When a Misconfigured Third-Party Application Puts the Breaks on Your Operations

AGAPE

AT A GLANCE

- 50% decrease in response requests
- 99.99% Uptime
- Network Bandwith increased 20Gbps to 70Gbps per server
- 15-minute Hyper-V Replica schedule
- 25% increase in application speed

INTRODUCTION

With over 900 drivers, Agape Transportation Management provides transportation options for thousands of passengers each day, who need assistance getting to doctors' appointments as well as other medical treatments. Agape used another software vendor, LimoSys, for a custom multifaceted system that included internal dispatch software, driver, and passenger apps. However, the software solution was not configured perfectly within the network hardware ecosystem Agape had in place. This resulted in various issues and negatively affected the company's business operations and performance. Hence, Agape required that the Protected Harbor team come in, troubleshoot the problem, resolve it, and increase the network capabilities of the company by migrating the current system to Protected Harbor's data centers; all this without any significant downtime.

CHALLENGES & SOLUTIONS

Phase 1: The Tribulation

All of Agape's users were working from their local desktops. The company was also facing abysmal performance issues because many hosts were incorrectly set up and even had the wrong disk configuration for SQL data. Therefore, the team installed several on-site hosts temporarily to facilitate the stabilization of data and instill a favorable environment for data center migration. Next, the team presented an action plan to the client regarding the migration, which was immediately accepted. The team began the move by stabilizing and protecting the Limosys app before aligning users with the terminal servers and moving the data from their local desktops to the terminal server by creating a remote environment. The team also made sure that the users were familiar with the new environment so work would continue on their systems hassle-free. Moreover, the team replicated the client's on-site environment at the data center. While working on the virtual machines, they rebuilt them from the ground up without migrating the client's faulty configuration. However, after a changeover, the application was facing further problems to the point where the software vendor was at a loss even after carrying out software troubleshooting efforts.

Phase 2: The Resurgence

Even though the configuration was the same, as the team used a one-to-one replication approach, shutting the virtual machines off-site and turning them back on in the data center resulted in issues with the application. After taking a swift approach, the team quickly moved it back to on-site and started to troubleshoot what went wrong. The team found out that the application did not turn back on correctly because when switched back on, the application was sending requests to servers that did not exist. Secondly, the software vendor did not know how to measure the application's performance; thus, the team developed a synthetic load to measure performance on-site and then

measure again in the data center. Furthermore, the team now had a copy of the client's user configuration in the data center due to the failed changeover initially; thus, they could work on it and replicate the exact issues without disrupting their current operations. Hence, by using the synthetic load, the team tested both environments for comparison, finding out that the data center was reacting slower than the on-site systems.

Phase 3: The Triumph

As a result, the team made hardware changes, created new servers, and increased the local network bandwidth per server from 20Gbps to 70Gbps. Protected Harbor also went into SQL (Structured Query Language) and found out that the software vendor knew how to install the application but did not understand the complexities of SQL. Hence, the team decided to fine-tune SQL regarding all complexities that could occur and re-ran our numbers. As expected, the numbers were now satisfactory at the Data Center. Using the Hyper-V Replica approach, the team decided to give the changeover another try, which was a success. Now, the team knew how to restart the application and measure its performance. Thus, all the performance issues were gone and the performance at the data center was twice as fast compared to the on-site version.

THE SOLUTIONS

1   **Data Loss Prevention:** The new HA Model made sure that the client had two SQL servers running in HA, and if one of the servers went down, their databases still stayed up.

2   **Increased Capacity:** The number of app servers that supported the driver app was expanded which increased the number of requests, meaning that they could cater to more customers.

3   **Aggressive SQL Backup & Synchronization:** Now, periodical backups for SQL databases happen every 15 minutes, and the backups can be restored directly into SQL using a custom solution.

4   **Redesigned Network Systems:** The team troubleshot, completely redesigned, and optimized the client's on-site network configuration, thus increasing their overall functional performance.

THE RESULT

The new network infrastructure, driven by data loss prevention, and aggressive backup & synchronization, has resulted in an overall 25% faster application speed, 50% decrease in response requests, and 99.99% uptime for Agape, thus making it more effective yet efficient. Moreover, this has provided added benefits for the company in terms of new customer acquisitions, as the new network infrastructure has an increased capacity. Lastly, Agape has become one of the flagship customers of our company in a very short time due to the data-driven, problem-solving, and result-oriented culture at Protected Harbor.