CLAIMS

1. A communication method, applied to an access network device, wherein the method comprises:

determining that a first beam of a first cell meets a load migration condition, wherein the first beam is a serving beam of a first terminal device;

evaluating performance of the first terminal device on N candidate beams based on information about the N candidate beams, wherein the N candidate beams do not belong to the first cell, and N is a positive integer; and

when determining, based on a result of the evaluation, that there is a first candidate beam meeting a performance requirement in the N beams, migrating the first terminal device to a second cell to which the first candidate beam belongs.

2. The method according to claim 1, wherein

the load migration condition comprises that load of the first beam is greater than a first threshold.

3. The method according to claim 1 or 2, wherein the method further comprises:

determining a quantity K of terminal devices to be migrated out of the first beam, wherein K is a positive integer.

4. The method according to claim 3, wherein the determining a quantity K of terminal devices to be migrated out of the first beam comprises:

determining M candidate beams, wherein the M candidate beams are different from the first beam, and the M candidate beams do not belong to the first cell;

determining a quantity of terminal devices on the first beam to be migrated to each of the M candidate beams, to obtain M quantities in total, wherein M is a positive integer; and

determining a smallest value in the M quantities as K.

5. The method according to claim 4, wherein the determining a quantity of terminal devices on the first beam to be migrated to each of the M candidate beams comprises:

determining, based on the load of the first beam and load of each of the candidate beams, the quantity of terminal devices on the first beam to be migrated to each of the candidate beams.

6. The method according to claim 4 or 5, wherein K meets the following relationship:

$K = \min\{0.5 \times (\text{Load of the first beam} - \text{Load of each of the candidate beams})/\text{Load of the first beam}\} \times \text{Quantity of terminal devices in the first cell}$, wherein

min means to return a smallest value, and the load of each of the candidate beams belongs to load of the M candidate beams.

7. The method according to any one of claims 4 to 6, wherein each of the candidate beams is

determined based on the load of the first beam and the load of each of the candidate beams.

8. The method according to claim 7, wherein the method further comprises:

obtaining load information of each of the candidate beams.

9. The method according to any one of claims 4 to 8, wherein the method further comprises:

selecting K' terminal devices from one or more terminal devices served by the first beam, to migrate the K' terminal devices to the N candidate beams, wherein the K' terminal devices are terminal devices that meet a selection condition in the K terminal devices, the first terminal device is one of the K' terminal devices, and K' is a positive integer less than or equal to K.

10. The method according to claim 9, wherein the selection condition comprises one or more of the following:

the first terminal device is capable of sharing a transmission resource with another terminal device on the first beam, and performance of the first terminal device sharing the transmission resource and/or the another terminal device is lower than a second threshold, wherein the transmission resource comprises a time domain resource and a frequency domain resource;

the first terminal device is incapable of sharing a transmission resource with another terminal device on the first beam, wherein the transmission resource comprises a time domain resource and a frequency domain resource;

the first terminal device is located at an edge of the first cell; or

a traffic volume of the first terminal device is greater than a third threshold.

11. The method according to any one of claims 1 to 10, wherein the information about the N candidate beams comprises one or more of the following:

a first measurement result obtained by the first terminal device by measuring a downlink reference signal carried on the N candidate beams;

a second measurement result obtained by the access network device by measuring an uplink reference signal carried on the N candidate beams;

information about whether the first terminal device is capable of sharing a transmission resource with another terminal device on the N candidate beams;

spectral efficiency information of the first terminal device on the N candidate beams; or

available resource information of the N candidate beams.

12. The method according to claim 11, wherein the method further comprises:

receiving the first measurement result from the first terminal device, wherein the first measurement result comprises a measurement result obtained by the first terminal device by measuring the downlink reference signal carried on the N candidate beams, and comprises identifiers of the N candidate beams.

13. The method according to claim 12, wherein the receiving the first measurement result

from the first terminal device comprises:

receiving a third measurement result from the first terminal device, wherein the third measurement result comprises a measurement result obtained by the first terminal device by measuring a downlink reference signal carried on P beams, and comprises identifiers of the P beams, and P is a positive integer;

determining N beams in the P beams as the N candidate beams in the M candidate beams; and

obtaining the first measurement result in the third measurement result.

14. The method according to any one of claims 11 to 13, wherein the method further comprises:

obtaining the spectral efficiency information of the first terminal device on the N candidate beams based on an artificial intelligence AI technology and the measurement result that is obtained by the first terminal device by measuring the downlink reference signal carried on the N candidate beams.

15. The method according to any one of claims 1 to 14, wherein performance, evaluated based on the information about the N candidate beams, of the first terminal device on the first candidate beam meets the following relationship:

(Performance of the first terminal device on the first beam – Performance of the first terminal device on the first candidate beam)/Performance of the first terminal device on the first candidate beam ≥ Fourth threshold, wherein

the performance of the first terminal device on the first candidate beam is determined based on the information about the N candidate beams.

16. A communication apparatus, comprising:

a processing unit, configured to determine that a first beam of a first cell meets a load migration condition, wherein the first beam is a serving beam of a first terminal device;

the processing unit is further configured to evaluate performance of the first terminal device on N candidate beams based on information about the N candidate beams, wherein the N candidate beams do not belong to the first cell, and N is a positive integer; and

the processing unit is further configured to: when determining, based on a result of the evaluation, that there is a first candidate beam meeting a performance requirement in the N candidate beams, migrate the first terminal device to a second cell to which the first candidate beam belongs.

17. The communication apparatus according to claim 16, wherein

the load migration condition comprises that load of the first beam is greater than a first threshold.

18. The communication apparatus according to claim 16 or 17, wherein the processing unit is further configured to determine a quantity K of terminal devices to be migrated out of the first beam, wherein K is a positive integer.

19. The communication apparatus according to claim 18, wherein the processing unit is configured to determine, in the following manner, the quantity K of terminal devices to be migrated out of the first beam:

determining M candidate beams, wherein the M candidate beams are different from the first beam, and the M candidate beams do not belong to the first cell;

determining a quantity of terminal devices on the first beam to be migrated to each of the M candidate beams, to obtain M quantities in total, wherein M is a positive integer; and

determining a smallest value in the M quantities as K.

20. The communication apparatus according to claim 19, wherein the processing unit is configured to determine, in the following manner, the quantity of terminal devices on the first beam to be migrated to each of the M candidate beams:

determining, based on the load of the first beam and load of each of the candidate beams, the quantity of terminal devices on the first beam to be migrated to each of the candidate beams.