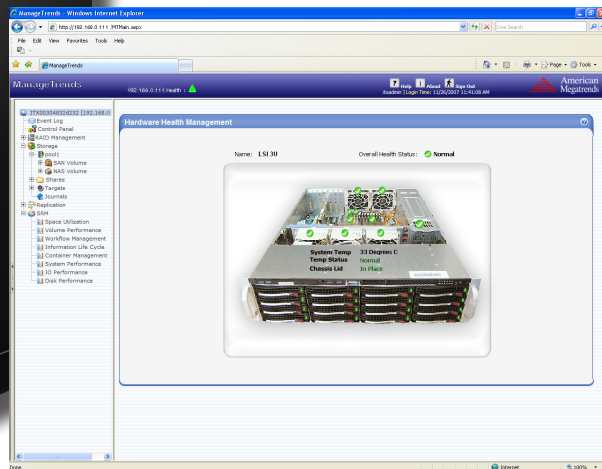


StorTrends® iTX Disaster Recovery Guide: Failover and Failback Operations



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Summary

StorTrends storage appliances from American Megatrends expertly manage the everyday storage requirements of small to medium businesses, thanks to the innovative ideas and technologies featured in StorTrends iTX Data Storage Software. With a single appliance, organizations can address the entire storage needs of today's increasingly complex IT storage environments –file servers, application storage for Oracle® and SQL databases, high availability, remote replication, disaster recovery and much more.

StorTrends iTX is refreshingly easy to use and deploy, and setting up its features is a snap. One of the key strengths of StorTrends iTX – the robust Disaster Recovery module – can be fully configured in mere minutes. Thanks to the intuitive design of StorTrends iTX, ensuring that the systems in use are properly configured for successful disaster recovery is a simple task. This document will outline a step by step process of how to guide a StorTrends iTX user through a recovery of a volume.

Overview

The typical steps involved in the procedure for effectively and quickly recovering from a disaster (power outage, network trouble, hardware malfunction, etc.) are straightforward and simple. The following sequence describes a typical recovery scenario with two (primary and secondary) StorTrends storage appliances (IP-SAN or NAS) connected via Snapshot Assisted Replication:

1. **Disaster Occurs**
2. **Disconnect (if needed)**
3. **Fail Over**
4. **Activate DR Site**
5. **DR Recovery**
6. **Get in Sync**
7. **Fail Back**

