CLAIMS

~~What is claimed is:~~

1. A transaction processing method, applied to a transaction processing device, the method comprising:

dividing a to-be-processed transaction obtained from a database into at least two subtransactions;

dividing each subtransaction into N parts with an association relationship based on a network interface to which the subtransaction belongs and each function implemented by the subtransaction, N being an integer greater than 1;

processing the N parts of each subtransaction based on the association relationship, to obtain a processing result of a lastly executed part of the N parts;

determining, upon detecting an abnormal subtransaction based on the processing result, a processing policy matching an abnormality reason of the abnormal subtransaction; and

processing the abnormal subtransaction by using the processing policy, to obtain a final processing result of the to-be-processed transaction.

2. The method according to claim 1, wherein the dividing each subtransaction into N parts with an association relationship based on a network interface to which the subtransaction belongs and each function implemented by the subtransaction comprises:

determining a category set of the network interface to which the subtransaction belongs;

dividing the corresponding subtransaction into the N parts based on the category set of the network interface and each function implemented by the corresponding subtransaction; and

determining the association relationship between the N parts based on each function implemented by the subtransaction, to form the N parts with the association relationship.

3. The method according to claim 1, wherein the processing the N parts of each subtransaction based on the association relationship, to obtain a processing result of a lastly executed part of the N parts comprises:

processing the N parts of the subtransaction based on the association relationship when the at least two subtransactions are independent of each other, to obtain the processing result of the lastly executed part of the N parts.

4. The method according to claim 3, wherein the processing the N parts of each subtransaction

based on the association relationship, to obtain a processing result of a lastly executed part of the N parts comprises:

determining a processing path of the at least two subtransactions based on an intersection set and a preset whitelist when the at least two subtransactions have the intersection set; and sequentially processing the N parts of the subtransaction based on the processing path and the association relationship, to obtain a processing result of the subtransaction.

5. The method according to claim 2, wherein when the category set of the network interface to which the subtransaction belongs comprises M categories, the subtransaction is divided into at least M parts, M being an integer greater than 1, and the processing the N parts of each subtransaction based on the association relationship, to obtain a processing result of a lastly executed part of the N parts comprises:

determining a serial execution sequence between the at least M parts based on the association relationship; and

executing an M^{th} part of the at least M parts in the serial execution sequence based on the serial execution sequence and a processing result of an $(M-1)^{th}$ part of the at least M parts in the serial execution sequence, to obtain the processing result of the lastly executed part.

6. The method according to any one of claims 1 to 5, wherein before the processing the abnormal subtransaction by using the processing policy, to obtain a final processing result of the to-be-processed transaction, the method further comprises:

determining a new processing result by using a result obtained by processing the abnormal subtransaction by using the processing policy;

determining a processing result set of a currently processed subtransaction when the abnormal subtransaction is still in an abnormal status in the new processing result;

storing the processing result set through a message middleware; and

reading the processing result set from the message middleware when an inputted read instruction is received, and continuing to process N parts of the abnormal subtransaction, to obtain the final processing result of the to-be-processed transaction.

7. The method according to claim 1, wherein the determining, upon detecting an abnormal subtransaction based on the processing result, a processing policy matching an abnormality reason of the abnormal subtransaction comprises:

using a processing result of a previous subtransaction of the abnormal subtransaction as a

processing result of the abnormal subtransaction when the abnormality reason is that abnormality occurs in a client during processing of the abnormal subtransaction; and

processing the N parts of the abnormal subtransaction again based on the association relationship when the abnormality occurs on a server side during processing of the abnormal subtransaction.

8. The method according to claim 1, wherein the dividing a to-be-processed transaction obtained from a database into at least two subtransactions comprises:

determining a resource interface set to be invoked to implement the to-be-processed transaction;

dividing the to-be-processed transaction into a plurality of subtransactions matching the resource interface set;

correspondingly, starting each resource interface in response to a received processing execution instruction; and

processing N parts of a matched subtransaction at the resource interface based on the association relationship when preparation completion information fed back by the resource interface is received, to obtain the processing result of the lastly executed part of the N parts.

9. A transaction processing apparatus, comprising:

a first division module, configured to divide a to-be-processed transaction obtained from a database into at least two subtransactions;

a second division module, configured to divide each subtransaction into N parts with an association relationship based on a network interface to which the subtransaction belongs and each function implemented by the subtransaction, N being an integer greater than 1;

a first processing module, configured to process the N parts of each subtransaction based on the association relationship, to obtain a processing result of a lastly executed part of the N parts;

a first determining module, configured to determine, upon detecting an abnormal subtransaction based on the processing result, a processing policy matching an abnormality reason of the abnormal subtransaction; and

a second processing module, configured to process the abnormal subtransaction by using the processing policy, to obtain a final processing result of the to-be-processed transaction.

10. The apparatus according to claim 9, wherein the second division module is specifically

configured to:

determine a category set of the network interface to which the subtransaction belongs;

divide the corresponding subtransaction into the N parts based on the category set of the network interface and each function implemented by the corresponding subtransaction; and

determine the association relationship between the N parts based on each function implemented by the subtransaction, to form the N parts with the association relationship.

