When User Growth Causes Outages, You Need High Availability Protection

PHIcure

PHIcure is one of the largest companies that connects healthcare organizations to their payers, providers, and patients.

As PHIcure's volume and product lines grew, the team noticed that its architecture and environment needed to be updated. PHIcure's rapid expansion made adjustments necessary to the application and the underlying technical infrastructure. Revisions to the operating system, underlying architectural updates, and re-engineering an environment to handle High Availability (HA) for its user base were the most needed changes. This had to be done in less than 90 days due to a big upcoming project while ensuring no downtime and ongoing administration in both the United States and Asia.

AT A GLANCE

- Complex migration to a High Availability System (HA) in under 90 days.
- More than 6TB of data.
- 50% increase in the application performance
- Four-fold increase in the number of VMs.

THE PROBLEM

PHIcure had to deal with impending growth sparked by acquisitions, legacy software, and operating systems phasing out. Their technology could not handle the increased data loads, and they realized that things were getting complicated. However, the biggest challenge was creating and implementing the solution in under three months.

It seemed reasonable to migrate to a system that would be faster and more flexible. The short timeframe and complexity of migrating to a new advanced system required a different group of professionals to help manage the project. Because PHIcure had personnel working in multiple offshore locations and the US, taking the server offline for migration was challenging. It was made clear that providing secure and uninterrupted access to all while keeping the current system up for maximum time was the priority.

"From the initial inquiry with Protected Harbor and their hands-on approach employed while discussing the project, it is evident that Richard and the Protected Harbor team were the proper choices."

Wayne Koch
CEO PHIcure, Inc

THE SITUATION

PHIcure sought a cost-effective and reliable solution within a limited amount of time. After analyzing all the options and solutions, the decision to work with Protected Harbor in a new capacity was the obvious solution.

"They didn't just discuss memory and disk space like the other organizations; they reviewed the workflow of our applications and took the time to understand both user requirements and how our in-house staff supported the PHIcure client base." CEO of PHIcure, Wayne Koch said.

PROTECTED HARBOR

THE SOLUTIONS

In fewer than ninety (90) days, Richard and his team accomplished a complete rebuild from the ground up. The design included redundancy upgrades for file storage, web server, and database storage, which would protect the program from multiple failures.

1. **Backup & Redundancey Plan:** The team implemented a new backup and redundancy plan. Protected Harbor's HA architecture eliminates single points of failure to provide continuous operations or uptime for an extended period of time. It assures that your systems, databases, and applications are available whenever and wherever required.

2. **Split High Availability Design:** Protected Harbor set up HA for SQL Server in two mirrored pairs, allowing the PHIcure production databases to be in two places at once, all the time. This reduced application downtime and lesser failovers.

3. **SFTO Functionality:** The SSH File Transfer Protocol 3 provided that the file management and transfers are easy and secured over the company's network. The information was split between multiple servers to ensure that not all services were lost entirely if one server had an interruption.

4. **Recovery & Downtime:** To optimize PHIcure's disaster recovery capability, Protected Harbor set up a remotely located hot site. They created a second data center to prevent downtime in the case of an outage at the primary location. This helped keep the downtime to a minimum while increasing the recovery capacity of the 4 servers.

5. **Accessibility:** PHIcure had an overseas staff that needed secure access to portions of the IT network. Protected Harbor deployed a remote desktop system with four terminal servers hosting a set of remote desktop gateways that allowed remote staff as well as the on-site staff to access their own designated TSs.

6. **Increased Productivity:** This newly deployed HA server model was built behind hardware load balancers, increasing uptime to 99.99%. It would direct the traffic to individual servers, so employees could continue to function without interruption even if the remote desktop gateway server went off-line

THE RESULTS

Protected Harbor's newly designed data center infrastructure eliminated downtime, increased productivity, and provided PHIcure the ability to handle hyper-growth. Since the change, PHIcure has doubled in transaction volume in less than 12 months and is expected to double again within the next 15 months.

Thanks to the modular design, additional nodes can be easily added to the network to allow for rapid expansion if needed. PHIcure's network comprised 11 VMs (Virtual Machine's) before the migration and grew to over 40 VMs, all with HA and dual back-ups. The data storage has increased 1,466% to 88TB, with just under 40% in use. PHIcure went from a two-in-one dependent database server to 3 clusters across 5 database servers and saw a 50% increase in the application performance based on availability, uptime, and processing.

Wayne added, “Working with Protected Harbor has been a tremendous benefit for us. Each of the recommendations Richard Luna and his team suggested has been implemented and has allowed us to scale in the short period we required. We needed more than just a hosting company; we needed a partner, and Protected Harbor has been that and more for us."