Quobyte

Case Study

Points

The loyalty currency platform provider makes the move from AWS to on-premises Kubernetes, leveraging the operational benefits of Quobyte software storage.

points

Points – Loyalty Management at its Bets

Points, publicly traded as Points International Ltd. (TSX:PTS) (NASDAQ:PCOM), is the global leader in loyalty currency management. Via a state-of-the-art loyalty commerce platform, Points provides loyalty e-commerce and technology solutions to the world's top brands to enhance their consumer offerings and streamline their back-end operations.

For the sixth consecutive year, Points has been recognized as one of Canada's Top 250 Information and Communication Technology (ICT) companies. In addition, Points was ranked 6th in the Top 10 Canadian Software as a Service (SaaS) companies, and 9th in the Top 25 Canadian Software companies. Achieving these accolades requires that the IT infrastructure team not only provide scalability and reliability for today's needs, but also anticipate the requirements for tomorrow's business. And with Points' significant growth, anticipating tomorrow's IT infrastructure is not an easy task. Michael Lacetti, Principal Engineer at Points is one of the people on the forefront of keeping the IT infrastructure ahead of the company's growth curve.

Advantages

- ✓ **Container-native storage** with a shared file system
- ✓ Storage that runs inside of containers for **greater flexibility**
- ✓ **High performance**, low latency, and parallel throughput
- ✓ Minimal management overhead for **maximum operational efficiency**

Removing Complexity From Storage Infrastructures

Michael and his team are constantly looking for ways to eliminate complexity and administrative overhead from their infrastructure. The team determined that implementing a

container infrastructure and building a Kubernetes stack would give them the scalability and flexibility required without generating significant administrative overhead.

Their goals for implementing Kubernetes were to ensure scalability and maintain performance targets. They decided to migrate from a variety of on-prem hand-crafted, lovingly maintained virtual machines, to Kubernetes for a better container scheduling system. Although they were not looking for a storage system, they knew that storage is needed to run Kubernetes at any scale to be sure the data is persisted. “We weren’t looking for storage”, Michael explains, “but looking for a way to increase capacity and scalability for applications so that we could hit performance goals and ensure that as more traffic came to the Points.com website, we could easily handle it.” The team considered the Ceph cluster they were using but knew from experience that the management of Ceph is non-trivial. They began their search for Kubernetes-first storage solutions that were not expensive, and did not require custom hardware or strange, proprietary bits that would prevent the use of existing hardware. Their search led them to Quobyte. At the time, Quobyte was the only storage solution available that was cost-effective, could be run in-house on existing hardware with minimal effort, was backed by an actual support team, and provided the best functionality for Kubernetes clusters. According to Michael, “the Quobyte feature set was the best offered and continues to be a top choice for Kubernetes-native functionality. Even though Points does not need all of the features today, it provides us future-proof storage.”

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Michael Laccetti
Principal Engineer at Points

Software Storage for More Than Kubernetes

Quobyte has been running in production at Points for more than a year. Originally deployed as storage for Kubernetes, it is now being used for additional applications: GitLab, ElasticSearch, and moving out of AWS and back on-prem. “Because we have so much capacity and speed to burn, Points uses Quobyte to backup our entire GitLab repository.

The fact that we trust Quobyte with it is definitely a definite sign of approval,” stated Michael. Points also uses Quobyte to backup its ElasticSearch cluster. All data from ElasticSearch is persisted to Quobyte just to make sure there is redundancy in case something goes wrong.

A few months ago, Michael and his team completed their AWS-to-on-prem-Kubernetes migration using Quobyte as the storage foundation for Kubernetes. Moving out of the cloud was a great relief for the team and made sense for Points financially. At the scale Points operates, the capex for running the entire infrastructure in multiple environments in a cloud is not trivial. As Michael discovered: “The functionality offered by Quobyte is just better than what you get out of cloud providers. It was easier to buy the hardware for Quobyte and Kubernetes and some racking in data centers. This is best for us.” Michael purchased under $1 Million in hardware for his Quobyte and Kubernetes infrastructure. He estimates that running on-prem saves him $50,000 monthly. For Points, it was a giant win to go back to on-prem.

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Michael Laccetti
Principal Engineer at Points

Scalability without Increased Administrative Overhead

Points continues to grow and attract many of the world's largest loyalty currency partners. Michael states, "Migrating to Kubernetes and Quobyte was done for scalability and performance, allowing us to significantly grow the volume of transactions while at the same time decreasing transaction times." With a solid solution in place, Michael is confident that he and his team can support the growth of Points without incurring administrative overhead and complexity as they scale Kubernetes with Quobyte.

Installing Quobyte was accomplished with just one person and the ongoing administration is also very low. Thanks to the management console, using Quobyte is easy. "The dashboard is one of the best things ever!" exudes Michael. "Being able to easily understand exactly what is going on in the storage cluster is worth its weight in gold." This has helped free up Michael's team. Quobyte and the dashboard are so easy to use that the Operations team can look at the dashboard and see that the system is not going to run out of space or that it is running at XX% capacity without Michael's team getting involved. A bit more peace of mind for the team comes through alerts that are inherent, or "baked-in" as Michael puts it, to the platform so that if something is going wrong the team is alerted before finding out the hard way that something has gone sideways.

The Impact: Software Storage for Truly Scalable Infrastructures

Quobyte itself is part of the platform that is Points' business. The entire purpose for Points implementing Kubernetes was to provide endless scalability, capacity, and performance. One of the pilot deployments was a complete rebuild of the partner-interfacing system which includes an integration engine to talk to all the different Points' airline, hotel, and loyalty partners. Originally, the interfacing system was a big monolithic app that was then split up into microservices and deployed on Kubernetes. This alone resulted in 10X more performance, but now they can also add far more capacity. Michael explains just how important this is, "In case our 10X isn't enough for when we get an unexpected 100x volume, we spin up 10 instances on the fly, off we go! Quobyte is a part of that scalability – without it, we just wouldn't have anything."

About Quobyte

Quobyte is storage Architected for AI™. It was started by two ex-Googlers who took the radically different hyperscaler approach to storage, freeing AI workloads from the complexity and limitations of traditional enterprise and HPC storage. Quobyte's software delivers bulletproof resiliency, the fastest AI-ready performance, and smartphone simplicity on commodity servers, scaling easily across data centers, on-prem or in the cloud. Targeted at enterprises in finance, life science, research, and AI, Quobyte enables small teams to efficiently run exabyte-scale infrastructure, maximizing GPU utilization and ROI.