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1. Backup and Recovery

Patagonia Health manages mission critical data for the health care organizations it serves. Every minute the EHR is inaccessible, the organizations stand to lose revenue and potentially impair quality of care provided to patients. Patagonia Health recognizes that the doctors, clinicians and staff must have access to the EHR 24x7 anywhere in the world. Patients also have access to their own records via the patient portal, so it is critical for the EHR to remain highly available.

Backup

Application and database backups are stored in multiple secure locations. Application is backed up whenever configuration change occurs. Application is backed up on the local server and another passive server for instant failover.

Database is mirrored constantly to a local server. The mirror site is a passive failover node synchronized with the primary server.

Refer to Figure 1 below. The production data center on the left has a primary and failover servers.

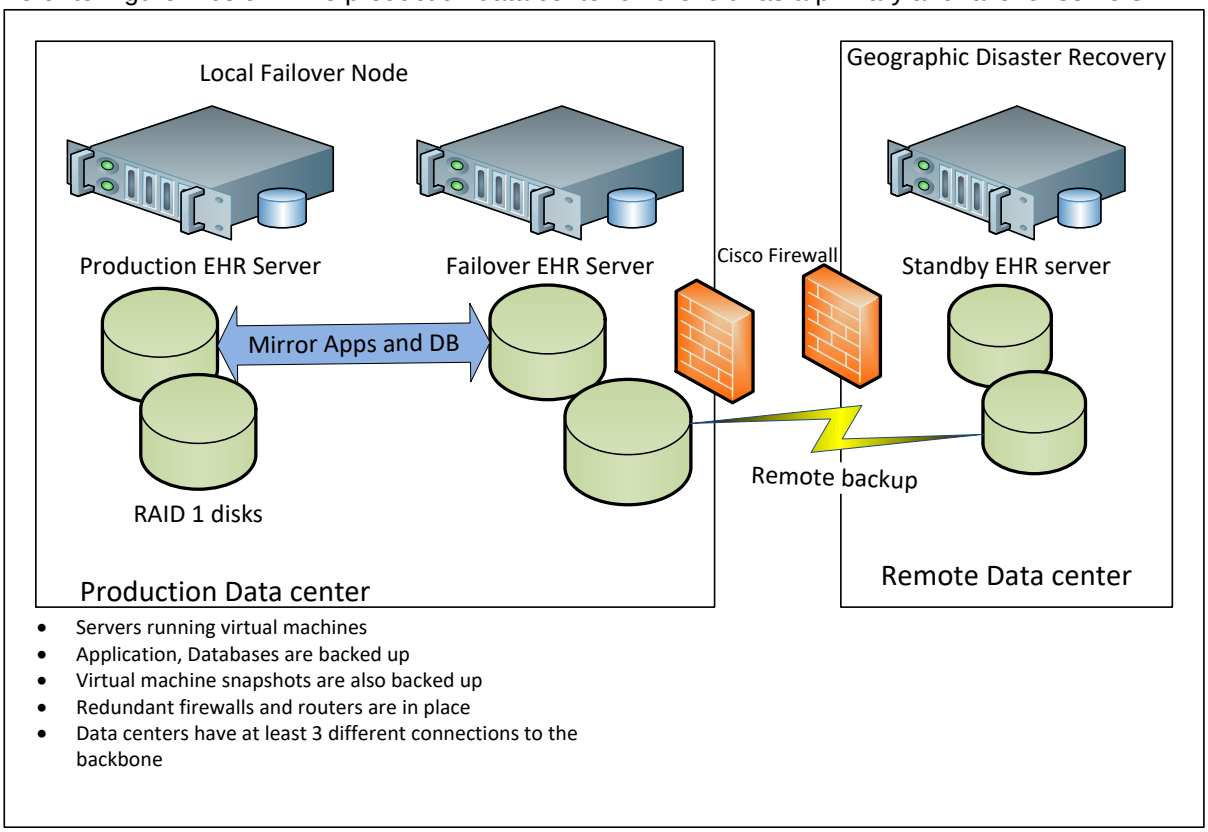

Figure 1 Patagonia Health EMR Server Configuration With Disaster Recovery

Both application and database servers run in similar mirror configurations. Application and database are synchronized with the failover node. In case the primary server fails, the failover servers can take over operations.

All backups are encrypted with secure asymmetric keys.

Disaster Recovery

As with any mission critical application, Patagonia Health has plans for any geographic disasters. Business Continuity Planning (BCP) requires setting up geographically distributed disaster recovery centers. The primary and disaster recovery data centers are to be separated by over 300 miles. Primary data center is in Morrisville, NC and disaster recovery is in Cincinnati, OH.

The application and database are also mirrored in a remote data center. The remote data center is on stand-by and can be activated in case the primary data center has a disaster.

All the data centers are connected to the Internet backbone with redundant connections from independent service providers. The data centers have independent infrastructure (electric power, network, water etc.)

Backup and Recovery testing

Patagonia Health periodically performs restore testing for both the local and remote backups. Any errors are corrected and staff is trained to manage the transition. The goal is to have a smooth transition with minimal down time.

These mechanisms are in place to prevent data loss provide continuity for our customers.

Backup Summary

Task	Frequency
Local Virtual Machine mirror	5 minutes
Remote Virtual Machine mirror	15 minutes
Database full backup	24 hours
Database differential backup	15 minutes
Full back up retention period	Most recent 7 days Weekly full backup for 12 months