ZKTeco

ZKBioHA
24 Hours High Availability Solution
Powered by Rose datasystems

The real-time data mirroring cluster high availability (HA) solutions

24/7
Achieve always-on availability

Safeguard applications from major downtime

Reduce your operating cost

Provide cost- effective continuous availability
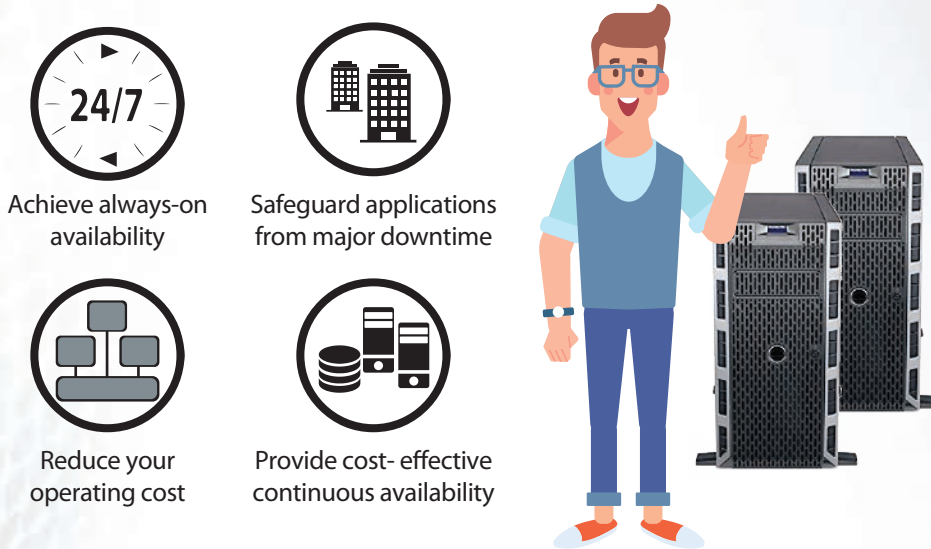
Applied industry

Government | Public Safety | Trading | Hospital | Energy | Transport | Communication
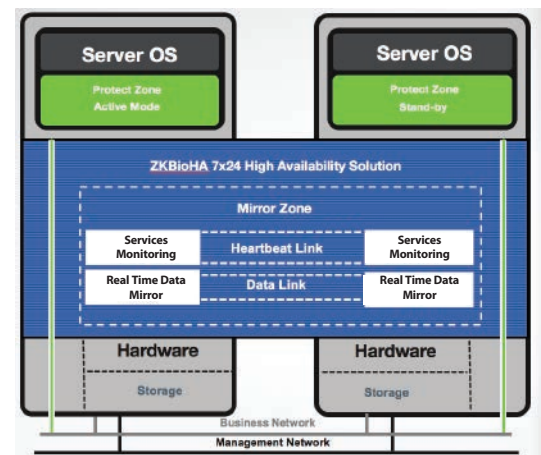
Solution advantage

- 7*24 hours continuous running of business system.

- Real-time data replication

- Snapshot function

- Comprehensive system monitoring

- Highest Secure of Long distance Business continuity
- Intelligent warning and supervision

Solution Application Scenario

- High availability based on data mirroring

- High availability based on shared storage

- Hybrid high availability(mirrored + shared storage)

