Business challenge

How could CipherHealth, a healthcare technology company, scale its infrastructure to effectively support an expanding customer base and product mix, without dramatically increasing its costs?

Transformation

When delivering solutions to the healthcare industry, high reliability and fast, consistent performance are an absolute necessity. By migrating its platform from cloud-based services to on-premise infrastructure based on IBM solutions, CipherHealth achieved huge gains in performance, improved reliability, and dramatically reduced costs.

Zach Silverzweig,
Co-founder of CipherHealth

Business benefits

50%+
reduction in monthly costs on infrastructure

88%
drop in time for ETL processes, allowing for real time big data processing

Eliminated
deviations in performance variability

CipherHealth

Bucking the cloud trend to improve performance and reduce costs

CipherHealth is a healthcare technology company committed to improving patient outcomes and experiences through enhanced communication and care team coordination. Founded in 2009, and based in New York City, the company offers intuitive solutions that help both care providers and patients save time, reduce costs and achieve better outcomes.

"We see IBM Power Systems delivering five times the capabilities of our previous cloud-hosted infrastructure at half the price."

—Zach Silverzweig, Co-founder, CipherHealth

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Always on call

For growing healthcare technology companies, the utilization of resources is a critical component of success. Because every second counts in healthcare, employing the best-in-class systems for performance and reliability is a must. CipherHealth, a healthcare technology provider, invests heavily in ensuring its solutions work seamlessly for providers.

Zach Silverzweig, Co-founder of CipherHealth, explains: "Our software helps healthcare professionals—both clinical and administrative—to work together more effectively to improve patient outcomes and cut costs. We also serve patients directly with our patient outreach programs, which help them avoid coming back to the hospital. Because we cover the whole continuum of care from admission through treatment and recovery, we make sure that our solutions are always available and always performing well."

Sotirios Spinos,
Director of IT Security at CipherHealth

Like many growing technology companies, CipherHealth utilized hosted services to create redundancies and scale its solutions. But, unlike many of its peers, CipherHealth decided to explore an alternative path: deploying its own dedicated infrastructure.

"We always strive to deliver exceptional levels of service, which requires constant innovation and investigation," says Silverzweig. "The team did some heavy lifting and uncovered a huge opportunity to massively increase performance at a substantially reduced cost. The potential results were so good they were hard to believe."

Sotirios Spinos, Director of IT Security at CipherHealth, elaborates: "We structured real-world tests to understand actual performance for the complex use cases that we face every day. For the on-premise solution, the metrics were off the charts, in both speed and reduced variability of runtime for the benchmarked operations. The cloud claim to fame is reduced cost, ease of use, and run-time scaling, but these benefits just didn't materialize for us. We felt we were paying for a premium service but not receiving it. It was time to try a new approach."

Going against the grain

Initially, CipherHealth was skeptical of an on-premise solution. The concept runs starkly in counter to the prevailing wisdom of a very mature industry. The IBM team helped guide CipherHealth through the decision.

"We didn't think that purchasing and managing our own infrastructure could offer a cost-effective alternative to the cloud, but we were soon proved wrong," recalls Sotirios

Spinos. "IBM arranged a POC [proof of concept] that showed us just how well our platform runs on IBM® Power Systems™, and went the extra mile by loaning us a server to help us get comfortable with the technology. IBM POWER8® processors are so powerful they enable us to use far less resources to achieve much greater levels of performance, making them an easy choice over the Intel x86 based options we also considered."

"Since deploying the IBM Power Systems servers we have had no system-related issues affect our overall environment, giving us time to be more proactive about bringing new features to our clients."

—Sotirios Spinos, Director of IT Security, CipherHealth

Working with IBM Gold Business Partner Saturn Business Systems, CipherHealth implemented its new architecture on IBM Power® System S824L servers, migrating the vast majority of its client services to the new platform. IBM Systems Lab Services worked with CipherHealth to get its open-source database environment (based on MongoDB, Redis, PostgreSQL and NGINX) up and running on Linux on Power Systems. The IBM team also provided quick-start services with skills transfer to help CipherHealth hit the ground running with its new Power Systems environment.

"With both Saturn Business Systems and IBM Lab Services on hand to help, we gained immediate confidence in our new infrastructure," comments Sotirios Spinos. "Recently, I asked Saturn Business Systems for a change to a system that was already built and they scrambled to make it happen for me as quickly as possible."

CipherHealth is also currently deploying an IBM Power System S822LC for Commercial Computing server to support its continuous integration testing environment. Zach Silverzweig adds: "At the moment, we divide our testing suite across servers in the Amazon cloud, and pay for the ability to scale up to 50 containers. Our user testing involves a lot of small tasks, so our plan is to take the Power S822LC server and divide it into smaller slices of CPU—we're aiming for 150 containers on one system—so we can run three times as many tests in parallel."

Taking back the power

Already, CipherHealth is enjoying greater transparency and infrastructure performance as a result of its move to IBM Power Systems solutions.

"Running PostgreSQL on Power made a huge difference: our business intelligence extract, transform and load time has dropped from six hours to 45 minutes, an improvement of 88 percent," says Pavel Bodarenko, a senior back-end developer at CipherHealth. "This improvement is entirely due to the hardware change, nothing else. And yet, we have achieved this even though we have assigned less CPU and RAM resources to this part of our environment!"

Equipped with higher, more consistent levels of performance, CipherHealth has reduced pressure on its IT team and moved resources from fire-fighting to innovation.

Pavel continues: "Previously, we had two employees working full-time on optimizing our PostgreSQL environment, but now we can redeploy their attention elsewhere. Since deploying the IBM Power Systems servers we have had no system-related issues affect our overall environment, giving us time to be more proactive about bringing new features to our clients."

Zach Silverzweig concludes: "We recently ran a test on the IBM Power Systems servers to check that we had sufficient capacity to cover us for the next few months and the results really put our minds at rest. Since deploying the solution, we have already expanded our BI reporting by four times and have not needed to add any processing power. We see IBM Power Systems delivering five times the performance and scale of our cloud-hosted infra-structure at half the price.

"Once we have the Power S822LC in place for our testing infrastructure we anticipate game-changing benefits for our developers, too. If the solution lives up to our expectations we hope to slash testing time from 30 minutes to just ten or even five minutes, help-ing us release new functionality that much faster. The end result is a lot more than just an app, it's achieving better outcomes for millions of patients across the US."

Solution components

- IBM® Power® System S824L
- IBM Power System S822LC for Commercial Computing
- IBM Systems Lab Services

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