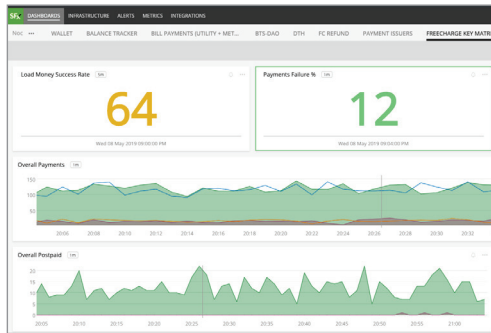


FREECHARGE KEEPS THE MONEY FLOWING WITH REAL-TIME VISIBILITY INTO SYSTEM, APPLICATION, AND BUSINESS METRICS WITH SIGNALFX

As India's leading digital payments app, Freecharge is the one-stop solution for all the financial needs of its customers, from mobile recharge to grocery shopping to insurance and utility payments. With a complex microservices environment monitored by a disparate set of tools, each infrastructure, development, and business team had a fragmented view into the performance of their tech stack that wasn't giving them the insight they needed to best protect and enhance customer experience. SignalFx provided a unified monitoring platform upon which Freecharge could standardize. With SignalFx, Freecharge's teams are able to optimize their microservices environments to keep the service running smoothly while maintaining the security and compliance required for delivering a modern financial service.



Freecharge's Fragmented Collection of Monitoring Tools Wasn't Meeting the Observability Needs Across Teams

Freecharge is India's leading digital payments app. The company is focused on building an ecosystem of innovative products and features that enable cashless transactions for payment of utility bills, mobile recharge and other subscriptions. In 2017, Freecharge was acquired by Axis Bank and immediately began expanding its product portfolio to deliver a more robust set of services to its customers.

In order to increase its agility and maximize the productivity of its developers, Freecharge's infrastructure team maintains a complex microservices architecture with over 130 different services deployed on AWS, leveraging AWS platform offerings including EC2, S3, EMR, and RDS. This modern architecture has enabled the development team to ship code at a rate of eight to ten releases a day without any downtime.

Lack of Visibility Was Slowing Freecharge Down

With seven different tools for monitoring, including Nagios, Zabbix, and AppOptics, Freecharge's teams weren't speaking the same language and it was slowing them down. If an issue was impacting the system, the infrastructure team had to search for the root cause in Zabbix or Nagios, then manually correlate against the APM solution to understand where the application was experiencing the issue. It was a time-consuming job that could take hours and required knowledge of multiple tools.

Even once the impacted business metric was identified, the team didn't have the granular visibility to understand if the issue was in their internal system, or caused by a disruption to one of the payment gateways of an external service provider with which they were integrating.

Freecharge needed an observability solution that could monitor its internal system metrics as well as the application and business metrics tied to external merchants, so every team would have the visibility they needed from a single, manageable platform.

"SignalFx has done a very good job providing a single solution for all our monitoring needs, from system metrics to business KPIs. Now we can write and define our own custom metrics."

Sachin Sharma, Senior Director, Infrastructure

Challenge

- Freecharge's disjointed set of monitoring tools wasn't keeping up with its microservices environment and couldn't give teams the granular insights they needed into key business metrics (like uptime and latency) that impacted customer experience.

Solution

- SignalFx gives Freecharge a single platform for comprehensive visibility across its full tech stack
- Dashboards powered by SignalFx custom metrics provide the business team with invaluable insight into KPIs across both internal and external systems
- Sophisticated alerting ensures the infrastructure and development teams are immediately notified when an issue occurs so they can quickly identify the root cause and remediate

Results

- The business team is alerted to issues in minutes, compared to hours with the prior tools
- KPI monitoring from SignalFx's dashboards has enabled the customer success team to optimize customer experience by resolving issues with uptime and latency 60% faster than before
- With the insights SignalFx provides into its system, Freecharge has been able to reduce over a thousand compute instances down to under 700, resulting in significant cost savings
- Cloud monitoring from SignalFx gives Freecharge the confidence to accelerate the adoption of modern cloud technologies like Docker, Kubernetes, and AWS Lambda

SignalFx's Unified Monitoring Platform Enables Freecharge to Standardize Monitoring Across Teams

With SignalFx, Freecharge found the flexible tool that fits the specific needs of each team, providing the company with a single source of truth for the monitoring metrics it needs. The business and customer support teams can track KPIs to protect customer experience; developers are able to confidently ship and debug code knowing they can rely on sophisticated alerting and analytics; and the infrastructure team is able to monitor the performance of the full system in real-time.

