**Cost of Inhouse Implementation**

by Chris Chung, Founder of Essention Group

A question we are frequently asked is, “How would you setup ConservationTrack?” We at Essention believe very strongly, that the most effective way to do it is through the solution we offer. However, if you are interested in understanding what it would take to setup ConservationTrack on your own, this article describes the process.

ConservationTrack is based upon a few key Microsoft technologies: SharePoint, SQL Server, ISA Server, and .NET. This primer is broken down into sections describing the datacenter, server infrastructure, security / backup, and the application. The final section provides a rough cost estimate for an in-house implementation of ConservationTrack.

**Data Center**

The most foundational decisions is where will to house servers and other equipment. Although your office location is one possibility, this is not necessary the right choice for everyone. Offices often do not have good connectivity or the necessary flexibility with their networking to support ConservationTrack. Whatever you choose, you want the location to have sufficient bandwidth, typically 1-2 mbps and low latency.

Essention houses its servers in a datacenter with redundant internet providers, redundant power sources, backup generators, biometric access control, and various other features that give us the assurance that our customers data is safe and secure.

**Server Infrastructure**

ConservationTrack can be run on as few as 3 servers. Minimum requirements for ISA, SharePoint/SQL, and Active Directory can be found at [www.microsoft.com](http://www.microsoft.com/). One consideration with server infrastructure should be to use virtualization. It can reduce the cost of servers and ultimately simplify the management of your infrastructure.

Essention uses over 20 servers to support ConservationTrack. We primarily use Dell equipment although we use other providers for storage and security products. Our servers are all multiprocessor with redundant disk subsystems. We pride ourselves in offering our customers high performance.

**Security / Backup**

ConservationTrack will most likely be housing sensitive information. As such, a solid backup plan and security system are a must. There are many different options for backup; we would strongly recommend something that allows frequent backups (at least daily if not more frequently). Security is best implemented in a layered strategy. ISA provides application level security, but using at least some more basic network based security is a good idea. Also, anti-virus and anti-spam are valuable, as ConservationTrack stores emails.

Essention uses various firewalls and security devices to ensure the protection of our customer’s data. For security reasons, we do not disclose our security architecture, but suffice it to say, it is adhering with best practices. Furthermore, we employ a continuous backup system that backs up data a few milliseconds after the data is uploaded. Furthermore, we have a secondary site that allows us to move our backups offsite every hour.

**Application**

SQL/SharePoint/.NET are the basic application stack that Microsoft uses for application development. Active Directory is used to manage user accounts and authenticate. Along with the other technologies listed, it is important to make sure your organization has the skills in house or has a good service/consulting provider who can provide this expertise when required.

**Costs**

The table below provides a list of things you will need. Prices will vary from region to region. The table below attempts to provide the bare minimum costs.

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| Item | Description | Cost Range |
| Datacenter or ISP | Typically, high quality internet providers will charge between $100-$400 a month to network your office location.  Datacenters typically charge $200-$1000 a month depending on how many servers you use. | $200/month |
| Servers | 3 servers | $15,000 |
| Networking equipment | Switches, firewall appliance, NAS for backup | $4,000 |
| Offsite Backup | The cheapest alternative for backup offsite are online services. Typically they will charge $1/mo/GB. Most organizations will use approximately 20GB | $20/mo |
| Software | Microsoft offers significant price breaks to not-for-profits, you will need the following:  (1) SQL Server  (3) Windows Server  (1) ISA Server  This is just an estimate, for an actual price, please contact Microsoft or your vendor for Microsoft products | $1,000 |
| Setup Services | Typically, it would require 3-5 weeks to get everything properly configured. Rates will vary dramatically, we have used $100/hr for the estimate. | $12,000-$20,000 |
| Support / Administration | The care and feeding of ConservationTrack requires between 4-8 hours a week depending on the complexity of the environment. | $14,000/yr |

These numbers are just to give the costs for the most basic configuration. Keep in mind that complex environments, such as the one that Essention uses are substantially more expensive. It is through the economies of scale that come from hosting multiple land trusts that we are able to offer such a high quality of service at such an economic price.