Migration Made Easy: Tetrate Helps MPL Modernize their Infrastructure without Service Disruption to 90+ Million Gamers

Executive Summary

Mobile Premier League (MPL) is India's largest fantasy sports and online gaming platform. The Bengaluru-based startup has raised $396 million to date, according to market intelligence platform Tracxn. With offices spread across India, Singapore and New York, MPL reportedly has more than 90 million registered users on its platform. At one time, MPL was running all of its workloads on Amazon Elastic Compute Cloud (EC2) virtual machines (VMs), using AWS Application Load Balancer to route incoming traffic to proper resources based on Uniform Resource Indicators (URIs). MPL set out to shift its VM-based workloads to microservices in Kubernetes. Tetrate assisted MPL in this transition, using the VM onboarding capability in Tetrate Service Bridge (TSB) to make the migration easy.

Making the Move to Microservices Using a Service Mesh

With more than 90 million gamers accessing its platform, MPL needs to be able to run its platform at scale using an architecture that is flexible, reliable and efficient. That's why MPL joined the ranks of enterprises today that are shifting their workloads from monolithic to microservices architecture, or, phrased another way, moving from VMs to containers orchestrated by Kubernetes.

The shift from VMs to containers is rarely completed in one step. Risks like failure, downtime and complexity make that impractical. Instead, a staged approach is more typical. During that transition, a hybrid infrastructure with VMs and Kubernetes is common. Of course, apps running in both environments must still communicate with each other, posing significant operational challenges for service discovery, new deployments rollout, traffic management and security policy implementation.

MPL worked with Tetrate to onboard its EC2 VMs to TSB, facilitating the required cross-boundary communication. Istio and Envoy manage traffic, security and resiliency between VMs and Kubernetes workloads. If you're interested in learning more about the process, you can read about it in our blog post: [Mobile Premier League Migrates from VMs to K8s in AWS with Tetrate to Deliver a Better Experience to 90+ Million Gamers](#).

In reality, the shift from VMs to containers is rarely completed in one fell swoop. Typically, the shift is made in stages, which results in hybrid infrastructures where services end up running both on virtual machines (VMs) and in Kubernetes clusters.

Hybrid infrastructures, where older applications and new microservices need to communicate with each other, become very complex for service discovery, new deployments rollout, traffic management and security policy implementations. That's when a service mesh becomes so valuable.

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[Tetrate Service Bridge](#) (TSB) is an enterprise service mesh solution that addresses onboarding of Kubernetes clusters and VM-based workloads into the same mesh. It uses open source Istio under the hood and adds additional layers of capabilities like centralized management, multitenancy, audit logging, workflows, a global service inventory, comprehensive lifecycle management and configuration safeguards. TSB can manage workloads on heterogeneous infrastructure layers, like running on on-premises data centers or in any public cloud, such as AWS, GCP or Azure.

TSB supports the onboarding of standalone VMs as well as pools of VMs. Onboarding VMs into the TSB service mesh provides many advantages:

- Within a service mesh, a VM is treated like a Kubernetes pod and is accessed via a Kubernetes service object.

- VMs are assigned a strong [SPIFFE](#) identity, used for security aspects like authentication and authorization.

- Communication with other VMs and Kubernetes-based services is secure (mTLS).

- Other service mesh features like service discovery, circuit breaking, canary rollouts, traffic shaping, observability and security apply to the VM-based services as well.

- Workloads within the service mesh are eligible for zero trust network architecture.

- *Onboarding VM-based workloads into TSB makes it easy to advance them to Docker-based Kubernetes microservices.*

Migration Made Easy: Tetrate Service Bridge Onboards VMs Without Complexity

MPL's primary objective was to advance all of its VM-based workloads to Kubernetes.
In one production instance, MPL had more than 100 VM-based applications, and each of these applications was communicating to other applications with the help of consul service discovery.

This app-to-app communication made the applications interdependent, thus making it complex to advance them to Kubernetes. Migrating all of the applications to Kubernetes in one go could have led to serious complexities and even business failures.

Instead, Tetrate recommended a phased transition, in which one service at a time was advanced to Kubernetes as all of its connected upstream and downstream VM-based applications were onboarded. This process was repeated until all services were advanced. The next phase involved replacing the Application Load Balancer with Istio's ingress gateway, which provides more advanced Layer 7 load balancing capabilities. In the final phase, all VM workloads were phased out, leaving MPL with a fully advanced Kubernetes-based architecture.

"We were fully in EC2 virtual machines and our plan was to advance all of our workloads into Kubernetes," said Swapnil Dahiphale, Senior Cloud Executive with MPL.

"With the help of the TSB VM onboarding capability, this migration became very easy. We initially explored upstream Istio for this, but with Istio we had to face a lot of configuration management and performance issues for each VM. However, with TSB, the configuration is minimal, and the VM onboarding agent did the rest of other things for us. We could achieve our VM workloads advancement to Kubernetes without any service disruption or any added complexity. Thanks to the Tetrate team who assisted us promptly when we were running into severe issues and making this transition successful."

"Mobile Premier League is a shining example of an organization embracing the power of service mesh to rapidly and easily convert their VM-based workloads to a Kubernetes-based architecture," said Tetrate co-founder Varun Talwar.

"And, using Tetrate Service Bridge, MPL was able to accomplish this feat without disrupting service to their 90 million-plus gaming community. The journey MPL traveled in VM onboarding, migrating all applications to Docker-based Kubernetes microservices, and then phasing out all of their VMs is exemplary and should inspire others who want to take the same journey to cloud-native infrastructure and all the advantages it offers to modern enterprises."

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About Tetrate

Tetrate provides the world's leading application networking and security platform. Built on top of leading open source projects like Istio and Envoy, Tetrate offers a suite of products including service mesh, API gateway and more for enterprises increasing their rate of application delivery in multicloud and hybrid environments. As applications evolve into collections of decentralized microservices, monitoring and managing the network communications and security among those myriad services becomes challenging. This is why some of the largest financial institutions, governments and other enterprises rely on Tetrate to help them innovate with speed and safety.

tetrate.io

About Mobile Premier League

Mobile Premier League is India's largest esports and mobile gaming platform. MPL offers more than 60 games of skill in categories such as fantasy sports, sports games, puzzle, casual and board games. With offices spread across India, Singapore and New York, MPL serves more than 90 million registered users on its platform.

www.mpl.live

Benefits

- Provide a secure and reliable runtime environment for cloud-native workloads at scale

- Achieve cost efficiency by shifting from overhead-laden VMs to lightweight containers

- Free your workloads to run on any architecture—whether on-premises datacenters or public clouds

- Enable secure, Zero Trust architecture by default

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