CLAIMS

1. A centralized backup system for non-local homogeneous real-time systems, characterized by comprising a switch, and a host and a firewall connected with the switch; the host comprising a server, an optic fiber switch and a disk array, wherein

the server is used for controlling the reproduction of the data of the non-local systems, ensures the synchronization between the reproduced data and the parent data in the non-local systems, and replaces a non-local system when the non-local system encounters failure;

the disk array stores the reproduced data; and

the firewall performs network switching when switching from the non-local system to the backup system.

2. The centralized backup system for non-local homogeneous real-time systems of claim 1, wherein the server comprises a plurality of logic servers, each having its own databases on the disk array.
3. The centralized backup system for non-local homogeneous real-time systems of claim 2, wherein the logic server includes a data reproduction server and an application server.
4. The centralized backup system for non-local homogeneous real-time systems of claim 1, further comprising an encryptor.
5. The centralized backup system for non-local homogeneous real-time systems of claim 1, further comprising a PC monitor.
6. A centralized backup method for non-local homogeneous real-time systems, characterized by comprising a switching step when a non-local system encounters failure and a restoring step when the failure is eliminated, wherein

the switching step comprises: disconnecting the network of the non-local system; switching application and the network; and starting a centralized backup system;

the restoring step comprises: restoring the network of the non-local

system; switching to restore the application and the network; and starting the non-local system, wherein

the centralized backup system comprises a switch, and a host and a firewall connected with the switch, the host comprising a server, an optic fiber switch and a disk array; wherein the server is used for controlling the reproduction of the data of the non-local systems and ensures the synchronization between the reproduced data and the parent data in the non-local systems, and replaces a non-local system when the non-local system encounters failure; the disk array stores the reproduced data; and the firewall performs network switching when switching from the non-local system to the backup system, and wherein the server comprises a plurality of logic servers, each having its own databases on the disk array, and the logic servers include a data reproduction server and an application server.

7. The centralized backup method for non-local homogeneous real-time systems of claim 6, wherein the step of switching the application and network comprises:

importing the reproduction of the data of the failed non-local system to the application server from the data reproduction server; starting the application server; and on the firewall, mapping the IP address of the application server as the IP address of the non-local system to the network.

8. A non-local homogeneous real-time system, characterized by comprising a centralized backup system, a plurality of non-local systems, and a network, wherein

the centralized backup system comprises a switch, and a host and a firewall connected with the switch, the host comprising a server, an optic fiber switch and a disk array, wherein the server controls the reproduction of the data of the non-local systems, ensures the synchronization between the reproduced data and the parent data in the non-local systems, and replaces a non-local system when the non-local system encounters failure; the disk array stores the reproduced data;

the firewall is used for network switching when switching from the non-local system to the backup system;

the centralized backup system is connected to the network through the firewall; and

the plurality of the non-local system are connected to the network.

9. The non-local homogeneous real-time system of claim 8, wherein the server comprises a plurality of logic servers, each having its own databases on the disk array.

10. The non-local homogeneous real-time system of claim 9, wherein the logic server includes a data reproduction server and an application server.

CLAIMS

1. A centralized backup system comprising:

at least first and second non-local homogenous real-time systems each generating parent data;

a switch;

a firewall connected between the first non-local homogenous real-time system and the switch and connected between the second non-local homogenous real-time system and the switch; and

a host comprising a server, an optic fiber switch and a disk array, the optic fiber switch connecting the server with the disk array, the switch connected between the firewall and the host, controlling a first data set, the first data set stored on the disk array, the first data set including a reproduction of the parent data of the first non-local homogenous real-time system, and the server controlling a second data set, the second data set including a reproduction of the parent data of the second non-local homogenous real-time system, the second data set stored on the disk array, and the server keeping reproduced data including one of the first and second data sets in a data reproduction server on the disk array in synchronization with the parent data of the first and second non-local homogenous real-time systems respectively so that the reproduced data includes a reproduction of the parent data at a failure condition of each of the first non-local homogenous real-time system and the second non-local homogenous real-time system, and the server also keeping an application server with a backup system on the disk array,

wherein the server controls an application switching and the firewall controls a network switching, the application switching including an importation by the server of the reproduced data to the application server from the data reproduction server for use with the backup system of the application server, and the network switching including a mapping outward by the firewall as an IP address of the application server the IP address of the

one of the first non-local homogenous real-time system and the second non-local homogenous real-time system encountering the failure condition, to enable the server to replace the first non-local homogenous real-time system using the first data set when the first non-local homogenous real-time system encounters the failure condition and to replace the second non-local homogenous real-time system using the second data set when the second non-local homogenous real-time system encounters the failure condition.

