## CLAIMS

1. A public cloud technology–based server system, wherein the server system comprises a server and an external device inserted into the server, and a connection channel is established between the server and the external device;

the server is provided with a virtual machine and a virtual machine manager, the virtual machine manager is configured to provide virtual hardware for the virtual machine, the virtual hardware comprises a virtual external device and a virtual memory, the virtual external device is obtained by device emulation based on the external device, the virtual memory is obtained by device emulation based on a memory configured for the external device, the virtual machine is provided with a virtual device driver for the virtual external device, and the virtual device driver is configured to send an access request to the external device when the virtual external device accesses a target guest physical address of the virtual memory, wherein the access request carries the target guest physical address; and

the external device is configured to: query, based on the access request, a first correspondence between a guest physical address and a host physical address to obtain a target host physical address corresponding to the target guest physical address; obtain target data recorded at the target host physical address; and send the target data to the virtual device driver.

2. The server system according to claim 1, wherein the server is further provided with an address management module;

the external device is further configured to: when the first correspondence does not record the target host physical address corresponding to the target guest physical address, send a message indicating a matching failure to the address management module, wherein the message carries the target guest physical address;

the address management module is configured to forward the message to the virtual machine manager;

the virtual machine manager is configured to: allocate a memory block in the memory for the target guest physical address based on the message, establish a second correspondence between a host physical address of the memory block and the target guest physical address, and send the second correspondence to the address management module; and

the address management module is configured to update the first correspondence based on the second correspondence.

3. The server system according to claim 1 or 2, wherein the server is further provided with the address management module; and

the virtual machine manager is configured to: perform, based on a specification of the virtual

machine, device emulation for the virtual machine to obtain the virtual memory; configure guest physical address space of the virtual memory; establish a correspondence between a host physical address of a memory block configured in the memory for the external device and a guest physical address in the guest physical address space; and send the correspondence to the address management module.

4. The server system according to any one of claims 1 to 3, wherein configuration information of the external device indicates that the external device supports a translated request, and the access request indicates that an address carried in the access request is a host physical address.

5. The server system according to any one of claims 1 to 4, wherein the memory configured for the external device comprises one or more of the following: a memory inserted into the server or a shared memory of the server.

6. A method for accessing a public cloud technology–based server system, wherein the server system comprises a server and an external device inserted into the server, a connection channel is established between the server and the external device, the server is provided with a virtual machine and a virtual machine manager, the virtual machine manager is configured to provide virtual hardware for the virtual machine, the virtual hardware comprises a virtual external device and a virtual memory, the virtual external device is obtained by device emulation based on the external device, the virtual memory is obtained by device emulation based on a memory configured for the external device, and the virtual machine is provided with a virtual device driver for the virtual external device; and the method comprises:

sending, by the virtual device driver, an access request to the external device when the virtual external device accesses a target guest physical address of the virtual memory, wherein the access request carries the target guest physical address; and

querying, by the external device based on the access request, a first correspondence between a guest physical address and a host physical address to obtain a target host physical address corresponding to the target guest physical address; obtaining target data recorded at the target host physical address; and sending the target data to the virtual device driver.

7. The method according to claim 6, wherein the server is further provided with an address management module, and the method further comprises:

when the first correspondence does not record the target host physical address corresponding to the target guest physical address, sending, by the external device, a message indicating a matching failure to the address management module, wherein the message carries the target guest physical address;

forwarding, by the address management module, the message to the virtual machine manager;

allocating, by the virtual machine manager, a memory block in the memory for the target

guest physical address based on the message, establishing a second correspondence between a host physical address of the memory block and the target guest physical address, and sending the second correspondence to the address management module; and

updating, by the address management module, the first correspondence based on the second correspondence.

8. The method according to claim 6 or 7, wherein the server is further provided with the address management module, and the method further comprises:

performing, by the virtual machine manager based on a specification of the virtual machine, device emulation for the virtual machine to obtain the virtual memory, configuring guest physical address space of the virtual memory, establishing a correspondence between a host physical address of a memory block configured in the memory for the external device and a guest physical address in the guest physical address space, and sending the correspondence to the address management module.

9. The method according to any one of claims 6 to 8, wherein configuration information of the external device indicates that the external device supports a translated request, and the access request indicates that an address carried in the access request is a host physical address.

10. The method according to any one of claims 6 to 9, wherein the memory configured for the external device comprises one or more of the following: a memory inserted into the server or a shared memory of the server.

11. A computer-readable storage medium, comprising program instructions, wherein when the program instructions are run on a compute device, the compute device is enabled to perform the method according to any one of claims 6 to 10.