

City of Hollywood Saves \$326,000 Over Four Years Through Server Consolidation *Champion Solutions Group Implements IBM Servers, VMware for City Government*



Highlights:

INDUSTRY
Government

CHALLENGE

The City of Hollywood's data center was overcrowded and lacked room for growth. Potential hardware failure was a growing concern, and cooling the multitude of servers was costly.

SOLUTION

IT Simplification through virtualization. Champion worked closely with city staff to consolidate 20 Intel-based servers to four IBM System x3850 servers, using VMware ESX software to virtualize the environment. The solution also included IBM System Storage N series.

RESULTS

The City of Hollywood:

- ✓ Consolidated its server count by a ratio of 5:1, freeing valuable floor space and reducing the administrative burden.
- ✓ Reduced time of deployment from one month to five minutes (Additional servers can be deployed on demand).
- ✓ Will realize a four-year savings of more than \$300,000 by moving to the new architecture.

Nestled between Fort Lauderdale and Miami, the City of Hollywood, Florida, is home to more than 144,000 residents and is one of the largest cities in the state. Affectionately known as the "Diamond of the Gold Coast," the city has more than 1,700 full and part-time employees and manages an annual budget of \$325 million. When the city's data center environment lacked room for growth, leaders called on IBM Premier Business partner and VMware VIP Premier Partner, Champion Solutions Group, to contain the server sprawl and redesign its architecture. By implementing an IT simplification solution with IBM® System x and VMware technology, Champion was able to help the city consolidate its servers by a ratio of 5:1 and achieve "big city" results including reclaimed floor space, reduced administrative workload and a bottom-line savings of more than \$300,000.

Containing the Server Sprawl

In early 2007, the city of Hollywood's IT management team recognized its primary data center was pushed to its limits. With 40 isolated Intel-based servers running a variety of Web-based Windows applications, the data center was becoming overcrowded and difficult to cool efficiently. With such a myriad of servers, troubleshooting routine hardware failure was also time intensive for IT staff.

Ongoing growth was also a concern. The City of Hollywood was committed to introducing new online services as well as enhancing existing ones. The IT staff anticipated 25 percent server growth in the following year alone.

"Based on the manner in which our infrastructure was designed, we were faced with adding a new physical server almost anytime we introduced a new application, and we were running out of space," said John Moss, network engineer for the City of Hollywood. "We needed a completely redesigned architecture – one that could easily scale, contain the server sprawl, and keep power consumption in check."

Knowing it was imperative to simplify its IT environment, City of Hollywood officials approved the engagement of Champion Solutions Group to design a new architecture.

"We were confident we could utilize VMware to consolidate our environment, but we relied on Champion's experienced architects to handle the details and ensure the solution would meet our needs," said Moss. "We've worked with Champion on several large projects in the past and knew its team could handle the challenge."

Moving to a Virtualized Environment

To design the optimum architecture, Champion worked closely with city staff to understand the city's business priorities and to conduct an extensive study of the existing environment. Using Champion's time-tested, proven methodology of discovery and analysis, Champion architects gathered statistics including the performance and memory requirements of each existing server for analysis. Based on that data, Champion was able to determine the viability of moving to a virtualized environment and construct a detailed recommendation of how to map the existing servers to appropriate partitions in the new environment.

"Twenty of the city's existing servers were for relatively low throughput applications and excellent candidates for virtualization with VMware," said Champion Solutions Group's account manager for the City of Hollywood. "Virtualization combined with IBM hardware addressed all of the city's concerns – it delivers high-performance in a relatively small footprint, requires minimal cooling, and provides the ability to add capacity on demand."

Champion presented several strategic options to the city, but ultimately recommended migrating the 20 existing servers to four IBM System x3850 servers and using VMware ESX software to virtualize the solution.

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Champion accounted for five years of growth in the solution design, ensuring future applications could be deployed without significant time or expense. The final solution also included an IBM System Storage N series consolidated storage environment and SAN switches.

After winning an open bid for the engagement, Champion implemented the new architecture over a two-week period.

"Throughout the implementation process, Champion's lead engineer was meticulous, working to ensure we understood the configuration and that we would be able to manage the environment after he left," said Moss. "He color coded the cables, thoroughly documented all processes and generally went above and beyond. In all my years in the IT field, I've never been so impressed with the fluidity of an implementation or the knowledge and detail of an implementer."

Saving Time and Money through Consolidation

Once fully migrated to the new environment, the city will reduce its server count by a ratio of 5:1 and consolidate its overall data center by 50 percent, freeing valuable floor space and easing the administrative burden dramatically. The city will continue to realize consolidation benefits as it adds 20 to 30 new servers to the VMware architecture over the next five years.

According to Moss, one of the most striking benefits realized to date is the dramatic reduction in time it takes to deploy new servers.

"When you consider the time it took to submit a budget request, order the server and configure it appropriately, it previously consumed a full month to deploy a new server," explained Moss. "By implementing Champion's methodology to create a virtual instance, we can literally deploy a new server in five minutes. This solution truly does provide capacity on demand."

The City of Hollywood will substantially lower its total cost of ownership as well. When calculating factors including maintenance, power consumption and labor, the city concluded it would realize a four-year savings of \$326,000 by consolidating its environment through virtualization.

Applications that have already migrated to the VMware infrastructure are running seamlessly and even realizing performance improvements, ultimately enabling the city to service its employees and residents faster. For example, the city's parking enforcement specialists use an online application to upload parking citations as well as photographs of license plates. Uploading completes twice as quickly on the powerful new servers allowing enforcement specialists to work more efficiently. Some of the city's public utilities applications, which enable residents to pay their water bills and parking bills online, also run on these robust servers. In addition, the City of Hollywood can now roll out additional programs, such as the Crimeview application, which will aid law enforcement and provide residents with timely data regarding incidents of crime anywhere in the city. Residents can map out crime by type, location, boundary and date.

An additional advantage of the VMware technology is that it facilitates routine maintenance tasks such as updating firmware. Previously, administrators had to physically bring servers down to execute updates. Now, they can simply move an active system to another machine without incurring downtime, ensuring the city's Internet-savvy residents have unlimited access to online applications.

"By migrating to the IBM System x and VMware configuration, we are not only improving performance and administration, but we are also positively impacting the bottom line," concluded Moss. "We feel fortunate to have worked with Champion on designing this solution as they exceeded our expectations from start to finish."

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