HUAWEI S2S DR Solution

Preface

As information systems evolve rapidly and enterprise business integration speeds up, technology risks of IT data centers become concentrated. If a production center stops working due to upgrade, maintenance or events such as a power failure or a fire, enterprise services are interrupted and this may lead to user data loss or even serious economic/reputation loss.

With years of accumulated experience in the storage disaster recovery (DR) field, Huawei has developed a site-to-site (S2S) DR solution based on an in-depth understanding of customers' DR requirements. This solution can safeguard user data and service continuity, integrate storage resources and allocate them on demand, and simplify DR service operation and maintenance (O&M) through graphical management.

Challenges

As informatization continues to advance, enterprise DR construction faces the following challenges:

With the release of national and industrial DR construction standards, DR construction is gradually becoming mandatory.In an enterprise, various application systems are purchased and deployed at different points in time, and storage devices of different brands and models are used, making it difficult to allocate storage resources across these devices.In active-standby DR mode, the storage device in the DR center must be of the same type as that in the production center, causing a huge waste of resources.A DR drill involves a complex procedure and manual intervention, prone to misoperations or incomplete operations. In addition, DR service management is complex, leading to low efficiency and high O&M costs.

HUAWEI S2S DR Solution

Based on an in-depth understanding of enterprises' DR construction requirements, Huawei launches a S2S DR solution that embodies Huawei's years of technical experience and best practices in the storage DR field. This solution implements multi-dimensional data and service DR, resolves compatibility issues seen in DR between devices from different vendors, and provides a graphical DR management system to improve DR service management efficiency.
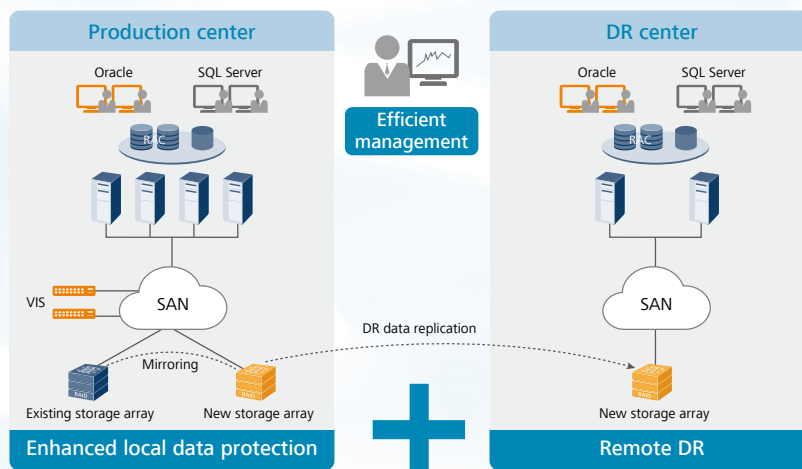
HUAWEI S2S DR Solution boasts the following features:

Reliable storage

- To protect existing data, this solution employs storage virtualization to make the differences between storage devices from different vendors invisible, thereby integrating heterogeneous storage resources. This solution also adopts clustering and mirroring techniques as well as provides key component redundancy to ensure service continuity.

Efficient transmission

- Huawei entry-level, mid-range, and high-end storage arrays can interwork with each to provide DR services, optimizing storage resource allocation and reducing investments on DR devices by over 50%.
- Full and incremental replication techniques based on memory time stamps ensure that the RPO ranges from 0 to 5 seconds, the shortest time in the industry.

Easy management

- Wizard-driven, step-by-step, and graphical DR service management helps customers easily deploy and maintain DR services, improving management efficiency by at least five times.
- DR services management is integrated with application system management, allowing users to check DR data availability at any time and perform a DR drill at one click.
- Basic resources, including networks, storage devices, and servers, in the production center and DR center are monitored and managed in a unified manner, greatly simplifying DR system management and maintenance.

Conclusion

HUAWEI S2S DR Solution eliminates single points of failure in storage, improves system scalability, maintainability, and availability, and enhances the capability of resisting natural disasters. Huawei is willing to work with customers to provide reliable data protection and service continuity as well as improved customer satisfaction.

