**Network audit Medichair Inc.**

This report is based on the information provided to Synergy IT solutions Inc. and our observation regarding the IT infrastructure at Medichair Inc.

**Findings**

**Servers**

There are 3 servers in the network; Medi1,Medi2 & Medi3. Medi1 & Medi3 are domain controllers and run Microsoft Exchange server 2003. It seems exchange server has been migrated from Medi1 to Medi3 . Medi3 server also runs GFI mail security for SPAM filtering. Medi4 runs Business vision software and Veritas backup exec server software for backups. Medi3 also runs Blackberry enterprise server Express edition. Medi3 & Medi4 have SATA drives in a RAID 5 configuration. Typically SATA drives are used in PCs and low end servers. More robust SAS drives would have been preferred for better reliability.

**Backup**

Data is backed up to tape drives and to a Network attached storage device. Tape backups are considered as legacy backup devices. Portable external hard drives can be used instead for easier data recovery.

**Network**

Network connectivity is provided through a network switch. Cisco WRVS400N router provides access to the internet and also provides wireless connectivity. There is a site to site VPN tunnel created between Oakville and Etobicoke locations to provide access to the Etobicoke office users to the main office in Oakville.

**Recommendations**

1. Server drives are heavily fragmented. They need defragmentation. This will improve drive access speed and server performance.
2. There were folders on the server that may not be needed anymore. Preferably they need to be cleaned up before defragmentation. Some of the older data can be archived to external media.
3. Medi1 still have MS exchange server components that need to be cleaned up and the server needs to be decommissioned.
4. Wireless access password is too simple. This could compromise security to access the network from outside. More complex wireless access key is recommended.
5. Router still has the default password which needs to be changed as soon as possible.
6. To reduce the in-house IT complexities, the option of moving the email server (MS Exchange) to the cloud such as Microsoft office 635 or Google apps can be considered. Cloud based email can be securely accessed from anywhere. With cloud based email solutions, email users can continue to use the familiar outlook client software to access emails.
7. Data is backed up daily to NAS device and to tape drives. In the event of a catastrophic server failure, data needs to be restored from tape or NAS device. This recovery can take significant downtime for the business. Also data can only be restored to the point when the last successful backup was run. Any transactions that happened since the last backup will be lost. To reduce the down time and data loss due to catastrophic server failure, one of the solutions proposed in the ‘DR Solutions’ section can be used.
8. Microsoft Windows 2003 server and Microsoft Exchange 2003 servers are two generations old. Therefore it is recommended to upgrade the windows servers and the MS exchange server to the latest versions.

**DR Solutions**

**Option 1** – Datto Siris backup

Datto Siris device is a backup device (appliance) that creates an image of the existing physical servers and stores a copy on the device as well as in the cloud. This backup can be scheduled to run every 15-30 minute intervals. In the event of a server failure, the server image residing on Datto appliance can be immediately powered on and run as a replacement server until the original server is recovered.

Approximate Pricing

Initial cost – $3000

Monthly cost -$225

**Option 2** – Using Veeam replication software with two physical servers

With this option two new servers are required to run VMware. Existing physical servers are virtualized. Virtual server running on one physical server is replicated to the second physical server. This replication can be scheduled to run every 15-30 minutes. In the event that one of the physical servers has a catastrophic failure the replica on the other server can be powered on. One of the existing servers can be reused as a server to run the VeeAM backup software.

Approximate Pricing

Initial Cost - $14000.

**Option 3** – Continuous Replication solution

This is the most expensive option will replicating one server to another continuously. This is implemented using double take software. Doubletake replicates one server to another on a real-time basis. Also it provides automatic failover from one server to another with minimal interruption to users.

Approximate Pricing

Initial cost - $25000.

Note : Above pricing is an approximate amount for budgeting purposes. Exact pricing will vary depending on the detailed scope of work (SOW) and the hardware/software options selected. Pricing is excluding any government applicable taxes.