- N-1 and cascading high availability
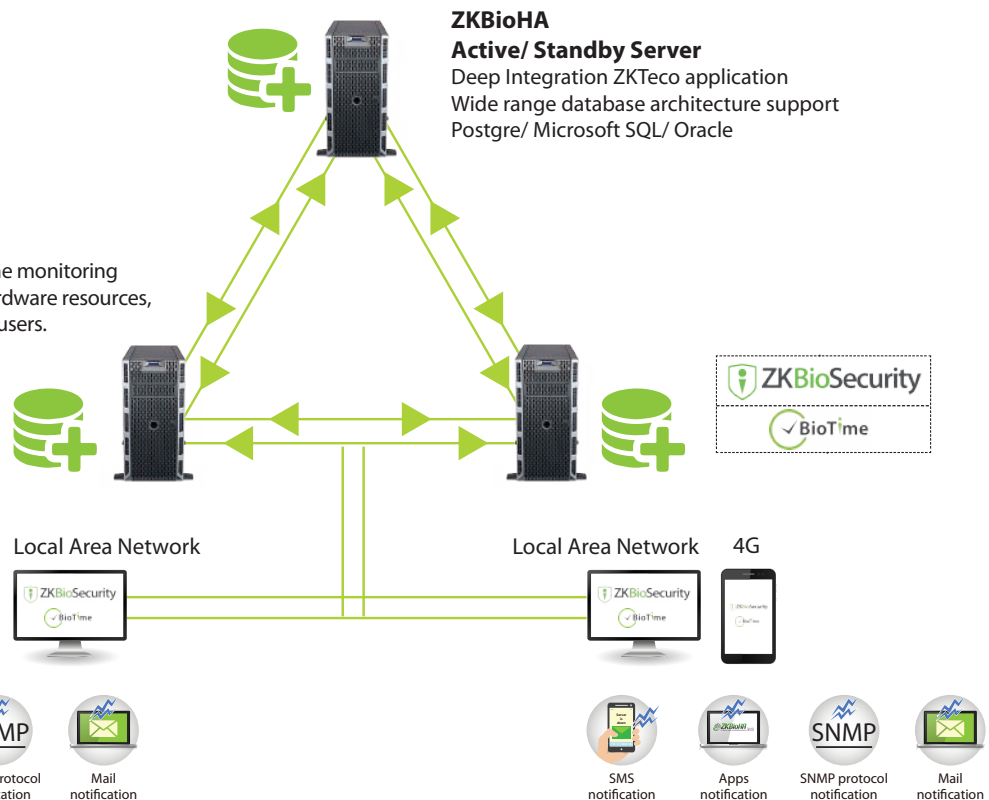- App high availability on virtual platform

What is ZKBioHA

ZKBioHA is a high availability solution for enterprise, it could integrate with ZKBioSecurity platform to provide professional real-time sync of business data and business continuity protection for customer. The solution supports high availability protection for different app software platforms and mainstream databases, so as to provide data and app protection for customer's kernel business system .

ZKBioHA
Active/ Standby Server
Deep Integration ZKTeco application
Wide range database architecture support
Postgre/ Microsoft SQL/ Oracle

ZKBioHA
Active/ Standby Server
ZKTeco BioHa performs real-time monitoring to applications, services and hardware resources, and offers "Active Alert" to end users.

ZKBioSecurity
BioTime

ZKBioSecurity
BioTime

4G   Local Area Network   Local Area Network   4G

ZKBioSecurity
BioTime

ZKBioSecurity
BioTime

SMS
notification

Apps
notification

SNMP protocol
notification

Mail
notification

SMS
notification

Apps
notification

SNMP protocol
notification

Mail
notification

Specification

| Product	ZKTeco BioHA
Supported System	Windows Server 2008 / 2012 / 2016
Data Base	Oracle, MSSQL, Sybase, DB2, MySQL, Informix, etc.
WEB Server	IIS, Tomcat, Apache, etc.
File Server	Samba, FTP, NFS, etc.
Supported Storage	iSCSI / IPSAN / FCSAN, etc

Business continuity

ZKBioHA prevent the professional real-time sync of business data and business continuity protection for customer, which solves software/ hardware single point of failure (i.e. system upgrade, computer crash, software bugs, hacker, connection broken and cyber attack) and realizes automatic failover in case of failure to ensure business system continuity.

| Computer Crash | Software bugs | Cyber Attack | Connection Broken | Power Failure |

Comprehensive system monitoring

It monitors running state of applications in real time. If application exception occurs, it will automatically fail over application service to the standby sever. It monitors CPU/memory resource utilization rate in depth, to realize intelligent warning and strategic failover.

