

Despegar.com, Latin America's leading on-line travel service, was impeded in its efforts to deploy new applications and features because of the lagging performance of its IT infrastructure. Since installing all-flash arrays from Pure Storage as part of an OpenStack configuration, the company has accelerated the rollout of new applications by orders of magnitude, and improved the website experience for its customers.



BUSINESS TRANSFORMATION

Software development teams produce new applications and features in a fraction of the time it used to take, giving customers fast access to the latest features and services and strengthening Despegar's leadership position.

GEO

Latin America

INDUSTRY

Travel

"The Pure Storage arrays are so easy to deploy and manage, and they fit into our OpenStack infrastructure perfectly."

Julian Diaz, *Storage Engineer*

APPLICATION DEVELOPMENT SOARS AFTER DESPEGAR.COM ADOPTS OPENSTACK AND PURE STORAGE

Despegar.com means "take off" in Spanish, an appropriate word not only for an on-line travel service but also for a company that has risen from an Argentinian start-up to claim 60% market share as Latin America's leading travel website. Since its founding in 1999, its operations have grown to cover Brazil, Argentina, Chile, Colombia, Mexico, Uruguay, Venezuela, Peru, Costa Rica, Bolivia, Republica Dominicana, Ecuador, El Salvador, Guatemala, Honduras, Nicaragua, Panama, Paraguay, Puerto Rico, Spain, and the United States.

Customers can research their travel plans and book airline tickets, hotels, car rental, cruises, buses, temporary rental reservations using their mobile devices or personal computers. Despegar.com also offers other travel-related services such as personalized vacation packages.

Despite its success, Despegar.com faces a constant battle to maintain its competitive differentiation and retain customer loyalty. To do so it must continually add new features to its website. In the last five years, the company's software development team has grown from 100 to 600 personnel. During that growth the pressure to churn out new features overwhelmed the supporting IT infrastructure.

"For many years, our developers were limited by their access to resources," observed German Anders, Despegar.com Storage Engineer Leader. "They could release no more than five application updates into production each week, which was a liability in an industry where customers are always looking for the latest and greatest travel experiences. Developers depended on operations personnel to provision the development infrastructure and quality assurance teams to test applications before and after going into production. We needed to remove these barriers to improve time-to-market and enhance our competitive position."

PURE STORAGE, OPENSTACK IMPROVE DEVELOPMENT ENVIRONMENT

To provide developers with a flexible, robust platform, Despegar.com decided to build a private cloud environment using the OpenStack architecture. "With data doubling every year and a rapid deployment of applications becoming increasingly critical, we needed to implement new storage solutions," Anders noted, specifying several key requirements that would allow Despegar.com to:

- Offer persistent block-level storage volumes as a service.
- Use direct drivers with OpenStack to accelerate provisioning.

COMPANY:

Despegar.com
www.despegar.com

USE CASE:

- Database – Oracle®, MySQL™, Cassandra™
- VSI – KVM OpenStack®

CHALLENGES:

- An aging IT infrastructure limited the number of new applications and upgrades that could be added.
- Rising latencies in the storage infrastructure threatened to degrade the responsiveness of the customer-facing website.
- Continuing business growth demanded more storage, raising capital and operating expenses.

IT TRANSFORMATION:

- A new KVM OpenStack-based IT infrastructure has enabled updates and new application deployments from 3-5 a week to 2,000.
- Latencies have been slashed from 50 ms to less than 1 ms.
- Data-reduction features have streamlined data center space allocated to storage by 45%.

“With the integrated Pure Storage arrays and OpenStack platform, we can now bring new and enhanced services to market faster.”

German Anders, *Storage Engineer Leader*

- Improve SAN performance with iSCSI/FCP multi-pathing.
- Maintain 24/7 availability for private cloud and databases.
- Scale and service the infrastructure without downtime.
- Respond quickly in a rapidly changing market.

“We needed an infrastructure that would help us provide the best environment for our developers and the best services for our customers, and we found that with Pure Storage,” said Anders. “We were very impressed by the Pure Storage commitment to the OpenStack community,” he elaborated. “They also had all the key features we wanted, including excellent deduplication and compression, security, snapshots, support for continuous development, and non-disruptive upgrades.”

Anders said that previous storage solutions had performed adequately, “but they exceeded the levels of latency that we wanted, so we needed to move to a new solution. Pure Storage was the one that satisfied our criteria and test scenarios.”

As part of a lengthy proof-of-concept process, “we evaluated many factors — such as latency, IOPS, the deployment process, and how we integrate a storage vendor into our dev cloud environment. It was essential to test all the features — not only to determine the ease of integration with OpenStack Cinder module, but with our existing procedures as well.”

NEW DEVOPS ENVIRONMENT SPEEDS TIME TO MARKET

Because Despegar.com uses OpenStack for its private cloud, successful integration with the cloud orchestration OS was really critical. The Pure Storage Cinder driver is natively integrated with OpenStack, and Pure Storage can be easily managed from the cloud system. “One of the key requirements that new storage had to have was an integration with OpenStack. And we found with Pure Storage that it integrated really well with OpenStack and our cloud solution,” Anders said.

Since selecting Pure Storage, Despegar.com has deployed four FlashArray//M20 arrays. In addition to supporting its OpenStack cloud infrastructure, the Pure arrays host the company’s databases.

Anders reported dramatic improvement in the software development process after installation of the Pure Storage arrays in the OpenStack configuration.

“With the integrated Pure Storage arrays and OpenStack platform, we can now bring new and enhanced services to market faster — meeting the needs of our growing customer base and tapping into a bigger pool of developers to reach our goals. Today, developers are using a DevOps approach to implement applications in a much more agile and dynamic manner and provisioning cloud environments on demand, without IT assistance.”

Anders reported that developers now create, test and deploy more than 400 applications and updates daily. This is in stark contrast with the previous pace of three to five per week. As a result, this dramatic improvement in developer productivity is accelerating the company’s time to market for new features and services. And this is providing Despegar.com with significant competitive advantages.

“For our customers booking travel, the new applications mean a faster website and the ability to view images in different ways to enhance the user experience,” he noted.

Some production queries on Oracle that used to take 10 minutes using the previous storage system are now finished in less than one minute after moving the database onto Pure Storage.

Anders also noted, “Our developers are much happier and more productive because they can deploy software themselves, without depending on the IT operations staff. This is important, because they naturally have the most knowledge about the applications they build. Our private cloud is helping us move faster and avoid last-minute problems and delays.”

With Pure Storage installed, he noted, Despegar.com has removed infrastructure barriers to innovation, allowing the company to:

- Enhance competitive positioning by supporting 600% growth in development team over four years.
- Improve application performance and website response times.
- Integrate user feedback into applications faster, improving customer satisfaction.
- Maintain 24/7 availability for web services, development environments, and transactional systems.
- Scale to accommodate 100% annual data growth.

Julian Diaz, Despegar Storage Engineer, said he has found the many features of Pure Storage arrays to be valuable, but cites improved IOPS, reduced latency, deduplication and compression, and non-disruptive upgrades as the most impactful to the business.

“The key factors for us have been the sub-millisecond performance, which is really awesome, and the fast responses to database queries,” Diaz said. “The Pure Storage arrays are so easy to deploy and manage, and they integrate seamlessly into our OpenStack infrastructure.”

“We needed an infrastructure that would help us provide the best environment for our developers and the best services for our customers, and we found that with Pure Storage.”

German Anders, *Storage Engineer Leader*



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