Custom Metrics from SignalFx Provide In-Depth Application Insights to Optimize Customer Experience

The business team was the first group at Freecharge to adopt SignalFx. To ensure it was providing its customers with the smoothest and most seamless experience possible, the team needed a solution that could monitor key KPIs like uptime by aggregating information from the various payment gateways of the service providers integrated into the Freecharge platform.

With custom metrics from SignalFx, the business team is now able to monitor both the number of API calls and duration of API requests from the payment gateways of its various external merchants, and then correlate this latency into dynamic graphs in SignalFx. These dashboards give the business team a real-time view into Freecharge's entire integration ecosystem so they can understand how each merchant and gateway is performing and where customers may be experiencing issues.

The customer support team, which previously had no insight into service disruptions or other customer-facing issues, now monitors these dashboards around the clock. With SignalFx, the team now easily sees when and where there is a problem. If a payment gateway or region is experiencing service issues, the team can work with the external provider to resolve the problem or divert traffic to another gateway to maintain 24/7 uptime for customers.

Powerful, Real-Time Alerting Drives Down Time to Resolution

With SignalFx in place, the business team became the first group at Freecharge to see when an issue was impacting customers, if the problem was caused by an external service provider, or if it was an issue within Freecharge's own environment. For instance, after a new deployment to the website, the business team was able to see performance issues on its SignalFx dashboards and then alert the infrastructure and development teams to the problem.

Seeing the power of real-time observability, the infrastructure team adopted SignalFx for monitoring across Freecharge's complex microservices architecture, allowing them to retire three existing monitoring tools and reduce reliance on the rest. SignalFx now gives the infrastructure team insight into every application while also providing a common language for monitoring across the teams at Freecharge.

The infrastructure team has set up intelligent alerting to immediately notify them of any anomalies across Freecharge's environment. The team has integrated these alerts into various communication and incident management tools, including email, Slack, Google chat, and VictorOps, to make sure the right people receive the right level of alert based on the severity and impact of the issue.

“SignalFx monitors the heartbeat of the entire system our customers interact with—not just our internal infrastructure but also the external providers we’re integrated with via API—so we can easily pinpoint and resolve issues regardless of where they are in our ecosystem.”

Sachin Sharma, Senior Director, Infrastructure

Once alerted, the infrastructure team is now able to quickly locate the problem and begin remediation. Since adopting SignalFx, the team has been able to shorten time to detect from hours to minutes, reducing overall time to resolution by 60%. And with Freecharge standardized on SignalFx, infrastructure can easily pull in development teams when necessary, further speeding time to resolution.

Visibility for Developers Extends Ecosystem Investments

Freecharge had already implemented a microservices environment with the development team shipping code multiple times a day. SignalFx has given the developers the confidence to continue this rapid deployment of code, knowing they'll be notified via their custom dashboard and alerts if any issues arise. Additionally, because SignalFx has reduced the time required to detect and resolve issues, the development team is able to spend less time debugging and more time building and securing the Freecharge platform.

Monitoring for a Secure and Compliant Solution

As a provider of financial services and a subsidiary of Axis Bank, compliance and security are critically important to Freecharge. To meet these requirements, the infrastructure team has built an environment that is both agile for developers and secure for customers, while maintaining compliance with regulations like PCI DSS and guidelines from the Reserve Bank of India and National Payments Corporation of India. Monitoring from SignalFx provides Freecharge with in-depth visibility to track the key metrics required to meet these regulations.

From a security perspective, SignalFx gives the infrastructure team visibility into when security events occur and how they impact customer experience. Through real-time alerting, the team can immediately see user issues and take the appropriate steps to mitigate the incident.

Confidence to Move Forward with New Cloud Technologies

As a result of moving to SignalFx, Freecharge has already been able to retire three of its prior monitoring tools. The team plans to continue unifying its monitoring on the SignalFx platform, further reducing its investment in other legacy tools. Furthermore, with the visibility into performance provided by SignalFx, Freecharge was able to transition from more than a thousand compute instances down to under 700 Amazon EC2 instances, resulting in significant cost savings.

SignalFx has also given the infrastructure team the confidence to move forward with the adoption of AWS Lambda for serverless computing as well as other modern technologies like Docker and Kubernetes.

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