It monitors network resources continuously. If business network card or network resource encounters a failure, it will automatically fail over resources to standby server.
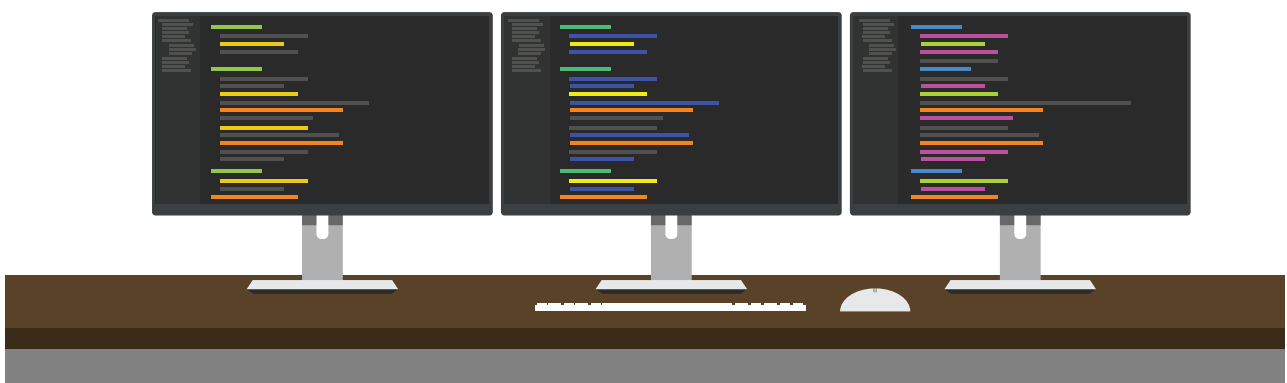
Real-time data replication

ZKBioHA provides Byte-Level data replication and only capture real-time data change, which effectively promote efficiency.


Snapshot function

Snapshot function could reserve multiple data at historical time point. If any problem of Active-standby data occurs, it can recover the data at any snapshot time to ensure data security.

Select the time to restore

2pm 3pm 4pm 5pm 6pm

Snapshot
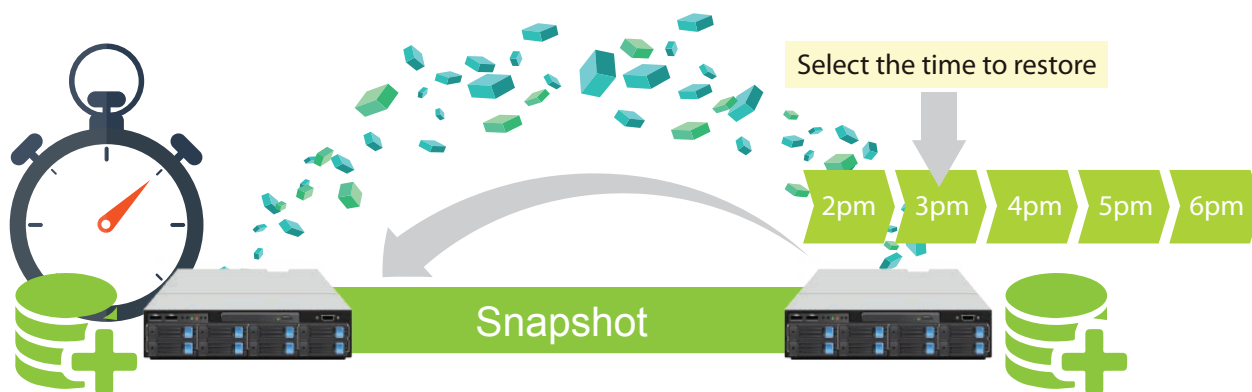
Intelligent warning and supervision

It monitors CPU/RAM resource usage of operating system in real time, as well as application availability, to realize intelligent warning and strategic failover. It offers a variety of alarm ways, such as: online logs, mail notification, SMS notification, and the SNMP protocol notification.

