CLAIMS

1. A server apparatus, the server apparatus comprises a processor, the processor configured to:

obtain a resource invocation request, the resource invocation request associated with a target resource;

obtain a first real-time concurrent count of the target resource;

increase the first real-time concurrent count by a first predetermined number to obtain a first updated real-time concurrent count;

compare the first updated real-time concurrent count with a first threshold;

wherein in a positive determination that the first updated real-time concurrent count is greater than the first threshold,

obtain a second real-time concurrent count of the target resource;

subtract a second predetermined number from the second real-time concurrent count to obtain a second updated concurrent count,

reject the resource invocation request; and

wherein the processor is further configured to create a concurrency information table for storage of at least a first key-value pair, a second key-value pair and a third key-value pair, wherein the first key-value pair comprises a unique identifier associated with the target resource as the key and a real-time concurrent count of the target resource as the value, the second key-value pair comprises the unique identifier associated with the target resource as the key and a session identifier as the value, and the third key-value pair comprises the unique identifier associated with the target resource as the key and a time stamp associated with a start time of the session as the value.

2. The server apparatus of claim 1, wherein in a positive determination that the first updated concurrent count is less than or equal to the first threshold, the processor is configured to accept the resource invocation request and create an invocation session for a resource requestor to invoke the target resource.

3, The server apparatus of claim 2, wherein the processor is configured to assign the real-time concurrent count as the first updated real-time concurrent count.

4. The server apparatus of claim 1 or 2, wherein if the first real-time concurrent count is not obtained or is an invalid number, the processor is configured to initialize the first real-time concurrent count to an initial value.

5. The server apparatus of any one of the preceding claims, wherein the processor is configured to reserve a usage of the target resource after the increase of the first real-time concurrent count by the first predetermined number.

6. The server apparatus of any one of the preceding claims, wherein the second predetermined number is the same as the first predetermined number.

7. The server apparatus of any one of claims 1 to 5, wherein the second predetermined number is different from the first predetermined number.

8. The server apparatus of claim 2, wherein the processor is configured to determine a failure status of the creation of the invocation session.

9. The server apparatus of claim 8, wherein in a positive determination that the invocation session fails, the processor is configured to obtain a third real-time concurrent count, and subtract a third predetermined number from the third real-time concurrent count to obtain a third updated concurrent count.

10. The server apparatus of claim 2, wherein the processor is configured to determine a success status of the creation of the invocation session.

11. The server apparatus of claim 10, wherein in a positive determination that the invocation session is successful, the processor is configured to determine one or more states of the invocation session.

12. The server apparatus of claim 11, wherein if the one or more states is indicative of a completion of the invocation session, the processor is configured to obtain a fourth real-time

concurrent count of the target resource, and subtract or decrease a fourth predetermined value from the fourth real-time concurrent count to obtain a fourth updated concurrent count.

13. The server apparatus of claim 12, wherein the processor is configured to create a session identifier, the session identifier comprises a first state indicative of the completion of the invocation session and a second state indicative of a resource utilization state.

14. The server apparatus of any one of claims 11 to 13, wherein the processor is configured to compare a usage duration of the invocation session with a predetermined duration, and wherein where the usage duration is greater than the predetermined duration, the processor is configured to obtain a fifth real-time concurrent count of the target resource, and subtract or decrease a fifth predetermined value from the fifth real-time concurrent count to obtain a fifth updated concurrent count.

15. A system for processing resource invocation requests, the system comprises

a target resource provider;

the server apparatus of claim 2, the server apparatus arranged in data communication with the target resource provider to determine whether to reject or accept the resource invocation request; and create the invocation session for to invoke the target resource in a positive determination to accept the resource invocation request.

16. The system of claim 15, wherein the target resource is an external resource of a distributed system, or an internal resource of the distributed system.

17. A method for processing resource invocation requests, the method comprises:

obtaining a resource invocation request, the resource invocation request associated with a target resource;

creating a concurrency information table for storage of at least a first key-value pair, a second key-value pair and a third key-value pair, wherein the first key-value pair comprises a unique identifier associated with the target resource as the key and a real-time concurrent count of the target resource as the value, the second key-value pair comprises the unique identifier associated with the target resource as the key and a session identifier as the value, and the third key-value pair comprises the unique identifier associated with the target resource as the key

and a time stamp associated with a start time of the session as the value;obtaining a first real-time concurrent count of the target resource;

increasing the first real-time concurrent count by a first predetermined number to obtain a first updated real-time concurrent count;

comparing the first updated real-time concurrent count with a first threshold;

wherein in a positive determination that the first updated real-time concurrent count is greater than the first threshold,

obtaining a second real-time concurrent count of the target resource;

subtracting a second predetermined number from the second real-time concurrent count to obtain a second updated concurrent count, and

rejecting the resource invocation request.

18. A non-transitory computer-readable medium storing computer executable code comprising instructions for processing data according to the method of claim 17.