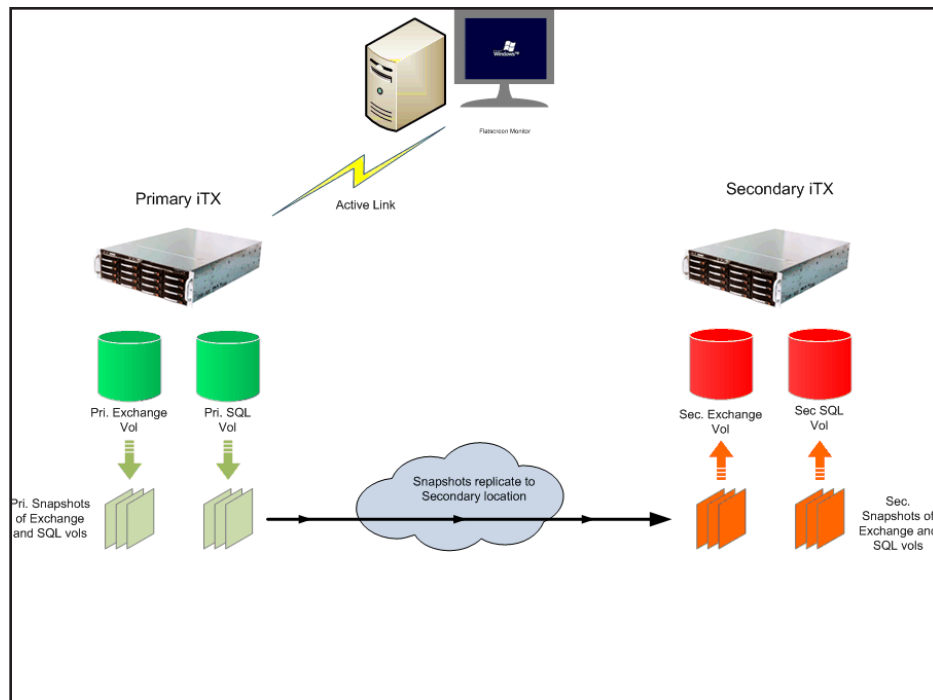


Figure 1: Original configuration, with server(s) connected to two StorTrends iTX volumes, replicating snapshots to secondary iTX volumes through a WAN

1. Disaster Occurs

Some of the most common causes for the loss of storage appliances are power outage, link failures, or similar catastrophes that remove the primary volumes from the setup. In the case of a failure, the steps to recovery are simple – thanks to the user friendly ManageTrends™ GUI featured in StorTrends iTX. The ManageTrends GUI includes easy-to-recognize icons and navigation, along with an intuitive help section should additional detailed information be needed during the recovery process.

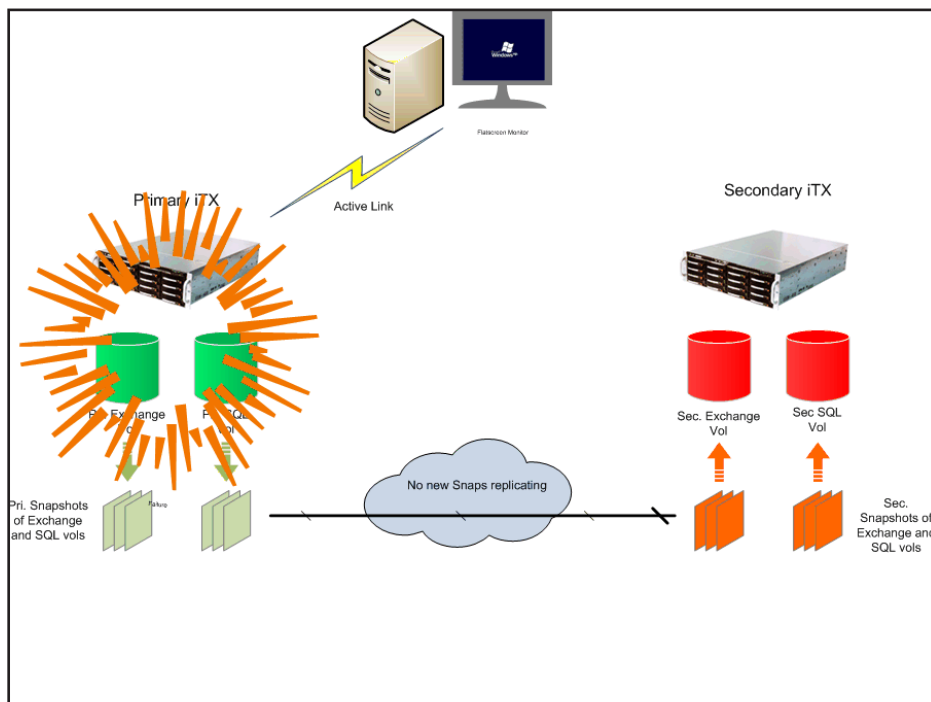


Figure 2: Failure of the volumes on the primary side

2. Disconnect (if needed)

For an IP-SAN volume, the first step required will be to logout of the target(s) from the initiator. Next, open the Microsoft iSCSI Initiator, select the connected target and then click the Details tab. Finally, check the Identifier box and then click the Log off button.