Connection breakdown

SMS notification

Apps notification

SNMP protocol notification

Mail notification
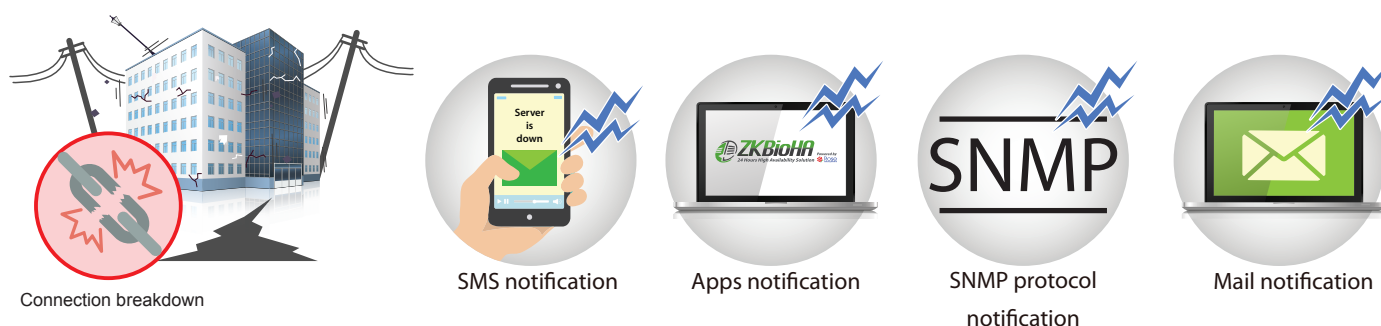
7*24 hours continuous running of business system.

When business system runs, if server/network /application failure occurs (2/F), the system would be interrupted and cannot provide business service normally. This could lead to immeasurable losses. For the potential operation risk in business system, ZKBioHA provides the high availability solution which is based on shared storage. If server/network/application failure occurs, it can quickly and automatically fail over business system to standby server (9/F), which ensures that business system can provide service normally, and powerfully guarantees 7*24 hours continuous running of business system.
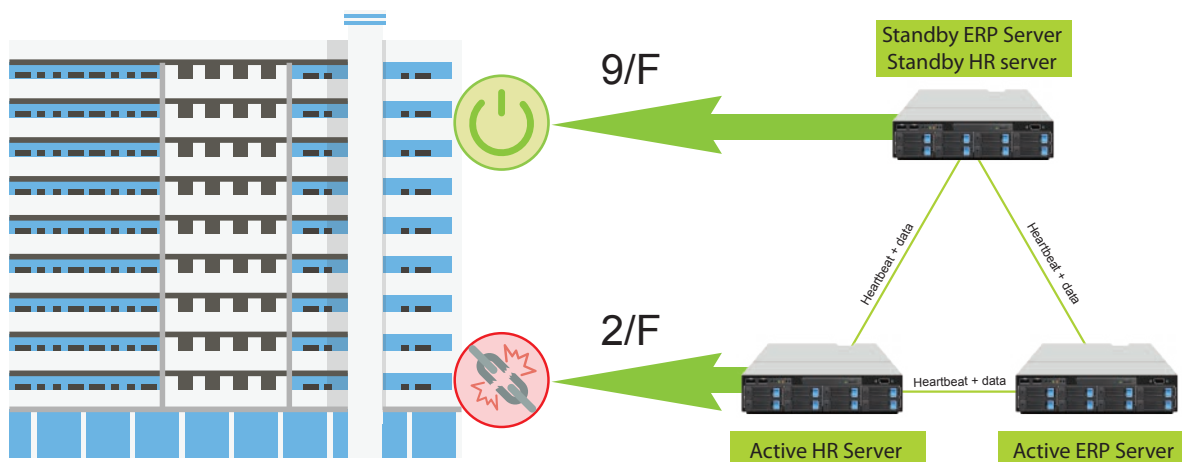
Highest Secure of Long distance Business continuity

