CLAIMS

1. A method for scheduling job requests in an application layer or terminal device of a computer system, comprising the steps of:

accessing a first queue storing a job request;

determining if the job request in the first queue can be dispatched within a first pre-determined time, wherein if the job request is determined to be dispatchable within the first pre-determined time;

determining if the job request that is dispatchable can be executed based on a system resource parameter; and

dispatching the job request if the job request that is dispatchable is determined to be capable of being completed based on the system resource parameter; wherein the step of determining if the job request that is dispatchable is capable of being completed based on the system resource parameter includes a step of checking a number of previously dispatched job requests that are in a ready state but not executed as an indicator of the system resource parameter.

2. The method of claim 1, wherein if a duration of the job request in the first queue is determined to have exceeded the first pre-determined time, the job request is dropped from the first queue.

3. The method of claim 1 or 2, wherein the first pre-determined time is a function of a maximum duration allowable for the job request to remain in the first queue and an average execution time of previously dispatched job requests.

4. The method of any one of claims 1 to 3, wherein the indicator of the system resource parameter is an indication of whether one or more physical executors are operating in an overload state.

5. The method of claim 4, wherein the indicator is expressed as a ratio of the number of previously dispatched job request(s) in the ready state is to the number of physical executors capable of executing the job request.

6. The method of claim 5, wherein the ratio is 0.1 or 0.2.

7. The method of any one of claims 4 to 6, wherein the physical executors is part of a multi-core processor, each physical executor is a core of the multi-core processor.

8. The method of claim 7, wherein if the number of previously dispatched job request(s) in the ready state is less than the ratio multiplied by the number of physical executors in the multi-core processor, the job request is dispatchable.

9. The method of any one of the preceding claims, wherein the job request is stored in the first queue if the job request is determined to be not dispatchable.

10. The method of claim 2, wherein if the job request in the first queue is determined to be dispatchable within the first pre-determined time, further comprising the step of prioritizing the job request by a user-identity (user-ID) hash.

11. A computer program element comprising program instructions, which, when executed by one or more processors, cause the one or more processors to perform the method of any one of claims 1 to 10.

12. A non-transitory computer-readable medium comprising program instructions, which, when executed by one or more processors, cause the one or more processors to perform the method of any one of claims 1 to 10.

13. A job scheduler configured to be on a dispatcher layer of an application framework, or placed before or after the dispatcher, the scheduler device configured to

access a first queue storing a job request;

determine if the job request in the first queue can be dispatched within a first pre-determined time, wherein if the job request is determined to be dispatchable within the first pre-determined time;

determine if the job request that is dispatchable is capable of being completed based on a system resource parameter; and

dispatch the job request if the job request that is dispatchable is determined to be capable of being completed based on the system resource parameter;

wherein the determination if the job request that is dispatchable is capable of being completed based on the system resource parameter includes a check of a number of previously dispatched job requests that are in a ready state but not executed as an indicator of the system resource parameter.

14. The job scheduler of claim 13, wherein if a duration of the job request in the first queue is determined to have exceeded the first pre-determined time, the job request is dropped from the first queue.

15. The job scheduler of claim 13 or 14, wherein the first pre-determined time is a function of a maximum duration allowable for the job request to remain in the first queue and an average execution time of previously dispatched job requests.

16. The job scheduler of any one of claims 12 to 15, wherein the indicator of the system resource parameter is an indication of whether one or more physical executors are operating in an overload state.

17. The job scheduler of claim 16, wherein the indicator is expressed as a ratio of the number of previously dispatched job request(s) in the ready state is to the number of physical executors capable of executing the job request.

18. A congestion controller device comprising a communication interface arranged in data communication with a job request queue of a computer system, and a processing unit, the processing unit configured to

access the job request queue storing a job request;

determine if the job request in the job request queue can be dispatched within a first pre-determined time, wherein if the job request is determined to be dispatchable within the first pre-determined time;

determine if the job request that is dispatchable is capable of being completed based on a system resource parameter; and

dispatch the job request if the job request that is dispatchable is determined to be capable of being completed based on the system resource parameter; wherein the determination if the job request that is dispatchable is capable of being completed based on the system resource parameter includes a check of a number of previously dispatched job requests that are in a ready state but not executed as an indicator of the system resource parameter.

19. The congestion controller device of claim 18, wherein the processing unit comprise a request queue controller module, and a ready queue controller module.

20. The congestion controller device of claim 19, wherein the request queue controller module is used to determine if the job request in the first queue can be dispatched within a first pre-determined time and if so send the job request to the ready queue controller module.