Zero Downtime Since 2010:
Powering Mission-Critical Applications
for the City of Carmel

Located just north of Indianapolis, Carmel is one of the fastest growing cities in Indiana. It is home to award-winning schools, thriving businesses, and family-oriented neighborhoods. The City of Carmel has been recognized with numerous accolades, including being named #1 in America's Best Places to Live by Money Magazine and as one of CNBC's Best Cities to Relocate to in America.

THE CHALLENGE

The City of Carmel has been a long-time DataCore customer. Initially, when the city decided to move from an infrastructure consisting of physical servers with onboard storage to virtual server infrastructure, it needed back-end storage that was flexible, cost-effective and, most importantly, provided redundancy for high-availability disaster recovery and business continuity.

 IT infrastructure in a municipal services environment can't afford to have downtime as it powers mission-critical applications, including those relied on by the police and fire departments to effectively do their jobs. Safety can be at risk with downtime.

The City of Carmel's IT solutions provider, Mirazon, recommended DataCore software-defined storage because the company was confident it would meet all of these needs and more. Redundancy is the number-one reason that Mirazon recommends DataCore to its clients.

THE SOLUTION

The City of Carmel is responsible for supporting more than ten departments, including engineering, permitting, police and fire operations. Its infrastructure currently consists of more than 80 virtual servers, powered by DataCore software-defined storage, that run everything from file servers to Exchange servers, VoIP, and more. The environment includes a VMware cluster that is stretched over two locations, running on iSCSI. Each location has a DataCore node installed directly onto HPE servers with Intel processors to support the ESXi hosts.

The primary benefit that the City of Carmel enjoys with DataCore software-defined storage is reliable disaster recovery/business continuity. DataCore constantly mirrors data at high speeds between the city's two geographically separate locations. When an issue occurs that prevents applications from reaching data at one location, failover to the mirrored copy triggers instantaneously and automatically without disruption, scripting or manual intervention. Similarly, DataCore's built-in automation takes care of resynchronization and failback to normal operations after the original cause of the outage is resolved.

"DataCore works extremely well from a high availability standpoint and allows for proactive and reactive failures—while still providing high performance," said Rebecca Chike, systems supervisor for the City of Carmel. "If one site goes down, the city can still function, and end users don't even know there is a problem. With DataCore, we can always stay up."

THE RESULTS

Zero storage downtime since 2010.

Ease of use, flexibility, and ability to extend the life of existing hardware provides significant cost savings for the City of Carmel, including an estimated savings of $75,000 in hardware costs.

Able to scale infrastructure from 30 virtual machines to 80 without any issues.

The Benefits:

Unparalleled Disaster Recovery and Business Continuity

Since installing DataCore, there have been several occasions where there was an issue at one of the two sites that caused an outage. With DataCore, the City of Carmel always has a mirrored copy of data at the other site and has been able to seamlessly failover, either proactively (in the event of maintenance) or reactively in the event of an outage. For example, as a rapidly growing city, Carmel has many construction projects occurring simultaneously at any time. In one instance when a contractor mistakenly

cut fiber, the city was able to keep working and the end users were completely unaware of the problem because the second site was up. Maintenance is also much simpler because IT can fail over to one side.

"It is so important to keep our systems up and running at all times. DataCore software-defined storage gives me peace of mind because I know I can rely on it, along with outstanding support from both Mirazon and DataCore," stated Chike. "DataCore is an excellent solution that has been rock solid."

Extending the Life of Existing Hardware: In a budget-conscious municipal environment, being fiscally prudent is a necessity. IT doesn't always have the funding required for a hardware refresh on the vendor's recommended schedule. DataCore has allowed the city to extend the life of its existing hardware assets beyond the recommended useful life, without creating a performance impact.

DataCore essentially enabled the City of Carmel to skip an entire refresh cycle, which typically occurs every five years. The city was able to keep its legacy storage in place for a span of eight to nine years because of the functionality provided by DataCore. Given that the City of Carmel has more than 50 TB of storage mirrored between the two sites, the ability to prolong the life of the equipment for three years saved an estimated $75,000 in hardware costs.

Flexibility

An important benefit that DataCore provides to the City of Carmel is that it is vendor agnostic and can work across multiple hardware platforms. Since the initial installation of DataCore, the City of Carmel has grown from 30 virtual machines to 80 without any issues and has changed every single component of its environment during that period, including networking, servers, and storage. DataCore allows the city to be very flexible in the evolution of its IT infrastructure—without ever requiring a forklift upgrade.

"The fact that we can use DataCore across multiple types of hardware platforms is a huge benefit for the City of Carmel," said Chike. "We love that DataCore can essentially work on anything."

Furthermore, as a long-time DataCore user, the City of Carmel has been able to upgrade through its maintenance price without paying to re-do the software stack or performing any "throw it all away" major upgrades. "That's been wonderful for us," added Chike. "When we purchase additional storage through DataCore, we don't have to buy everything else again, and we can just simply add it."

DataCore's RAM caching, I/O processing and auto-tiering features have also enabled the city to add more high-performance workloads to its system, including multiple instances of SQL server, without a significant investment in high-end storage equipment such as flash.

Ease of Use

Unlike many complicated IT solutions, DataCore is effortless to manage. "DataCore just works; we can basically just turn it on, configure it and walk away," said Chike. Furthermore, one person can manage DataCore easily, which helps save the City of Carmel in personnel costs.

Outstanding Customer Support: Chike notes that the support from both DataCore and Mirazon has been excellent. She added, "DataCore offers an extremely high level of quality support, and they take care of the issue with no finger pointing at all. They figure out what the problem is and fix it, no matter what."

It is so important to keep our systems up and running at all times. DataCore software-defined storage gives me peace of mind because I know I can rely on it, along with outstanding support from both Mirazon and DataCore…

- Rebecca Chike, Systems Supervisor, City of Carmel

About Mirazon:

Mirazon is a Louisville-based IT solutions provider with deep experience in the storage and virtualization space. Mirazon has been a DataCore partner for over 15 years and has executed hundreds of successful deployments, not to mention the SAN and virtualization work that often goes hand-in-hand with them. Because the team at Mirazon does have years of experience and training around not only DataCore but storage area networks overall, their connectivity, virtualization platforms and the other infrastructure parts, they can create appropriate custom solutions for clients that suit their needs and their budgets. www.mirazon.com

For additional information, please visit **datacore.com** or email **info@datacore.com**

0319