

Title:

Exchange Disaster Recovery with SANRAD V-Switch Planning Guide

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Summary:

Designing a disaster recovery system requires planning and consideration of the available options. This guide will help you design an exchange disaster recovery plan in conjunction with SANRAD.

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Introduction

Designing a disaster recovery system requires planning and consideration of the available options. This guide will help you design an exchange disaster recovery plan in conjunction with SANRAD.

Exchange Disaster Recovery Planning

This section discusses both general and Exchange specific considerations that need to be addressed.

General Considerations:

SANRAD replication solution allows for flexibility with exchange disaster recovery design.

The most influential factors affecting design consideration are:

- Budget limitations
- Recovery Time Objective (RTO) requirements (the time until the data is back online)
- Recovery Point Objective (RPO) requirements (the amount of data that can be lost)
- Network bandwidth between the local site and remote site
- Replication method: Synchronous versus Asynchronous
- Replication frequency (only for Asynchronous replication)
- Initial volume synchronization

RTO (Recovery Time Objective)

- With high level RTO, duplicate hardware is required to allow quick recovery making the solution expensive.

RPO (Recovery Point Objective)

RPO requirements are best defined by the amount of data that the company is willing to lose.

- High level RPO requires more bandwidth for both Synchronous and Asynchronous replication.
- Low level RPO requires less frequent replication and increases the risk of losing more data.

Network Bandwidth between the Local and Remote sites

Bandwidth between the sites is generally the most crucial factor affecting the replication completion time.

- T1 (1.5Mb) links impose less frequent data replication and the use of asynchronous replication.
- T3 (45Mb) links or a 1Gb links allow frequent replication and the flexibility to choose between synchronous and asynchronous replication.

Replication method

When considering which replication method to choose it is important to remember:

- In Synchronous Replication the I/O commands are written to the local disk and to the remote disk. The local disk must receive acknowledgment from both the local and remote sites before the next command. Consequently, synchronous replication is best deployed with a high bandwidth connection in order to allow the remote acknowledgment to arrive back to the local site as fast as possible.
- In Asynchronous Replication the I/O commands are written to the local volume and local journal (on the same physical disk as the source volume) and thus the replication is fast by default.
- For Asynchronous replication, you must decide the data replication frequency. There are three main factors:
 1. The size of the network bandwidth between the sites.
 2. The amount of data changes that need to replicate each time.For example, large amounts of data changes take longer to replicate using T1 links.

3. The RPO requirements.

Initial Volume Synchronization

SANRAD replication solution can be used to protect existing production Exchange data. SANRAD D
The initial volume sync method depends on:

- The size of the volumes needed to be synchronized.

- The network bandwidth between the sites. For example, the bigger the volume size, the longer

Online synchronization starts immediately when replication is started and uses the same ne

Offline synchronization is a manual process where SANRAD replication prepares the volumes

Exchange Considerations

Any exchange disaster recovery planning should (at the very least) consider the following requ

- Quick access to the most recent copy of the Exchange database and the transaction logs. In a

- The Exchange database and its related transaction logs must be replicated together to the re

- Exchange is integrated into Active Directory. An Active Directory domain controller (running

- The most up to date replicated copy of the Windows backup set (which includes system state)

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