FORMULUS BLACK™

Case Study

Millions of Pages, 1/3 of the Infrastructure

ETHERFAX®
infrastructure simplified

With the help of Forsa, etherFAX accelerated document conversion times by over 70%.

Company Overview

etherFAX transmits millions of pages a day on behalf of enterprises in industries that rely heavily on fax communications, such as healthcare and financial services. Its secure, legally compliant cloud platform is an Infrastructure-as-a-Service (IaaS) that permits systems, applications and devices to communicate seamlessly, without the need for fax or telephony components on the customer premise.

"I never imagined SSD would become tier 3 storage so quickly"

– Paul Banco, CEO & Founder of etherFAX

Problem

Document conversion is etherFAX's most compute-intensive operation. To accommodate the millions of pages they transmit each day, their document conversion servers are spread across 3 regional data centers. Because their conversion process requires disk I/O and because demand for their faxing services is highly variable, etherFAX had to keep excess server capacity available at all times to handle a sudden burst of I/O-intensive volume. They needed a better way to accommodate sudden peaks in document processing volume — without needing to maintain as much excess server capacity.

Solution

Using Forsa, a memory-based storage environment can be provisioned in minutes through an intuitive GUI and RESTful API's. etherFAX was able to run their document rendering application on Forsa's memory-based storage (called LEMs or logical extensions of memory) without needing to change their existing application. By using Forsa LEMs, the document rendering disk I/O operations were no longer going out to peripheral storage and could instead run in-memory. The hypothesis was that this would dramatically improve the performance of etherFAX's document conversion process.

Outcome

etherFAX found that document conversion times were reduced by over 70%, a 3.4x improvement on the server running Forsa over comparable servers without Forsa:

Average conversion time: 211 ms (70% improvement)
Average conversion time per page: 89.4 ms (70% improvement)

By being able to perform document conversion operations 3.4x faster, etherFAX improved its per-server document conversion capability significantly, resulting in fewer servers needed to handle the same document conversion volume.

Due to the extreme application performance enabled by Forsa, etherFAX's lead engineers are now considering a new memory-centric-computing architectural design to optimize the speed and performance of their entire communications infrastructure including components like their web services and database environment.