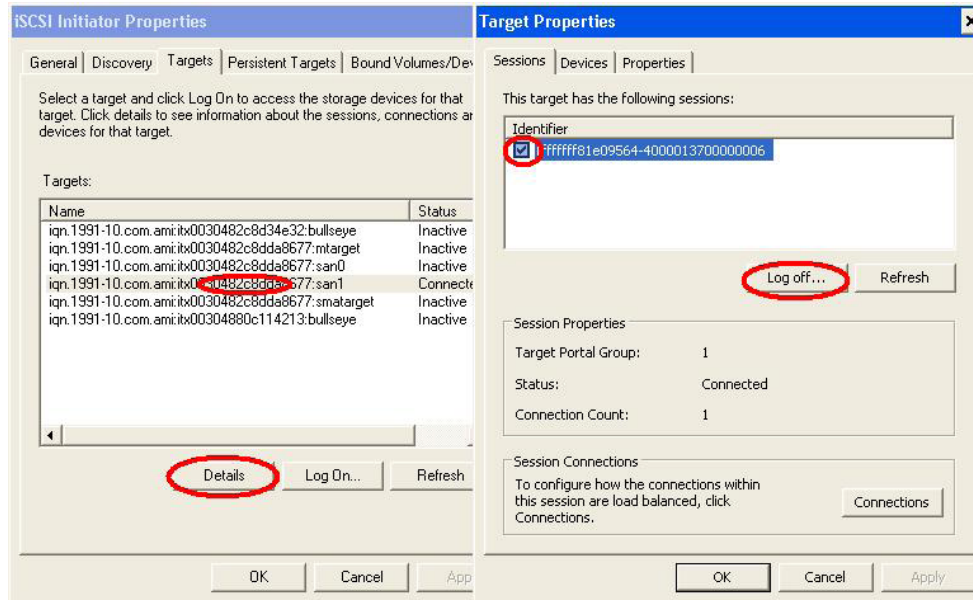


Figure 3: Screenshot of Microsoft initiator

3. Fail Over

After logging off the targets (not applicable to NAS), the next step is to fail the replication pair over to the secondary (hereafter referred to as "Box B"). To do so, first login to ManageTrends on the secondary unit (Box B). To get started, in the left pane of ManageTrends click Asynchronous Replication, then select Snap Assisted (SAR) underneath, then click the SAR pair name. Once the Snap Assisted Replication (SAR) Management page has loaded, select the Fail Over button at the bottom right of the screen.

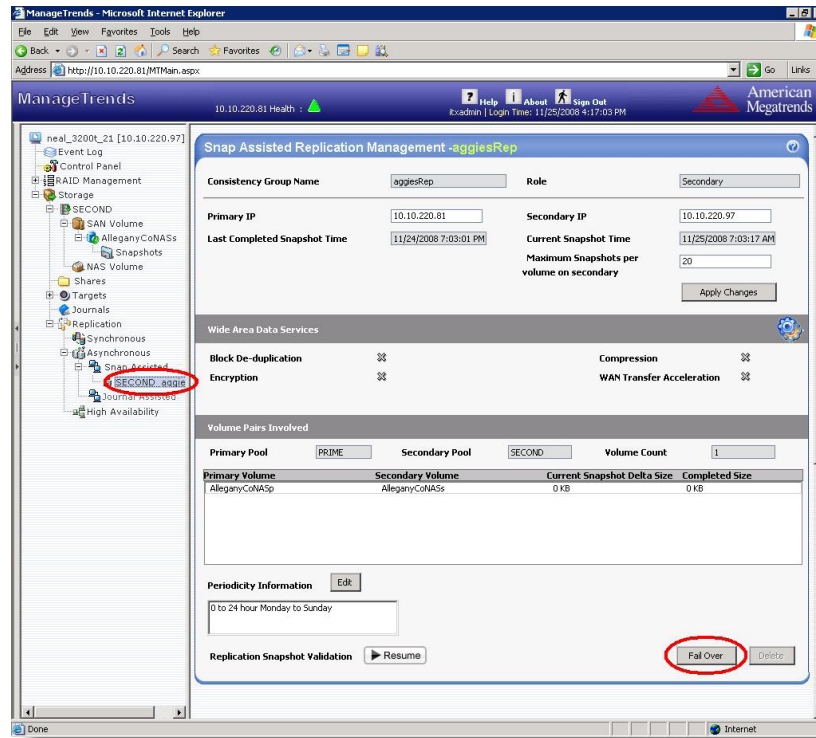


Figure 4: ManageTrends screenshot of secondary SAR pair; circle indicates where to click.

