, a first operator management instance corresponding to the first operator and a second operator management instance corresponding to the second operator in the access network management object.

2. The method according to claim 1, wherein either of the first management configuration information and the second management configuration information comprises one or more of the following: a cell identifier, a tracking area, a 5QI configuration parameter, a slice configuration parameter, a service configuration parameter, a core network configuration parameter, a frequency parameter, a neighboring cell parameter, a neighboring frequency parameter, and a private network configuration parameter.

3. The method according to claim 2, wherein the slice configuration parameter comprises network slice selection assistance information and/or a slice resource usage policy, the service configuration parameter comprises one or more of the following: a service type, a service feature, and UE group information, the core network configuration parameter comprises information about an access and mobility management function and/or user plane function information, the frequency parameter comprises one or more of the following: uplink and downlink frequencies, frequency bandwidth, and a carrier spacing, and the neighboring cell parameter comprises at least one neighboring cell identifier and/or a handover parameter.

4. The method according to claim 2 or 3, wherein either of the first management configuration information and the second management configuration information further comprises operator indication information, the operator indication information indicates that the operator is a primary operator, a secondary operator, or a private network enterprise, the primary operator is an operator that provides an access network corresponding to the access network management object, the

secondary operator is an operator that uses the access network, and the private network enterprise is an enterprise that provides the access network or an enterprise that uses the access network.

5. The method according to any one of claims 1 to 4, wherein the access network management object comprises one or more of the following: a subnetwork object, a network element object, a network function object, and a cell object.

6. The method according to any one of claims 1 to 5, wherein the obtaining a first identifier of a first operator and first management configuration information of an access network management object of the first operator comprises:

receiving a first request from a management unit of the first operator, wherein the first request carries the first identifier and the first management configuration information; and

the obtaining a second identifier of a second operator and second management configuration information of the access network management object of the second operator comprises:

carrying, by the first request, the second identifier and the second management configuration information;

receiving a second request from the management unit of the first operator, wherein the second request carries the second identifier and the second management configuration information; or

receiving a third request from a management unit of the second operator, wherein the third request carries the second identifier and the second management configuration information.

7. The method according to any one of claims 1 to 6, further comprising:

sending a first message to the management unit of the first operator, wherein the first message indicates whether the first operator management instance and the second operator management instance are successfully created;

sending a second message and a third message to the management unit of the first operator, wherein the second message indicates whether the first operator management instance is successfully created, and the third message indicates whether the second operator management instance is successfully created;

sending a fourth message to the management unit of the first operator, wherein the fourth message indicates whether the first operator management instance is successfully created; or

sending a fifth message to the management unit of the second operator, wherein the fifth message indicates whether the second operator management instance is successfully created.

8. The method according to any one of claims 1 to 7, wherein the method further comprises:

receiving a sixth message, wherein the sixth message comprises second resource availability information of the second operator, and the second resource availability information indicates a quantity or a proportion of access network resources that can be used by the second operator; and

configuring the second resource availability information in the second operator management instance.

9. The method according to any one of claims 1 to 8, wherein the method further comprises:

receiving a management message, wherein the management message comprises a management rule of management data, and the management rule comprises one or more of the following: operator granularity statistics indication information, the second identifier of the second operator, and a management data receiver address of the second operator.

10. The method according to claim 9, wherein the method further comprises:

determining the management data of the second operator according to the management rule; and

sending the management data of the second operator to the management data receiver address of the second operator.

11. An access network management configuration method, comprising:

determining a first identifier of a first operator and first management configuration information of an access network management object of the first operator; and

sending the first identifier and the first management configuration information to a first management unit, to enable creation of a first operator management instance corresponding to the first operator in the access network management object.

12. The method according to claim 11, wherein the first management configuration information comprises one or more of the following: a cell identifier, a tracking area, a 5QI configuration parameter, a slice configuration parameter, a service configuration parameter, a core network configuration parameter, a frequency parameter, a neighboring cell parameter, a neighboring frequency parameter, and a private network configuration parameter.

13. The method according to claim 12, wherein the slice configuration parameter comprises network slice selection assistance information and/or a slice resource usage policy, the service configuration parameter comprises one or more of the following: a service type, a service feature, and UE group information, the core network configuration parameter comprises information about an access and mobility management function and/or user plane function information, the frequency

parameter comprises one or more of the following: uplink and downlink frequencies, frequency bandwidth, and a carrier spacing, and the neighboring cell parameter comprises at least one neighboring cell identifier and/or a handover parameter.

14. The method according to claim 12 or 13, wherein the first management configuration information further comprises operator indication information, the operator indication information indicates that the operator is a primary operator, a secondary operator, or a private network enterprise, the primary operator is an operator that provides an access network corresponding to the access network management object, the secondary operator is an operator that uses the access network, and the private network enterprise is an enterprise that provides the access network or an enterprise that uses the access network.