All data can be saved by replicating the system with a system in a long distance. For example, server A & B were seperatly set on the location A and location B, when there is disaster in location A and the active server A is broke down, the standby server could auto take over related resources and service and provide data and app protection for customer's business system.
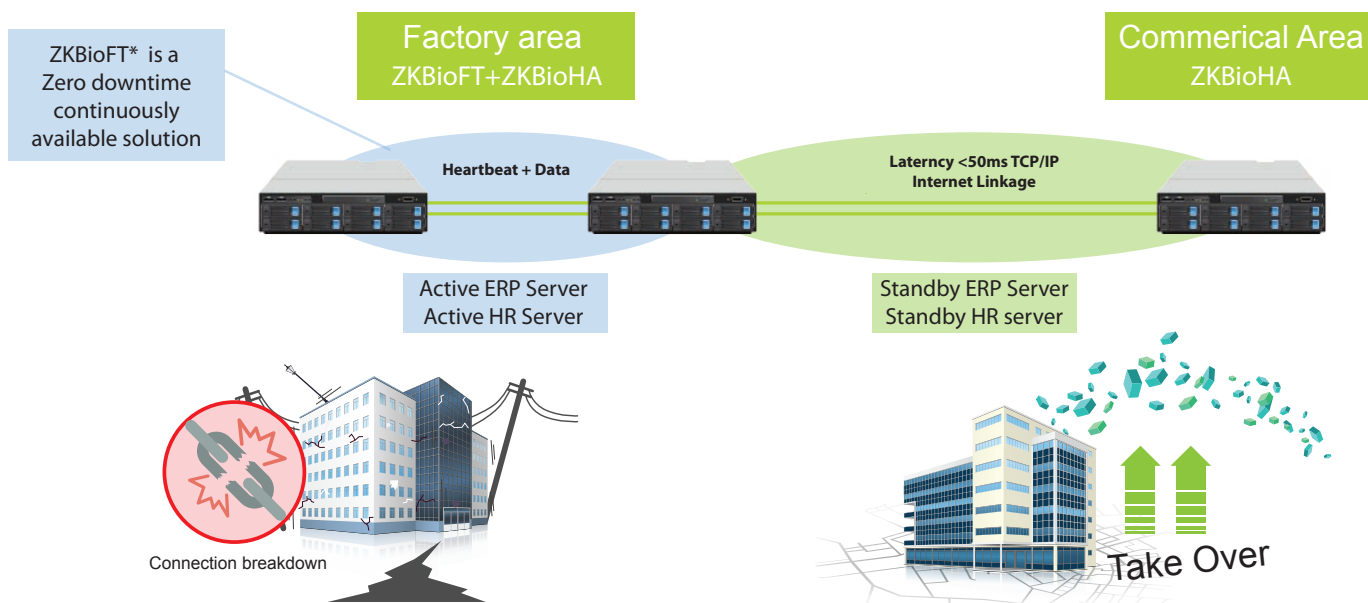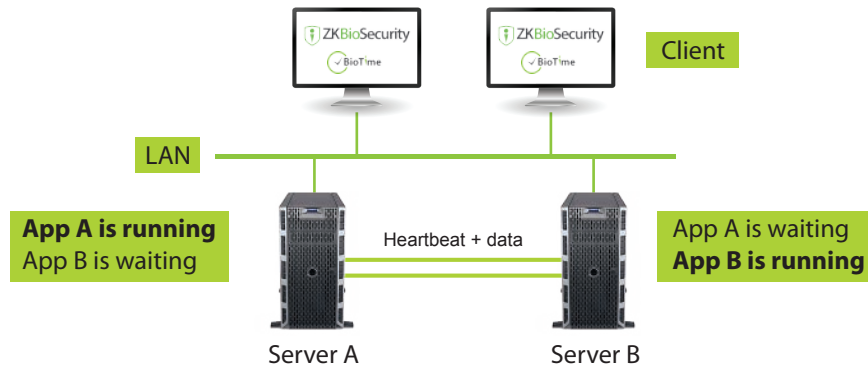

When there is a disaster of earthquake caused the server A, the standvy server B in the long distance will take place to protect the businese system.

*For applications requiring extreme preciseness, ZKBIOFT offers advanced fault-tolerance level solutions enabling non-stopping system or application protection.

Solution Application Scenario

High availability based on data mirroring

Demand scenario：To realize real-time redundancy protection for business data which is stored at local disk;
HW schema：2 servers

