CLAIMS

What is claimed is:

1. A method for load control on a wireless communications network, characterized in comprising:

receiving, by a radio network controller (RNC), a radio resource control (RRC) connection request sent by a base station;; ~~and~~

acquiring, by the RNC, a flow control level of the base station; ~~and~~

converting, by the RNC, the flow control level of the base station into a flow control probability factor, wherein the flow control probability factor is proportional to the flow control level, and the flow control probability factor is an integer;

generating, by the RNC, a random number, wherein the random number is an integer;

rejecting, by the RNC, the RRC connection request when the flow control probability factor is greater than the random number; and

processing, by the RNC, the RRC connection request if the flow control probability factor is not greater than the random number~~choosing, by the RNC according to the flow control level of the base station, to reject or process the RRC connection request~~.

2. The method for load control on a wireless communications network according to claim 1, wherein the acquiring, by the RNC, a flow control level of the base station comprises:

receiving, by the RNC, a load status report sent by the base station, wherein the load status report carries load information of the base station;; and

determining, by the RNC, the flow control level of the base station according to the load information of the base station.

3. The method for load control on a wireless communications network according to claim 2, wherein the load information of the base station comprises overload indication information or normal load indication information, and the determining, by the RNC, the flow control level of the base station according to the load information of the base station comprises:

determining, by the RNC, the flow control level of the base station according to the amount of the overload indication information and the normal load indication information that are received in a set time period.

4. The method for load control on a wireless communications network according to claim 3, wherein the determining, by the RNC, the flow control level of the base station according to the amount of the overload indication information and the normal load indication information that are acquired in a set time period comprises:

starting, by the RNC, a load status statistics timer; and

in a timing duration of the load status statistics timer, adding, by the RNC, a set value to a saved value of the flow control level of the base station when receiving the overload indication information; and reducing, by the RNC, the saved value of the flow control level of the base station by the set value when receiving the normal load indication information.

5. The method for load control on a wireless communications network according to claim ~~2~~4, further comprising:

when starting the load status statistics timer, further starting, by the RNC, a congestion statistics interval timer, wherein a timing duration of the congestion statistics interval timer is shorter than the timing duration of the load status statistics timer; and

before the congestion statistics interval timer expires, not processing, by the RNC, the received load status report sent by the base station; and after the congestion statistics interval timer expires, processing, by the RNC, the received load status report sent by the base station.

~~6. The method for load control on a wireless communications network according to any one of claims 1 to 5, wherein the choosing, by the RNC according to the flow control level of the base station, to reject or process the RRC connection request comprises:~~

~~comparing, by the RNC, the flow control level of the base station with a threshold and choosing, according to a comparison result, to reject or process the RRC connection request.~~

~~7. The method for load control on a wireless communications network according to claim 6, wherein the comparing, by the RNC, the flow control level of the base station with a threshold and choosing, according to a comparison result, to reject or process the RRC connection request comprises:~~

~~converting, by the RNC, the flow control level of the base station into a flow control probability factor, wherein the flow control probability factor is proportional to the flow control level, and the flow control probability factor is an integer; and~~

~~generating, by the RNC, a random number, wherein the random number is an integer; rejecting the RRC connection request when the flow control probability factor is greater than the random number; otherwise, processing the RRC connection request.~~

~~8. A method for load control on a wireless communications network, comprising:~~

~~receiving, by a base station, a load status request sent by a radio network controller RNC; and~~

~~sending, by the base station, a load status report to the RNC, wherein the load status report carries load information of the base station, so as to enable the RNC to determine a flow control level of the base station according to the load information of the base station.~~

~~9. The method for load control on a wireless communications network according to claim 8, further comprising:~~

~~after receiving the load status request, determining, by the base station according to a set time interval, whether its load exceeds a preset threshold; if yes, sending a load status report that carries overload indication information to the RNC; otherwise, sending a load status report that carries normal load indication information to the RNC.~~

~~10~~6. An apparatus for load control on a wireless communications network, ~~specifically~~ characterized in comprising:

a flow control level acquiring module, configured to receive a radio resource control (RRC) connection request sent by a base station and acquire a flow control level of the base station; and

a control processing module, configured to convert the flow control level of the base station into a flow control probability factor, wherein the flow control probability factor is proportional to the flow control level, and the flow control probability factor is an integer; generate a random number, wherein the random number is an integer; reject the RRC connection request if the flow control probability factor is greater than the random number; and process the RRC connection request if the flow control probability factor is not greater than the random number~~choose, according to the flow control level of the base station acquired by the flow control level acquiring module, to reject or process the RRC connection request~~.

~~11~~7. The apparatus for load control on a wireless communications network according to claim ~~10~~6, wherein the flow control level acquiring module comprises:

a receiving module (411), configured to receive a load status report sent by the base station, wherein the load status report carries load information of the base station; and

a flow control level determining module (412), configured to determine the flow control level of the base station according to the load information of the base station received by the receiving module.

~~12~~8. The apparatus for load control on a wireless communications network according to claim ~~11~~7, wherein the flow control level determining module (412) is further configured to:

start a load status statistics timer; and

in a timing duration of the load status statistics timer, add a set value to a saved value of the flow control level of the base station when the load status report received by the receiving module carries overload indication information; and reduce the saved value of the flow control level of the base station by the set value when the load status report received by the receiving module carries normal load indication information.

~~13. The apparatus for load control on a wireless communications network according to any one of claims 10 to 12, wherein the control processing module comprises:~~

~~a comparison processing module, configured to compare the flow control level of the base station with a threshold; and~~

~~a choosing processing module, configured to choose, according to a comparison result acquired by the comparison processing module, to reject or process the RRC connection request.~~

~~14. The apparatus for load control on a wireless communications network according to claim 13, wherein:~~

~~the comparison processing module is further configured to convert the flow control level of the base station into a flow control probability factor, wherein the flow control probability factor is proportional to the flow control level, and the flow control probability factor is an integer, generate a random number, wherein the random number is an integer, and compare the flow control probability factor with the random number; and~~

~~the choosing processing module is further configured to reject the RRC connection request when the flow control probability factor is greater than the random number; otherwise, process the RRC connection request.~~

9. A method for load control on a wireless communications network, characterized in comprising:

receiving, by a base station, a load status request sent by a radio network controller (RNC); and

sending, by the base station, a load status report to the RNC, wherein the load status report carries load information of the base station, so as to enable the RNC to determine a flow control level of the base station according to the load information of the base station;

determining, by the base station, according to a set time interval, whether load of the base station exceeds a preset threshold;

sending, by the base station, a load status report that carries overload indication information to the RNC if the load of the base station exceeds the preset threshold;

sending, by the base station, a load status report that carries normal load indication information to the RNC if the load of the base station does not exceed the preset threshold.

~~15~~10. An apparatus for load control on a wireless communications network, ~~specifically~~ characterized in comprising:

a receiving module (51), configured to receive a load status request sent by a radio network controller RNC; and

a sending module (52), configured to send a load status report to the RNC, wherein the load status report carries load information of the base station, so as to enable the RNC to determine a flow control level of the base station according to the load information of the base station.;

~~16. The apparatus for load control on a wireless communications network according to claim 15,~~ wherein the sending module is further configured to determine, according to a set time interval, whether load of the base station exceeds a preset threshold; ~~if yes,~~ send a load status report that carries overload indication information to the RNC if the load of the base station exceeds the preset threshold; ~~otherwise,~~ send a load status report that carries normal load indication information to the RNC if the load of the base station does not exceed the preset threshold.