15. The method according to any one of claims 11 to 14, wherein the access network management object comprises one or more of the following: a subnetwork object, a network element object, a network function object, and a cell object.

16. The method according to any one of claims 11 to 15, wherein the method further comprises: sending a second identifier of a second operator and second management configuration information of the access network management object of the second operator to the first management unit, to enable creation of a second operator management instance corresponding to the second operator in the access network management object.

17. The method according to claim 16, wherein before the sending a second identifier of a second operator and second management configuration information of the access network management object of the second operator to the first management unit, the method further comprises:

receiving the second identifier and the second management configuration information from a management unit of the second operator.

18. The method according to any one of claims 11 to 17, wherein the method further comprises:

sending an access message to the management unit of the second operator, wherein the access message comprises an identifier and access information of the second operator management instance, and the access information comprises one or more of the following: an address of the first management unit, an identifier of the first management unit, a uniform resource identifier of the first management unit, and access control information of the first management unit.

19. The method according to any one of claims 11 to 18, wherein the method further comprises:

determining second resource availability information of the second operator, wherein the second resource availability information indicates a quantity or a proportion of access network resources that can be used by the second operator; and

sending a sixth message to the first management unit, wherein the sixth message comprises the second resource availability information of the second operator.

20. The method according to any one of claims 11 to 19, wherein the method further comprises:

sending a management message to the first management unit, wherein the management message comprises a management rule of management data, and the management rule comprises one or more of the following: operator granularity statistics indication information, the second identifier of the second operator, and a management data receiver address of the second operator.

21. A management apparatus, comprising a processor, wherein

the processor is configured to read a program from a memory and run the program, to implement the method according to any one of claims 1 to 10.

22. A management apparatus, comprising a processor, wherein

the processor is configured to read a program from a memory and run the program, to implement the method according to any one of claims 11 to 20.

23. A communication system, wherein the communication system comprises the management apparatus according to claim 21 and the management apparatus according to claim 22.

24. An access network management configuration method, comprising:

sending, by a first apparatus, a first request to a second apparatus, wherein the first request carries a first identifier of the first operator, first management configuration information of an access network management object of the first operator, a second identifier of a second operator and second management configuration information of the access network management object of the second operator;

receiving, by the second apparatus, the first request;

creating, by the second apparatus, based on the first management configuration information and the second management configuration information, a first operator management instance corresponding to the first operator and a second operator management instance corresponding to

the second operator in the access network management object.

25. The method according to claim 24, wherein either of the first management configuration information and the second management configuration information comprises one or more of the following: a cell identifier, a tracking area, a 5QI configuration parameter, a slice configuration parameter, a service configuration parameter, a core network configuration parameter, a frequency parameter, a neighboring cell parameter, a neighboring frequency parameter, and a private network configuration parameter.

26. The method according to claim 25, wherein the slice configuration parameter comprises network slice selection assistance information and/or a slice resource usage policy, the service configuration parameter comprises one or more of the following: a service type, a service feature, and UE group information, the core network configuration parameter comprises information about an access and mobility management function and/or user plane function information, the frequency parameter comprises one or more of the following: uplink and downlink frequencies, frequency bandwidth, and a carrier spacing, and the neighboring cell parameter comprises at least one neighboring cell identifier and/or a handover parameter.

27. The method according to any one of claims 24 to 26, wherein the access network management object comprises one or more of the following: a subnetwork object, a network element object, a network function object, and a cell object.

28. A communication system, wherein the communication system comprises a first apparatus and a second apparatus,

wherein the first apparatus is configured to:

send a first request to a first apparatus, wherein the first request carries a first identifier of the first operator, first management configuration information of an access network management object of the first operator, a second identifier of a second operator and second management configuration information of the access network management object of the second operator; and

wherein the second apparatus is configured to:

receive the first request;

create, based on the first management configuration information and the second management configuration information, a first operator management instance corresponding to the first operator and a second operator management instance corresponding to the second operator in the access

network management object.

29. The system according to claim 28, wherein either of the first management configuration information and the second management configuration information comprises one or more of the following: a cell identifier, a tracking area, a 5QI configuration parameter, a slice configuration parameter, a service configuration parameter, a core network configuration parameter, a frequency parameter, a neighboring cell parameter, a neighboring frequency parameter, and a private network configuration parameter.

30. The system according to claim 28, wherein the slice configuration parameter comprises network slice selection assistance information and/or a slice resource usage policy, the service configuration parameter comprises one or more of the following: a service type, a service feature, and UE group information, the core network configuration parameter comprises information about an access and mobility management function and/or user plane function information, the frequency parameter comprises one or more of the following: uplink and downlink frequencies, frequency bandwidth, and a carrier spacing, and the neighboring cell parameter comprises at least one neighboring cell identifier and/or a handover parameter.

31. The system according to any one of claims 28 to 30, wherein the access network management object comprises one or more of the following: a subnetwork object, a network element object, a network function object, and a cell object.