2. The centralized backup system of claim 1, wherein the server comprises a plurality of logic servers, each of the plurality of logic servers having at least one logic server database on the disk array.

3. The centralized backup system of claim 2, wherein the server includes the data reproduction server and the application server.

4. The centralized backup system of claim 1, further comprising an encryptor connected to the switch.

5. The centralized backup system of claim 1, further comprising a PC monitor connected to the switch.

6. In a centralized backup system having at least first and second non-local homogenous real-time systems each generating parent data, a switch, a firewall connected between the first non-local homogenous real-time system and the switch and connected between the second non-local homogenous real-time system and the switch, and a host comprising a server, an optic fiber switch and a disk array, the optic fiber switch connecting the server with the disk array, the switch connected between the firewall and the host, the server controlling a first data set, the first data set stored on the disk array, the first data set including a reproduction of the parent data of the first non-local homogenous real-time system, and the server controlling a second

data set, the second data set including a reproduction of the parent data of the second non-local homogenous real-time system, the second data set stored on the disk array, and the server keeping reproduced data including one of the first and second data sets in a data reproduction server on the disk array in synchronization with the parent data of the first and second non-local homogenous real-time systems respectively so that the reproduced data includes a reproduction of the parent data at a failure condition of each of the first non-local homogenous real-time system and the second non-local homogenous real-time system, and the server also keeping an application server with a backup system on the disk array, wherein the server controls an application switching and the firewall controls a network switching, the application switching including an importation by the server of the reproduced data to the application server from the data reproduction server for use with the backup system of the application server, and the network switching including a mapping outward by the firewall as the IP address of the application server the IP address of the one of the first non-local homogenous real-time system and the second non-local homogenous real-time system encountering the failure condition, to enable the server to replace the first non-local homogenous real-time system using the first data set when the first non-local homogenous real-time system encounters the failure condition and to replace the second non-local homogenous real-time system using the second data set when the second non-local homogenous real-time system encounters the failure condition,

a backup method comprising:

operating the server to keep the reproduced data in the first and second data sets in synchronization with the parent data of the first and second non-local homogenous real-time systems respectively so that the reproduced data includes the reproduction of the parent data at the failure condition of each of the first non-local homogenous real-time system and the second non-local homogenous real-time system;

disconnecting a one of the first and second non-local homogenous real-time systems from the centrally located server when the one of the first and second non-local homogenous real-time systems encounters the failure condition;

replacing the one of the first and second non-local homogenous real-time systems with the centrally located server, the server using the corresponding one of the first and second data sets;

reconnecting the one of the first and second non-local homogenous real-time systems when the failure condition is removed; and

restoring operation of the one of the first and second non-local homogenous real-time systems.

7. The backup method of claim 6, after the disconnecting step, further comprising:

importing the corresponding one of the first and second data sets to the application server resident on the centrally located server;

starting the application server; and

mapping outwards the IP address of the application server as the IP address of the one non-local homogenous real-time system encountering the failure condition.

8. A non-local homogeneous real-time system, comprising:

a centralized backup system, the centralized backup system including a switch, a host and a firewall connected with the switch, the host further including a server, an optic fiber switch and a disk array, the switch connected between the firewall and the host;

a plurality of non-local homogenous real-time systems each generating parent data; and

a network, the network interconnecting the centralized backup system and the plurality of non-local homogenous real-time systems, the centralized backup system connected to the network through the firewall;

wherein the server controls a plurality of data sets, the data sets stored on in an data reproduction server on the disk array, each of the data sets having reproduced data including a synchronized reproduction of the parent data of an associated one of the plurality of non-local homogenous real-time systems so that the reproduced data includes a reproduction of the parent data at a failure condition of each of the non-local homogenous real-time systems, and the server also storing an application server with a backup system on the disk array, and

wherein the server controls an application switching and the firewall controls a network switching, the application switching including an importation by the server of the reproduced data to the application server from the data reproduction server for use with the backup system of the application server, and the network switching including a mapping outward by the firewall as an IP address of the application server the IP address of one of the non-local homogenous real-time systems encountering the failure condition, to enable the server to replace any of the plurality of non-local homogenous real-time systems using the associated data set stored on the disk array when any of the plurality of non-local homogenous real-time systems encounters the failure condition.

9. The non-local homogeneous real-time system of claim 8, wherein the server comprises a plurality of logic servers, each of the plurality of logic servers having at least one logic server database on the disk array.

10. The non-local homogeneous real-time system of claim 9, wherein each of the logic servers includes the data reproduction server and the application server.