App A is running
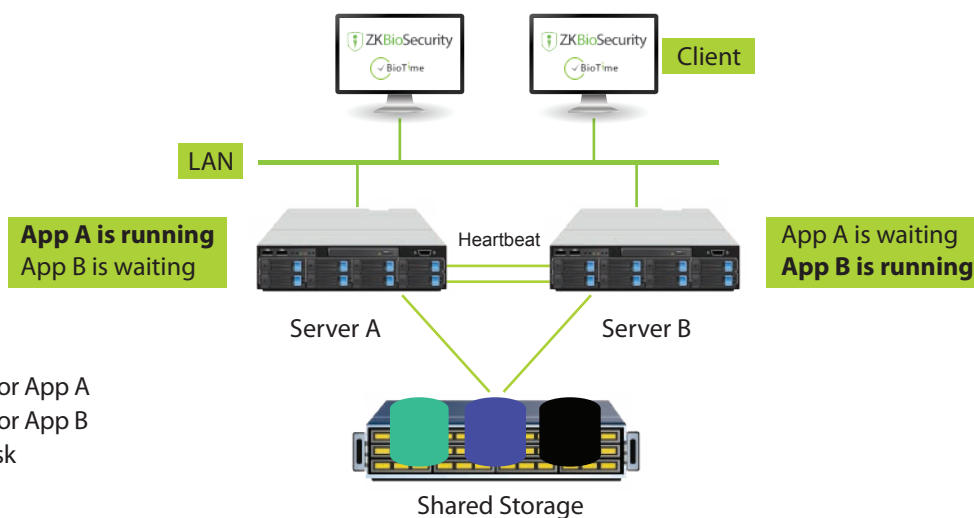App B is waiting

Heartbeat + data

App A is waiting
App B is running

Server A   Server B

Solution effect	Solution features
Real-time data sync and redundancy backup;	Support different brands of HW;
Solve the business interruption caused by SW/HW error;	Configuration by wizard;
Support active-standby/active-active protection mode;	Smart and flexible settings for app service priority;
	Support snapshot protection to protect data security;
	Ensure 7x24h business continuity for business system;

High availability based on shared storage

Demand scenario：To realize business continuity protection for business data stored in disk array;
HW schema：2 servers + 1 disk array

App A is running
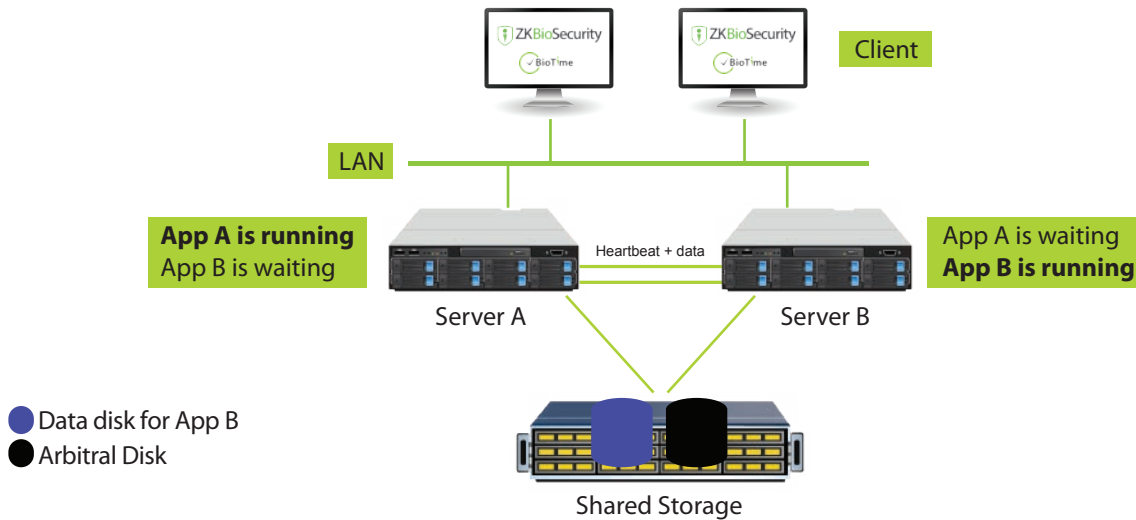App B is waiting

Heartbeat

App A is waiting
App B is running

Server A   Server B

● Data disk for App A
● Data disk for App B
● Arbitral Disk

Shared Storage

Solution effect	Solution features
The same app share the same business data	Support different brands of HW;
Solve business interruption caused by SW/HW fault	Configuration by wizard;
Support Active-Standby/Active-Active protection mode	Smart and flexible settings for app service priority;
	Ensure 7x24h business continuity for business system;

Hybrid high availability (mirrored + shared storage)

Demand scenario：some data are stored at local disk, while the other most data are stored in disk array;
HW schema：2 servers + 1 disk array

