

## *Town of Branford, CT*

10/12/09



### Summary

The **Town of Branford**, Connecticut needed to have its critical systems up and running, and with an infrastructure that supports local police and fire services, they could not afford to have those systems interrupted, not even for a moment. Leveraging VMware's virtual infrastructure with a high bandwidth low latency connection between their sites and the technology of Datacore's synchronous replication nodes with automatic failover, they have a web of locations that support each other with maximum uptime. Using the right technology and Par 4's professional services Campus / Town style environments can obtain a high level of efficiency and resiliency.

Read on to see how the disparate departments of Branford came together to adopt the correct solution...

## Introduction

The Town of Branford settled in 1644 on the picturesque coast of Connecticut. Like most towns, Branford faces a number of challenges not found in today's corporate landscape. Facing issues of disparate departments many controlled by a committee or by individuals who have little insight in to the issues of the other sectors of their own community, however when the town offices began to look in to virtualization the word spread and so did the channels of communication.

The town offices were the first to consolidate using VMware's virtualization solution in conjunction with Datacore's storage area network. Datacore's leading edge storage virtualization and synchronous mirroring solution spurred the Police and Fire departments to follow suit and incorporate this technology to integrate with the town's in-place solution. The Department of Education then rolled their solution into the town and police departments; the consolidation of servers through virtualization and utilizing Datacore's advanced mirroring enabling all three departments to have a robust and redundant IT solution.

## Assessment

It is only with careful preparation that unified infrastructures are able to succeed, the conditions of success of any project must always be evaluated and enumerated. The RTO and RPO of the Branford project called for strict measures of uptime for critical applications across multiple locations.

## Design

It was decided that maximum uptime was essential in the town's environment. The best fit for the needs of all locations was Datacore's cost effective mirrored node configuration. The RTO and RPO of town and police systems made Datacore an integral part as well as the Connecticut Education Network's, (also known as CEN) fiber network linking all of the sites. Synchronous replication is bandwidth intensive and requires CEN in order for the project to obtain the level of success that it has.

## Implementation / Phase I

Par 4 was first used to virtualize the Town Office servers on to the Datacore enabled storage. Datacore was chosen for the flexibility and versatility it could offer the town as well as the possibility of integration with other departments that could utilize the existing town infrastructure in the future.

Once the town was comfortable with the management and technology of the new virtual infrastructure, Par 4 was able to architect the additional components of the eco-system that would emerge from the Town Office project.

## Implementation / Phase II

In order to achieve the SLAs required by all parts of the Branford puzzle it was necessary to have multiple sites. Once each department was prepared and ready; the burden of disaster recovery was spread throughout the datacenters in the Town Hall, High School and Police Station. These components lightened both administrative and fiscal concerns between each group. A highly available stretch cluster was created between the sites utilizing the Datacore's synchronous mirroring. Keeping all critical data at every location allows for an agile system, ready to share or take the burden of one or more additional sites.

## Technical Summary

Existing Dell 2950 servers had additional processor's added as well as additional memory to best utilize the servers for a virtual environment. VMware's ESX 3.5 was the choice of hypervisor for the project. Cisco 2960 switches were integrated to manage the load associated with a storage area network, isolating this traffic either physically or with the use of VLANs is necessary for the configuration settings necessary to optimize SAN traffic. Datacore's SAN Melody soft-ware was installed upon HP ML350 G5 servers. Each site is connected via CEN, providing an uninterrupted high bandwidth connection. Using two Datacore nodes at the town hall, one connected to the police station and one connected to the high school) each site is protected by the mirror to a second.

### **For more information, please contact:**

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