11. The apparatus according to claim 9, wherein the first processing module is specifically configured to:

process the N parts of the subtransaction based on the association relationship when the at least two subtransactions are independent of each other, to obtain the processing result of the lastly executed part of the N parts.

12. The apparatus according to claim 11, where the first processing module is further specifically configured to:

determine a processing path of the at least two subtransactions based on an intersection set and a preset whitelist when the at least two subtransactions have the intersection set; and sequentially processing the N parts of the subtransaction based on the processing path and the association relationship, to obtain a processing result of the subtransaction.

13. The apparatus according to claim 9, wherein the first determining module is specifically configured to:

use a processing result of a previous subtransaction of the abnormal subtransaction as a processing result of the abnormal subtransaction when the abnormality reason is that abnormality occurs in a client during processing of the abnormal subtransaction; and

process the N parts of the abnormal subtransaction again based on the association relationship when the abnormality occurs on a server side during processing of the abnormal subtransaction.

14. The apparatus according to claim 9, wherein the first division module is specifically configured to:

determine a resource interface set to be invoked to implement the to-be-processed transaction;

divide the to-be-processed transaction into a plurality of subtransactions matching the resource interface set;

correspondingly, starte each resource interface in response to a received processing execution

instruction; and

process N parts of a matched subtransaction at the resource interface based on the association relationship when preparation completion information fed back by the resource interface is received, to obtain the processing result of the lastly executed part of the N parts.

~~10~~15. A transaction processing device, comprising:

a memory, configured to store executable instructions; and

a processor, configured to perform ~~the method according to any one of claims 1 to 8,~~ during execution of the executable instructions stored in the memory, operations comprising:

dividing a to-be-processed transaction obtained from a database into at least two subtransactions;

dividing each subtransaction into N parts with an association relationship based on a network interface to which the subtransaction belongs and each function implemented by the subtransaction, N being an integer greater than 1;

processing the N parts of each subtransaction based on the association relationship, to obtain a processing result of a lastly executed part of the N parts;

determining, upon detecting an abnormal subtransaction based on the processing result, a processing policy matching an abnormality reason of the abnormal subtransaction; and

processing the abnormal subtransaction by using the processing policy, to obtain a final processing result of the to-be-processed transaction.

16. The transaction processing device according to claim 15, wherein the dividing each subtransaction into N parts with an association relationship based on a network interface to which the subtransaction belongs and each function implemented by the subtransaction comprises:

determining a category set of the network interface to which the subtransaction belongs;

dividing the corresponding subtransaction into the N parts based on the category set of the network interface and each function implemented by the corresponding subtransaction; and

determining the association relationship between the N parts based on each function implemented by the subtransaction, to form the N parts with the association relationship.

17. The transaction processing device according to claim 15, wherein the processing the N parts of each subtransaction based on the association relationship, to obtain a processing result of a lastly executed part of the N parts comprises:

processing the N parts of the subtransaction based on the association relationship when the at least two subtransactions are independent of each other, to obtain the processing result of the lastly executed part of the N parts.

18. The transaction processing device according to any one of claims 15 to 17, wherein before the processing the abnormal subtransaction by using the processing policy, to obtain a final processing result of the to-be-processed transaction, the method further comprises:

determining a new processing result by using a result obtained by processing the abnormal subtransaction by using the processing policy;

determining a processing result set of a currently processed subtransaction when the abnormal subtransaction is still in an abnormal status in the new processing result;

storing the processing result set through a message middleware; and

reading the processing result set from the message middleware when an inputted read instruction is received, and continuing to process N parts of the abnormal subtransaction, to obtain the final processing result of the to-be-processed transaction.

19. The transaction processing device according to claim 15, wherein the determining, upon detecting an abnormal subtransaction based on the processing result, a processing policy matching an abnormality reason of the abnormal subtransaction comprises:

using a processing result of a previous subtransaction of the abnormal subtransaction as a processing result of the abnormal subtransaction when the abnormality reason is that abnormality occurs in a client during processing of the abnormal subtransaction; and

processing the N parts of the abnormal subtransaction again based on the association relationship when the abnormality occurs on a server side during processing of the abnormal subtransaction.

20. The transaction processing device according to claim 15, wherein the dividing a to-be-processed transaction obtained from a database into at least two subtransactions comprises:

determining a resource interface set to be invoked to implement the to-be-processed transaction;

dividing the to-be-processed transaction into a plurality of subtransactions matching the resource interface set;

correspondingly, starting each resource interface in response to a received processing execution instruction; and

processing N parts of a matched subtransaction at the resource interface based on the association relationship when preparation completion information fed back by the resource interface is received, to obtain the processing result of the lastly executed part of the N parts.

~~11. A storage medium having stored therein executable instructions that, when executed by a processor, cause the processor to perform the method according to any one of claims 1 to 8.~~