ZKBioSecurity
BioTime

ZKBioSecurity
BioTime

Client

LAN

App A is running
App B is waiting

Heartbeat + data

App A is waiting
App B is running

Server A   Server B

● Data disk for App B
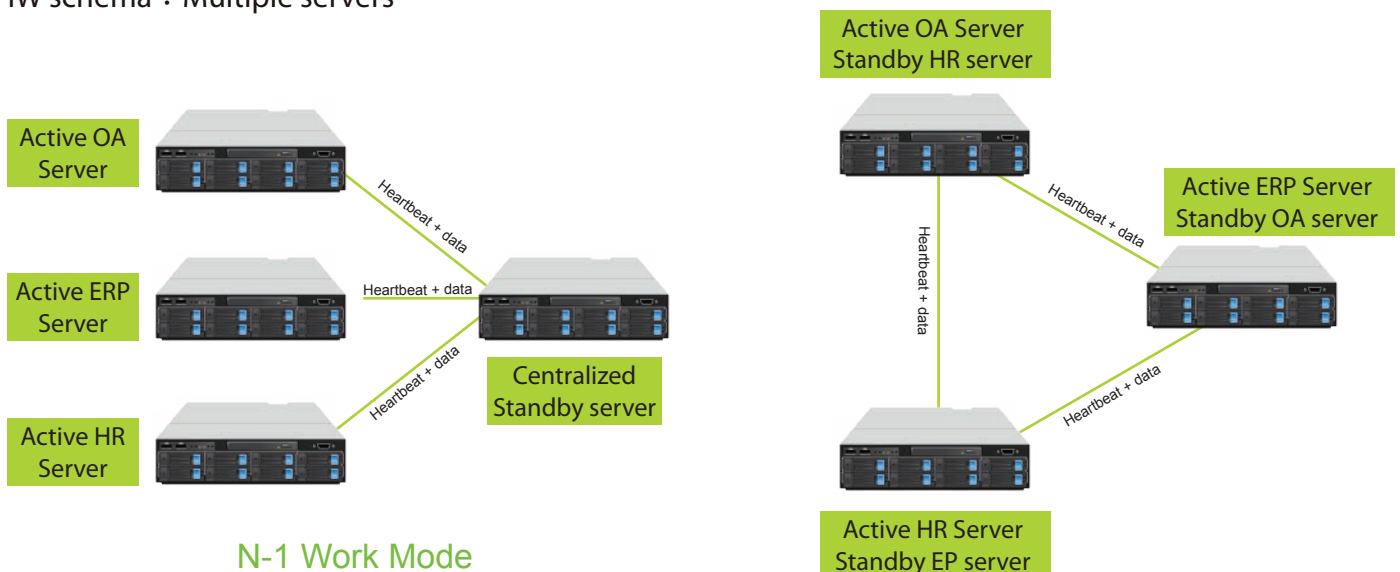● Arbitral Disk

Shared Storage

Solution effect

Real-time data sync and shared storage protection

Solve business interruption caused by SW/HW fault

Support Active-Standby/Active-Active protection mode

Solution features

Support different brands of HW;

Configuration by wizard;

Hybrid configuration between local mirroring and data shared storage;

Mirrored cluster seamlessly upgrade to shared disk cluster

Ensure 7x24h business continuity for business system;

Snapshot protection ensures data security

N-1 and cascading high availability

Demand scenario：
multi-server environment, N-1 centralized high availability and cascading high availability protection
HW schema：Multiple servers