4. Activate DR Site

Now that the SAR pair has failed over from the primary unit (hereafter referred to as “Box A”) to secondary unit (Box B), connect to the secondary volumes by using the iSCSI initiator or just mapping the drive depending on your volume type. Lastly, start a snapshot schedule on the new primary (Box B) to make sure that you maintain the same ability to avoid local failures as you did in the primary location (Box A). This gives you a functional backup storage unit, in case of a disaster in your primary data center.

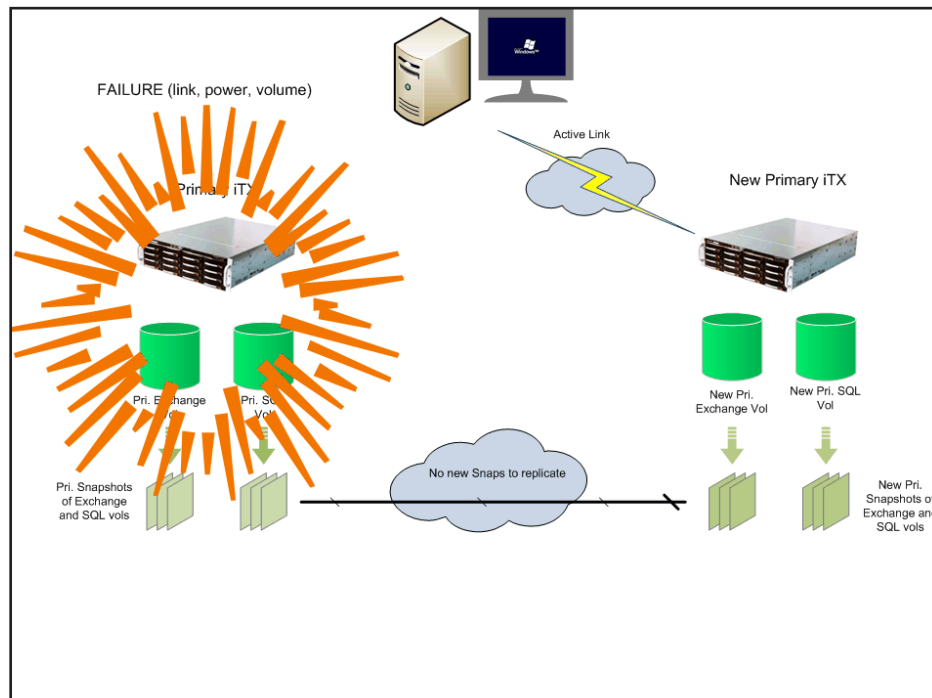


Figure 5: Connected secondary storage

5. DR Recovery

Depending on the urgency of the need for data backup to resume at the primary site (Box A), and the seriousness of the disaster, the new primary unit (Box B) can generally maintain the same load possibilities as the primary unit (Box A) and is only limited by bandwidth. A quick failover to the new primary (Box B) creates an opportunity to restore the primary site (Box A), either to come back on line once again as the primary unit, or to function in a new role as the secondary DR site for the new primary (Box B). To make the original primary location (Box A) a permanent secondary location, simply replace the original unit (Box A, assuming the disaster ruined the unit) and create a new SAR pair using the Replication Wizard in ManageTrends.

In this example, we will assume that the goal is to come back on line at the original primary location (Box A), and also that the disaster did not destroy the StorTrends appliance unit. (Note that if the StorTrends appliance had been destroyed, you would simply replace the damaged unit with a functioning one before coming to this step).

