CLAIMS

1. A root cause failure determining method, comprising:

determining alarm information of N objects, wherein N is an integer greater than or equal to 2; and

determining a root cause failure of the alarm information of the N objects based on an object association relationship, wherein the root cause failure is alarm information of M objects in the N objects, and M is a positive integer less than N, wherein the object association relationship comprises association relationship of the N objects.

2. The method according to claim 1, wherein the determining a root cause failure of the alarm information of the N objects based on an object association relationship comprises:

determining the root cause failure of the alarm information of the N objects based on the object association relationship and generation time of the alarm information of the N objects.

3. The method according to claim 2, wherein the determining the root cause failure of the alarm information of the N objects based on the object association relationship and generation time of the alarm information of the N objects comprises:

determining X association relationship sets based on the object association relationship; and

for each association relationship set: determining L objects in the association relationship set based on generation time of alarm information of objects comprised in the association relationship set, wherein a generation time difference of alarm information of the L objects is less than a threshold; and determining a root cause failure of the alarm information of the L objects, wherein the root cause failure is alarm information of at least one of the L objects, and both X and L are positive integers.

4. The method according to claim 2, wherein the determining the root cause failure of the alarm information of the N objects based on the object association relationship and generation time of the alarm information of the N objects comprises:

determining P association relationship sets based on the object association relationship and the generation time of the alarm information of the N objects; and

for each association relationship set: determining a root cause failure of alarm information of Q objects comprised in the association relationship set, wherein the root cause failure is alarm information of at least one of the Q objects, the Q objects have an association relationship, a generation time difference of the alarm information of the Q objects with the association relationship is less than a threshold, and both P and Q are positive integers.

5. The method according to any one of claims 1 to 4, wherein the N objects comprise N1 objects

and N2 objects, both N1 and N2 are positive integers, a sum of N1 and N2 is equal to N, and the determining alarm information of N objects comprises:

detecting alarm information of the N1 objects; and

receiving alarm information of the N2 objects from a second network element.

6. The method according to claim 5, wherein a first network element is a central unit CU, the second network element is a distributed unit DU, the alarm information of the N1 objects comprises alarm information of an object of the CU, and the alarm information of the N2 objects comprises at least one of the following: alarm information of an object of the DU, alarm information of an object of a radio unit RU, alarm information of an object of a cloud resource corresponding to the RU, or alarm information of an object of a cloud resource corresponding to the DU.

7. The method according to claim 5, wherein a first network element is a DU, the second network element is an RU, the alarm information of the N1 objects comprises alarm information of an object of the DU, and the alarm information of the N2 objects comprises at least one of the following: alarm information of an object of the RU, or alarm information of an object of a cloud resource corresponding to the RU.

8. The method according to claim 5, wherein a first network element is an RU, a DU, or a CU, the alarm information of the N1 objects comprises alarm information of an object of the first network element, the second network element is a cloud resource corresponding to the first network element, and the alarm information of the N2 objects comprises alarm information of an object of the cloud resource corresponding to the first network element.

9. The method according to any one of claims 5 to 8, wherein for the N2 objects, alarm information of each object is first-type alarm information, and the first-type alarm information comprises at least one of the following: an identifier of the object, an identifier of the second network element, or an identifier of a network element associated with the second network element.

10. The method according to any one of claims 1 to 9, further comprising:

sending first indication information to a third network element, wherein the first indication information indicates the root cause failure of the alarm information of the N objects.

11. The method according to any one of claims 1 to 10, further comprising:

obtaining the object association relationship, wherein the object association relationship is indicated by a configuration file or a configuration message from a third network element.

12. The method according to claim 11, wherein the obtaining the object association relationship comprises:

receiving a first configuration file or a first configuration message from the third network

element, wherein the first configuration file or the first configuration message indicates a first object association relationship;

receiving a second configuration file or a second configuration message from the third network element, wherein the second configuration file or the second configuration message indicates a second object association relationship; and

determining the object association relationship based on the first object association relationship and the second object association relationship.

13. The method according to any one of claims 1 to 4, wherein the N objects comprise N1 objects, N2 objects, and N3 objects, N1, N2, and N3 are all positive integers, a sum of N1, N2 and N3 is equal to N, and the determining alarm information of N objects comprises:

receiving alarm information from a first network element, wherein the alarm information comprises alarm information of the N1 objects;

receiving alarm information from a second network element, wherein the alarm information comprises alarm information of the N2 objects; and

receiving alarm information from a third network element, wherein the alarm information comprises alarm information of the N3 objects.

14. A root cause failure determining method, comprising:

sending, to a first network element, a configuration file or a configuration message that indicates an object association relationship, wherein the object association relationship comprises association relationship of N objects;

receiving first indication information, wherein the first indication information indicates a root cause failure of alarm information of the N objects, wherein

the root cause failure is alarm information of M objects in the N objects, N is a positive integer greater than or equal to 2, and M is a positive integer less than N.

15. The method according to claim 14, wherein the sending, to a first network element, a configuration file or a configuration message that indicates an object association relationship comprises:

sending a first configuration file or a first configuration message to the first network element, wherein the first configuration file or the first configuration message indicates a first object association relationship; and

sending a second configuration file or a second configuration message to the first network element, wherein the second configuration file or the second configuration message indicates a second object association relationship.

16. A communication apparatus, comprising a unit configured to implement the method according to any one of claims 1 to 15.

17. A communication apparatus, comprising a processor and a memory, wherein the processor is coupled to the memory, and the processor is configured to implement the method according to any one of claims 1 to 15.

18. A communication system, comprising a communication apparatus configured to perform the method according to any one of claims 1 to 13, and a communication apparatus configured to perform the method according to any one of claims 14 to 15.

19. A computer-readable storage medium, wherein the computer-readable storage medium stores instructions, and when the instructions are run on a computer, the computer is enabled to perform the method according to any one of claims 1 to 13, or the method according to any one of claims 14 to 15.

20. A computer program product, comprising instructions, wherein when the instructions are run on a computer, the computer is enabled to perform the method according to any one of claims 1 to 13, or the method according to any one of claims 14 to 15.