

Cost-Effective PowerHA for i GeoMirror Safeguards City of St. Charles

IT SOLUTIONS GROUP CASE STUDY



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CHALLENGE

- Disaster recovery for IBM i 720

WHO

- Peggy Forster, Director of Information Systems, City of St. Charles, Illinois
- Penny Lancor, Senior Systems Analyst/Programmer, City of St. Charles, Illinois
- [Matt Staddler](#) and [Pete Mayhew](#), IT Solutions Group

SOLUTION

- IBM® PowerHA® for i GeoMirror
- Second IBM i 720-E4D a mile away
- Server, IBM i software and Implementation from IT Solutions Group



The Information Services department of the City of St. Charles, Illinois, serves 33,300 people from offices across from City Hall. Pictured above, this 1940 "Art Moderne" structure has black granite, white marble, and an 84 foot tower with stained glass windows, pierced grillwork and diamond-shaped translucent top.

While the City of St. Charles, Illinois, is a long way from hurricane Sandy's Eastern Seaboard devastation, the storm underscored how crucial disaster recovery is for municipalities.

"We asked what would happen in the worst case: if our data center was destroyed by a tornado or other disaster," recalled Peggy Forster, Director of Information Systems.

"The answer was unacceptable. It would have taken us at least a week to get back up. We would have had to order and install a new server and then install applications and data."

Located 40 miles west of Chicago, the City of St. Charles relies on an IBM i 720 to run its electric, water and sewer utilities. The City's 13,000 utility customers have internet access to pay bills, get copies of printed bills, sign up for paperless billing, view past history, etc.

"During downtime, any transactions would need to be recorded by hand," added Penny Lancor, Senior Systems Analyst/Programmer. "Utility bills are a major source of revenue and could not be produced, which would affect cash flow."

They began to investigate disaster recovery solutions, and turned to Matt Staddler of [IT Solutions Group](#) for advice.

Matt is a well-known blogger and speaker about disaster recovery and high availability at IBM i user group meetings, including the national COMMON user group conference. An educator at heart, he strongly believes that customers need to understand the pros and cons of alternate solutions in order to make the right decision.

"Pete and Matt were very knowledgeable and helped us decide among three disaster recovery options," Penny said:

1. Contracting for hot site access
2. Purchasing and installing logical (software-based) high availability
3. Purchasing and installing hardware-based (disk-based) high availability

Opting For Disk-Based Replication

Peggy and Penny decided against the first two and chose IBM® PowerHA® for i GeoMirror.

“We liked the ‘set it and done’ character of PowerHA. It requires less intervention and ongoing management,” said Penny.

“Other solutions required more monitoring and maintenance or longer recovery times. PowerHA for i GeoMirror provides close to instant recovery. It’s the best of both worlds and was one of the lowest cost options.”

Here’s [how IBM describes it](#):

Geographic mirroring is the IBM i host based mirroring over IP network solution that enables small clients to set up a geographically dispersed two node PowerHA System Mirror cluster using either internal or external disk.

The geographic mirroring solution can lower your total cost of ownership in comparison to software replication options in both cost of acquisition and operational management costs.

The introduction of GeoMirror async mode support with PowerHA SystemMirror 7.1 enables clients to extend the PowerHA SystemMirror cluster between sites with virtually unlimited distance.

Implementing PowerHA for i GeoMirror

The City of St. Charles upgraded their model 520 to a 720 in the main data center and purchased a second one for another city facility a mile away.

“We were able to use the 720-E4D 4-core system with eight 139 gigabyte internal disk drives,” explained Pete Mayhew of IT Solutions

Group, who implemented the project.

Replication is nearly instantaneous, since the two data centers are connected by two 10GB fibre lines. Whenever data in the Independent Auxiliary Storage Pool (IASP) on the main system is changed, it is mirrored and applied to the IASP on the target system.

“This is an excellent solution for SMB customers with disk space requirements under 2 terabytes. We have done many successful installations with this configuration,” Pete said.

Peace of Mind

How do Peggy and Penny know this solution works? By testing it regularly.

Just three weeks after going live, they switched operations over from their primary IBM i Model 720 to the second one a mile away.

“We had warned the utility manager about the switchover, and asked her to keep a close watch for problems,” said Penny. “There were none, so we knew our new HA/DR solution worked!”

To ensure that it remains ready when needed, they plan to switch over production between servers one week a month.

These days, Peggy and Penny sleep better. They know that in case of disaster, key departments of the City of St. Charles will continue to function and cash flow will not be affected.

END