Once the original primary (Box A) is up and running, it can be joined back to the replication pair from the SAR Management page. To get started, in the left pane of ManageTrends click Asynchronous Replication, then select Snap Assisted (SAR) underneath, then click the SAR pair name. After the SAR Management page loads, click the Failback Join button; this will start the process of replicating the new snapshots that were taken since the failure.

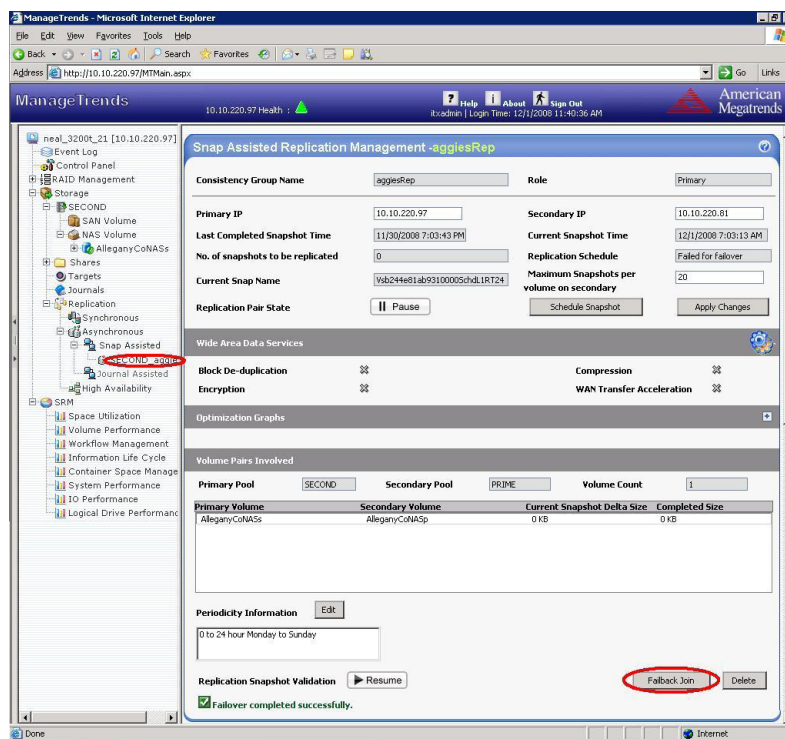


Figure 6: Failback Join screenshot in ManageTrends

6. Get in Sync

The next step in the process to restore the original primary unit (Box A) is to log out of all connections, and then allow a final scheduled snapshot to be taken on the original secondary unit (Box B) and sent to the original primary / new secondary (Box A).

