

Claims

1. A method for implementing an invocation of a local service component by a browser, the method comprising:

a client terminal receiving a connection request based on a cross-domain communication protocol initiated by a browser terminal;

the client terminal selecting a port from a port list for binding according to a set port binding priority order upon receiving the connection request;

the client terminal performing validity verification of the connection request; and

the client terminal establishing a communication connection with the browser terminal based on the cross-domain communication protocol to allow the browser terminal to invoke a local service component, if the connection request passes the validity verification.

2. The method of claim 1, wherein the port binding priority order being consistent with a port selection priority order of the browser terminal.

3. The method of claim 1, wherein the client terminal sends a breakdown report thereof to a server when the client terminal breaks down.

4. The method of claim 3, wherein the breakdown report comprises an error code, an error location, and a current state.

5. The method of claim 1, wherein the cross-domain communication protocol comprises a WebSocket protocol, a JSONP protocol, or a CORS protocol.

6. The method of claim 1, wherein the validity verification comprises determining, by the client terminal, whether a website corresponding to the browser terminal initiating the connection request is a website included in a website white list.

7. The method of claim 6, wherein the client terminal updates the website white list by querying a server periodically.

8. The method of claim 3, wherein the client terminal obtains the breakdown report by invoking a fault diagnostic program built in an operating system via an application programming interface of the operating system.

9. The method of claim 1, wherein a process of invoking the local service component by the browser after the communication connection is established comprises:

- 1) the client terminal receiving a command sent by the browser terminal;
- 2) the client terminal parsing the command and delivering the command to a corresponding local service component;
- 3) the client terminal receiving a processing result returned by the local service component after processing the command; and
- 4) the client terminal forwarding the processing result to the browser terminal.

10. An apparatus for implementing invocation of a local service component by a browser, wherein the apparatus is a client terminal, and comprises:

a connection request reception module configured to receive a connection request based on a cross-domain communication protocol initiated by a browser terminal;

a port binding module configured to select a port from a port list for binding according to a set port binding priority order when the connection request reception module receives the connection request;

a validity verification module configured to perform validity verification of the connection request; and

a connection control module configured to establish a communication connection with the browser terminal based on the cross-domain communication protocol to enable the browser terminal to invoke a local service component if the connection request passes the validity verification.

11. The apparatus of claim 10, wherein the port binding priority order being consistent with a port selection priority order of the browser terminal.

12. The apparatus of claim 10, wherein the client terminal further comprises:

a breakdown report processing module configured to send a breakdown report of the client terminal to a server upon determining that the client terminal breaks down.

13. The apparatus of claim 12, wherein the breakdown report comprises an error code, an error location, and a current state.

14. The apparatus of claim 10, wherein the cross-domain communication protocol comprises a WebSocket protocol, a JSONP protocol, or a CORS protocol.

15. The apparatus of claim 10, wherein the validity verification comprises:
determining, by the validity verification module, whether a website corresponding to the browser terminal initiating the connection request is a website included in a website white list.

16. The apparatus of claim 15, wherein the client terminal further comprises:
an update module configured to update the website white list by querying a server periodically.

17. The apparatus of claim 12, wherein the breakdown report processing module acquires the breakdown report by invoking a fault diagnostic program built in an operating system via an application programming interface of the operating system.

18. A system for implementing invocation of a local service component by a browser, comprising:

a browser terminal configured to initiate a connection request based on a cross-domain communication protocol to a client terminal; and

the client terminal configured to select a port from a port list for binding according to a

set port binding priority order upon receiving the connection request, perform validity verification of the connection request, and establish a communication connection with the browser terminal based on the cross-domain communication protocol to enable the browser terminal to invoke a local service component, if the connection request passes the validity verification.

19. The system of claim 18, further comprising:

a server configured to receive and store a breakdown report sent by the client terminal.