Recommended Products

DR management software	OceanStor ReplicationDirector DR management software
Storage virtualization gateway	OceanStor VIS6600T virtual intelligent storage system
Storage arrays	OceanStor S2600T/S5500T/S5600T/S5800T series unified storage
	OceanStor 18500 storage system

Success Story

High data reliability and non-stop service continuity
— Huawei successfully delivered a S2S DR project to Bohai Property Insurance

Bohai Property Insurance, a rising star in the finance sector, has a registered capital of 1.375 billion RMB and owns 25 provincial branches as well as 200+ municipal and county branches that provide 16 types of insurance products, including vehicle insurance, property insurance, engineering insurance, transportation insurance, liability insurance, credit insurance, accident insurance, and short-term health insurance. The IT architecture of Bohai Property Insurance involves various types of devices, complex networks, and a large number of application subsystems. The customer wants to improve the informatization construction level to meet the business growth in the next three years and its IT architecture to provide flexible scalability, outstanding maintainability, and high availability (HA).

The S2S DR project plans to provide all production systems of Bohai Property Insurance, including the core service system and the ERP system, with capabilities to resist operation accidents and natural disasters, laying a foundation for Bohai Property Insurance to meet the compliance requirements of the China Insurance Regulatory Commission (CIRC). On the existing network, data of core systems is stored in one storage array, and no DR system is used. The poor DR capability exposes data to a risk of single points of failure, failing to meet the compliance requirements of the CIRC. All service platforms of production systems must be upgraded or migrated to improve the informatization construction level.
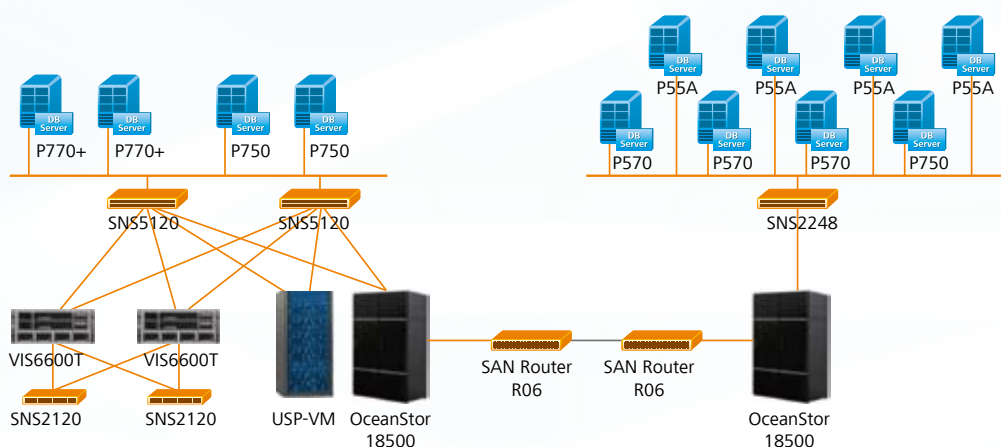
To eliminate the risk of single points of failure and address the need for intra-city DR, Huawei provides a S2S HA DR solution. In this solution, the production center adopts a local active-active storage architecture, a DR center is built in the same city to provide application-level DR,

and the DR services can be managed in a graphical manner.

To prevent single points of failure, Huawei provides an HA solution covering all aspects from applications to the storage. A local active-active storage architecture is built, where the applications work as an Oracle RAC cluster, FC switches are used to establish a redundant network, multi-link redundancy is configured, four nodes of a VIS gateway work as a cluster, and the mirroring function of the VIS gateway is used.

ReplicationDirector DR management software is used to define DR time policies to meet RTO and RPO requirements of mission-critical and ordinary systems. ReplicationDirector is also used to complete DR drills. The following figure shows the networking diagram.

The solution supports a local active-active storage architecture without storage integration, where two storage devices can read data in a load balancing manner or only one specified storage device reads data. Graphical DR management as well as one-click or script-customized DR switchover and DR drill are supported. The local active-active architecture of HUAWEI S2S DR Solution resolves concerns about single points of failure in the live network and improves read performance of service systems. The automated DR management software facilitates daily maintenance of the intra-city DR system. This solution improves system scalability, maintainability, availability, and the capability to resist severe natural disasters while meeting the compliance requirements of the CIRC.