

CLAIMS

What is claimed is:

1. A computer including a processing unit and a control device, the control device being disposed on a component of the computer,

5 wherein the processing unit is configured to attach a tag to an application request, and send the attached application request to the control device, wherein the tag is used to indicate a type of the application request; and

 wherein the control device is configured to:

 receive the attached application request;

0 determine a quantity of resources allocated for the application request according to the tag and a prestored resource allocation policy, wherein the prestored resource allocation policy includes a control table including multiple entries, wherein one entry of the multiple entries includes a correspondence between the tag and the quantity of resources allocated for the application request; and

5 instruct the component of the computer to process the application request according to the quantity of resources allocated for the application request.

2. The computer according to claim 1, wherein the control device includes a buffer, the buffer includes at least two queues, each queue corresponds to a range of quantities of resources, and a priority of each queue is different;

20 the control device is specifically configured to select, from the at least two queues according to the quantity of resources allocated for the application request, a queue corresponding to the application request, and store the application request in the queue corresponding to the application request; and

 the component is configured to separately process the queues in the buffer according to
25 the priority of each queue.

3. The computer according to claim 1, wherein the control device specifically includes a processor and a cache, wherein the cache stores the prestored resource allocation policy; and

 the processor is configured to acquire the prestored resource allocation policy from the

cache; and the processor is specifically configured to receive the attached application request, and determine, according to the tag and the prestored resource allocation policy, the quantity of resources allocated for the application request, wherein the prestored resource allocation policy includes the correspondence between the tag and the quantity of resources allocated for the application request; and instruct the component to process the application request according to the quantity of resources allocated for the application request.

4. The computer according to claim 3, wherein the processor is specifically configured to send a query instruction to the cache, wherein the query instruction includes the tag; and

wherein the cache is configured to obtain, according to the query instruction, an entry corresponding to the tag, and send the entry corresponding to the tag to the processor of the control device.

5. The computer according to claim 3 or 4, wherein the computer further includes a memory, wherein the memory stores node management software;

the processing unit is further configured to define the prestored resource allocation policy by using the node management software; and

the processor is further configured to acquire the prestored resource allocation policy from the node management software, and write the prestored resource allocation policy into the cache.

6. The computer according to claim 5, wherein the processing unit further includes a tag register;

the processing unit is further configured to define the tag by using the node management software, and write the tag into the tag register by using the node management software; and

the processing unit is further configured to read the tag from the tag register.

7. The computer according to any one of claims 1 to 6, wherein the component includes any one of a high-speed on-chip interconnection network, a cache, a memory, a graphic processing unit, a video RAM, an input/output I/O interconnection network, a hard disk, a network adapter, and a display.

8. A control device, wherein the control device is disposed on a component of a computer, and the control device includes a processor, wherein

the processor is configured to receive an application request which is attached a tag, and

determine a quantity of resources allocated for the application request according to the tag and a prestored resource allocation policy, wherein the tag is used to indicate a type of the application request, the prestored resource allocation policy includes a control table, the control table includes multiple entries, and one entry of the multiple entries includes a
5 correspondence between the tag and the quantity of resources allocated for the application request; and further configured to instruct the component of the computer to process the application request according to the quantity of resources allocated for the application request.

9. The control device according to claim 8, wherein the control device further includes a buffer, the buffer includes at least two queues, each queue corresponds to a range of quantities
0 of resources, and a priority of each queue is different;

the processor is specifically configured to select, from the at least two queues according to the quantity of resources allocated for the application request, a queue corresponding to the application request, and store the application request in the queue corresponding to the application request; and

5 the component is configured to separately process the queues in the buffer according to the priority of each queue.

10. The control device according to claim 8, wherein the control device further includes a cache, wherein the cache stores the prestored resource allocation policy; and

the processor is further configured to acquire the prestored resource allocation policy
20 from the cache.

11. The control device according to claim 10, wherein the processor is specifically configured to send a query instruction to the cache, wherein the query instruction includes the tag; and

wherein the cache is configured to obtain, according to the query instruction, an entry
25 corresponding to the tag, and send the entry corresponding to the tag to the processor.

12. The control device according to claim 10 or 11, wherein the prestored resource allocation policy is defined by the computer by using node management software, wherein the node management software is stored in a memory of the computer; and

the processor is further configured to acquire the prestored resource allocation policy
30 from the node management software.

13. The control device according to any one of claims 8 to 12, wherein the component includes any one of a high-speed on-chip interconnection network, a cache, a memory, a graphic processing unit, a video RAM, an input/output I/O interconnection network, a hard disk, a network adapter, and a display.

14. A data processing method, including:

receiving, by a control device, an application request attached a tag, wherein the control device is disposed on a component of a computer and the tag is used to indicate a type of the application request;

determining, by the control device, a quantity of resources allocated for the application request according to the tag and a prestored resource allocation policy, wherein the prestored resource allocation policy includes a correspondence between the tag and the quantity of resources allocated for the application request; and

instructing, by the control device, the component of the computer to process the application request according to the quantity of resources allocated for the application request.

15. The method according to claim 14, wherein the control device further includes a buffer, the buffer includes at least two queues, each queue corresponds to a range of quantities of resources, and a priority of each queue is different; and

the instructing, by the control device, the component to process the application request according to the quantity of resources allocated for the application request includes:

selecting, by the control device, from the at least two queues according to the quantity of resources allocated for the application request, a queue corresponding to the application request, and storing the application request in the queue corresponding to the application request, so that the component separately processes the queues in the buffer according to the priority of each queue.

16. The method according to claim 14, wherein the control device further includes a processor and a cache, wherein the cache stores the prestored resource allocation policy; and

the method further includes: acquiring, by the processor, the prestored resource allocation policy from the cache, wherein

the determining, by the control device, a quantity of resources allocated for the application request according to the tag and a prestored resource allocation policy includes:

determining, by the processor, the quantity of resources allocated for the application request according to the tag and the prestored resource allocation policy; and

the instructing, by the control device, the component to process the application request according to the quantity of resources allocated for the application request includes:

5 instructing, by the processor, the component to process the application request according to the quantity of resources allocated for the application request.

17. The method according to claim 16, wherein the prestored resource allocation policy includes a control table, the control table includes multiple entries, and one entry of the multiple entries includes the correspondence between the tag and the quantity of resources
0 allocated for the application request; and

the acquiring, by the processor, the prestored resource allocation policy from the cache includes: sending, by the processor, a query instruction to the cache, wherein the query instruction includes the tag; and

obtaining, by the cache according to the query instruction, an entry corresponding to the
5 tag, and sending the entry corresponding to the tag to the processor.

18. The method according to claim 16 or 17, wherein the prestored resource allocation policy is defined by the computer by using node management software, wherein the node management software is stored in a memory of the computer; and the method further includes:

20 acquiring, by the processor, the prestored resource allocation policy from the node management software.