Active OA Server
Standby HR server

Active OA
Server

Heartbeat + data

Active OA Server
Standby HR server

Active ERP Server
Standby OA server

Active ERP
Server

Heartbeat + data

Heartbeat + data

Heartbeat + data

Centralized
Standby server

Active HR
Server

Heartbeat + data

Heartbeat + data

Active HR Server
Standby EP server

N-1 Work Mode

Solution features

N-1 centralized high availability protection mode

Snapshot protection to ensure data security
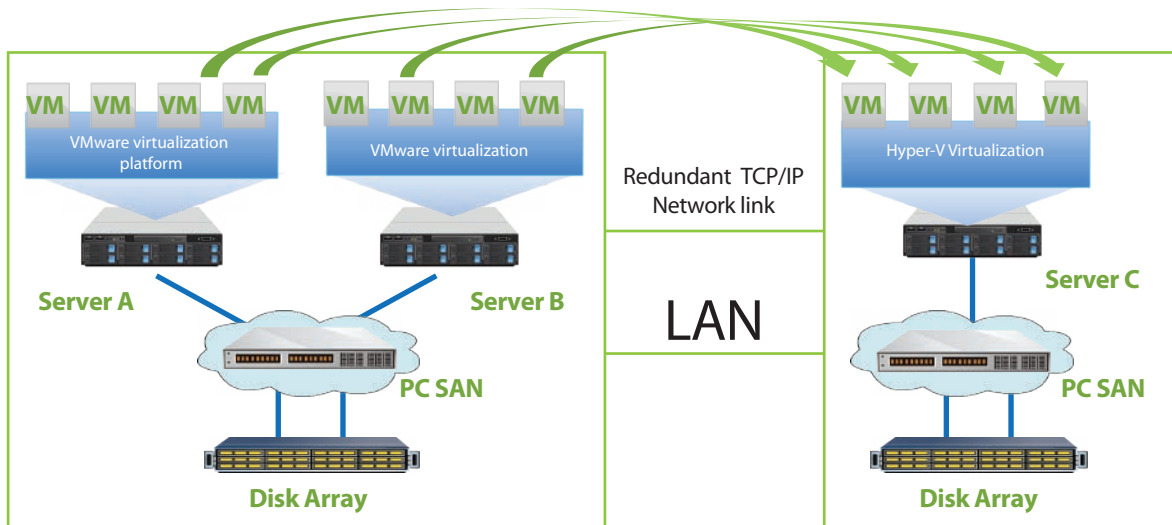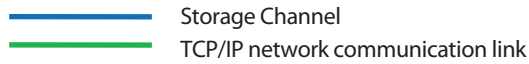
7x24H business continuity of business system

Solution features

Cascading high availability protection mode

Snapshot protection to ensure data security

7x24H business continuity of business system

App high availability on virtual platform

Demand scenario：Business app is deployed on virtual platform to realize business data protection and business continuity.

Virtual platform：Support VMware, Hyper-v, Xen, KVM and etc.

Storage Channel
TCP/IP network communication link

VM VM VM VM

VMware virtualization platform

VM VM VM VM

VMware virtualization

Redundant TCP/IP Network link

VM VM VM VM

Hyper-V Virtualization

Server A

Server B

Server C

LAN

PC SAN

PC SAN

Disk Array

Disk Array

Production environment on virtualization platform

Disaster recovery environment on virtualization platform

Function Comparison

	ZKBioHA	Another Brands	Comparision Remark
Configuration layer	Configure by wizard, which is simple and fast	individually configure resources	Configuration of ZKBioHA is more flexible and simple
Host alias	Support	Not support	ZKBioHA supports app environment requiring virtual machine alias.
Replace IP	Support	Not support	ZKBioHA supports wider app environments, solving the problem that app does not support business NIC with multiple IP.
Send data package with virtual IP as source address	Support	Not support	ZKBioHA could effectively solve data package sending failure under environment with multiple IPs.
Snapshot protection	Support	Not support	Snapshot function of ZKBioHA could effectively protect data security.
Disk partition	No limit for disk partition size on active/standby server.	Mirroring by partition. Disk partition on active/standby server must be consistent.	Under ZKBioHA environment, the setting for disk partition is more flexible.
After-sale support	Response is quick and after sale service is more secured.	Response is slow. After sale question could not receive timely solution	After sale service for ZKBioHA is more timely and service quality is better.

OS	Windows Server 2008 Standard Windows Server 2008 Enterprise Windows Server 2012 Standard Windows Server 2012 Datacenter Windows Server 2016 Standard Windows Server 2016 Datacenter Microsoft Windows 7 Microsoft Windows 10	**Virtualization platform**	VMware vSphere Hyper-V Xen KVM and etc.	**OS**	Database：Oracle, MSSQL, Sybase, DB2, Mysql, Informix and etc. Mail server：CoreMail, Sendmail, Postfix, Domino and etc. Web service：IIS, Tomcat, Apache and etc. Mid-ware server：Samba, FTP, NFS and etc. Mid-ware app：WebLogic, WebSphere and etc. user-defined app：provide ports for second time development

The Leader Of
Security And Time Management
Solution

Fingerprint Recognition   Face Recognition   Palm Recognition   Finger Vein Recognition   Iris Recognition   Card Recognition