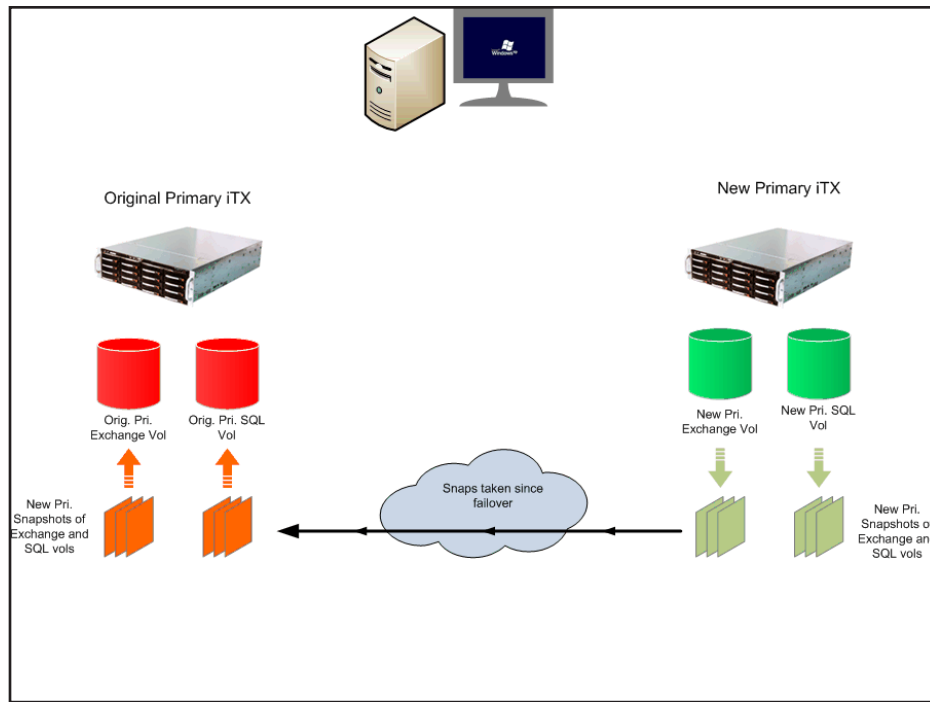


Figure 7: Replication to sync up the original primary (Box A) without I/O link

7. Fail Back

After all of the snapshots have been replicated to the original primary (Box A), the replication pair is now in sync. It is now possible to fail back to the original primary (Box A). To do so, as before click Asynchronous Replication in the left pane of ManageTrends, then select Snap Assisted (SAR), then click the SAR pair name. Once the Snap Assisted Replication Management page loads, click on the Fail Back button at the bottom right of the screen.

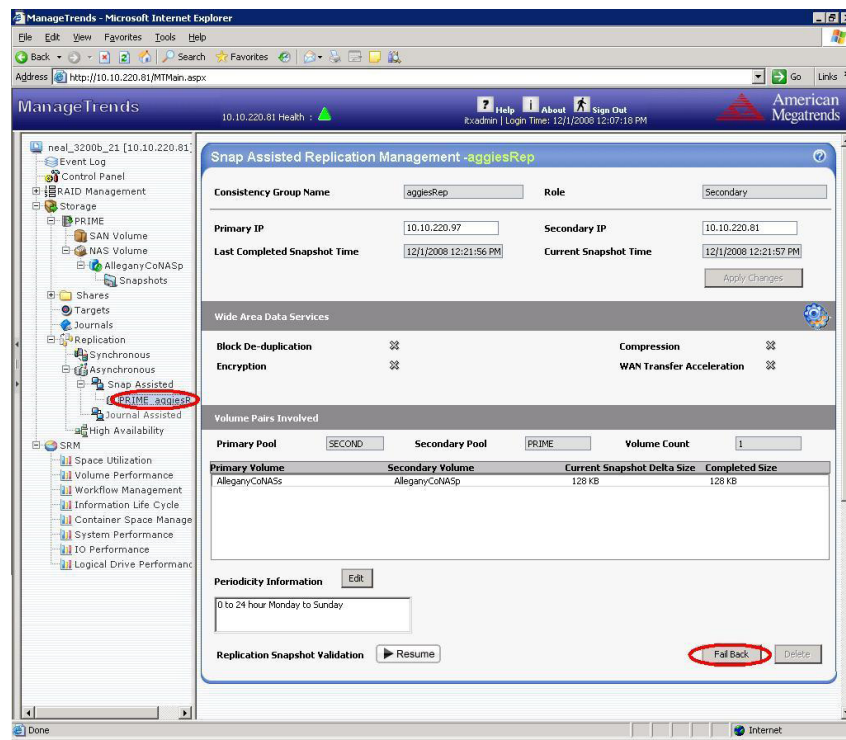


Figure 8: ManageTrends screenshot of Failback operation

After reconnecting to the primary unit (Box A) from the application servers, recovery is complete and the original configuration has been restored. Lastly, click the Schedule Snapshot to create a snapshot schedule on the restored primary (Box A) and ensure that the ability to recover from local failures is preserved.

Conclusion

This document has outlined the simple process of recovering from a disaster and restoring the original primary unit in StorTrends iTX. Thanks to the simplicity of ManageTrends and its Replication Wizard, this process can be safely carried out with a minimum of time and effort.

If you wish to know more about Disaster Recovery in StorTrends iTX, please contact your StorTrends Sales Representative for additional information and assistance.

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