CLAIMS

WHAT IS CLAIMED IS:

1. A data collection method of semiconductor processing equipment, applied to an equipment data collection server, the equipment data collection server being communicatively connected to an equipment control system via a first communication interface, the equipment data collection server being communicatively connected to the semiconductor processing equipment via a second communication interface, and the equipment control system being an Advanced Group Control (AGC) system for monitoring and managing the semiconductor processing equipment, the method comprising:

receiving an activated data collection plan via the first communication interface, the data collection plan being generated by the equipment control system after receiving a definition instruction and being sent after receiving an activation instruction, and the definition instruction and the activation instruction being generated by the equipment control system in response to a user operation;

determining equipment data information to be collected in the data collection plan;

sending the equipment data information to the semiconductor processing equipment via the second communication interface; and

receiving equipment data corresponding to the equipment data information sent by the semiconductor processing equipment and forwarding the equipment data to the equipment control system via the first communication interface to display the equipment data.

2. The method according to claim 1, wherein the semiconductor processing equipment includes a collection database, and the equipment data is obtained by the collection

database using a data collection method corresponding to a data type in the equipment data information, wherein the data type includes a parameter type, an alarm type, and an event type.

3. The method according to claim 2, wherein the semiconductor processing equipment further includes a service database;

if the data type is the alarm type, the equipment data is obtained by the collection database from the semiconductor processing equipment; and

if the data type is the parameter type or the event type, the equipment data is obtained by the collection database and the service database from the semiconductor processing equipment.

4. The method according to claims 1, 2, or 3, wherein the equipment control system includes a data structure converter based on an Interface A standard; and

displaying the equipment data includes performing data format conversion on the equipment data by the data structure converter and displaying the equipment data after the data format conversion by the equipment control system.

5. The method according to claim 1, wherein the equipment data collection server includes a third communication interface,

the method further comprising:

receiving a control instruction for the semiconductor processing equipment via the third communication interface, the control instruction being generated and sent by control systems other than the equipment control system in response to a user operation; and

sending the control instruction to the semiconductor processing equipment via the second communication interface for execution.

6. The method according to claim 2, wherein the first communication interface and the second communication interface are communication interfaces based on a Web Service protocol, the equipment data collection server is a server based on an equipment data acquisition (EDA) standard.

7. The method according to claim 1, further comprising, before forwarding the equipment data to the equipment control system via the first communication interface to display the equipment data:

determining whether the equipment data is equipment data to be collected in the activated data collection plan; and

if yes, forwarding the equipment data to the equipment control system via the first communication interface to display the equipment data.

8. A data collection method of semiconductor processing equipment, applied to an equipment control system, the equipment control system being communicatively connected to an equipment data collection server via a first communication interface, the equipment data collection server being communicatively connected to the semiconductor processing equipment via a second communication interface, and the equipment control system being an Advanced Group Control (AGC) system for monitoring and managing the semiconductor processing equipment, the method comprising:

responding to a user operation to generate a corresponding definition instruction and a data collection plan according to the definition instruction;

responding to the user operation to generate a corresponding activation instruction and activate the data collection plan according to the activation instruction;

sending the activated data collection plans to the equipment data collection server via the first communication interface;

receiving the equipment data returned by the equipment data collection server via the first communication interface, the equipment data being sent to the equipment data collection server by the semiconductor processing equipment according to equipment data information after the equipment data collection server determines the equipment data information to be collected in the data collection plan and sends the equipment data information to the semiconductor processing equipment via the second communication interface; and

displaying the equipment data.

9. The method according to claim 8, wherein the semiconductor processing equipment includes a collection database; and

the equipment data is obtained by the collection database using a data collection method corresponding to a data type in the equipment data information, wherein the data type includes a parameter type, an alarm type, and an event type.

10. The method according to claim 9, wherein the semiconductor processing equipment further includes a service database;

if the data type is alarm type, the equipment data is obtained by the collection database from the semiconductor processing equipment; and

if the data type is the parameter type or event type, the device data is obtained by the collection database and the service database from the semiconductor processing equipment.

11. The method according to claims 8, 9, or 10, wherein the equipment control system includes a data structure converter based on an Interface A standard; and

displaying the equipment data includes displaying the equipment data after the data structure converter performs data format conversion.

12. A data collection device of semiconductor processing equipment, applied to an equipment data collection server, the equipment data collection server being communicatively connected to an equipment control system via a first communication interface, the equipment data collection server being communicatively connected to the semiconductor processing equipment via a second communication interface, and the equipment control system being an Advanced Group Control (AGC) system for monitoring and managing the semiconductor processing equipment, the device comprising:

a first control unit configured to receive an activated data collection plan via the first communication interface, the data collection plan being generated by the equipment control system after receiving a definition instruction and being sent after receiving an activation instruction, and the definition instruction and the activation instruction being generated by the equipment control system in response to a user operation, determine equipment data information to be collected in the data collection plan, send the equipment data information to the

semiconductor processing equipment via the second communication interface, and receive equipment data corresponding to the equipment data information sent by the semiconductor processing equipment and forwarding the equipment data to the equipment control system via the first communication interface to display the equipment data.

13. A data collection device of semiconductor processing equipment, applied to an equipment control system, the equipment control system being communicatively connected to an equipment data collection server via a first communication interface, the equipment data collection server being communicatively connected to the semiconductor processing equipment via a second communication interface, and the equipment control system being an Advanced Group Control (AGC) system for monitoring and managing the semiconductor processing equipment, the device comprising:

a second control unit configured to respond to the user operation to generate a corresponding activation instruction and activate the data collection plan according to the activation instruction, send the activated data collection plans to the equipment data collection server via the first communication interface, receive the equipment data returned by the equipment data collection server via the first communication interface, the equipment data being sent to the equipment data collection server by the semiconductor processing equipment according to equipment data information after the equipment data collection server determines the equipment data information to be collected in the data collection plan and sends the equipment data information to the semiconductor processing equipment via the second communication interface, and display the equipment data.

14. A data collection system of semiconductor processing equipment comprising an equipment data collection server and an equipment control system, the equipment data collection server being communicatively connected to the equipment control system via a first communication interface, the equipment data collection server being communicatively connected to the semiconductor processing equipment via a second communication interface, and the equipment control system being an Advanced Group Control (AGC) system for monitoring and managing the semiconductor processing equipment, wherein:

the equipment control system is configured to respond to a user operation to generate a corresponding definition instruction and generate a data collection plan according to the definition instruction, respond to a user operation to generate a corresponding activation instruction, activate the data collection plan according to the activation instruction, and send the activated data collection plan to the equipment data collection server via the first communication interface;

the equipment data collection server is configured to determine equipment data information to be collected in the data collection plan, send the equipment data information to the semiconductor processing equipment via the second communication interface, receive the equipment data corresponding to the equipment data information sent by the semiconductor processing equipment, and send the equipment data to the equipment control system via the first communication interface; and

the equipment control system is further configured to display the equipment data.