

Global Wholesale Retailer

PROJECT

Modern Observability Platform For Retail

OVERVIEW

Our Global Wholesale Retail client recognized the need to modernize its observability capabilities to support its cloud-native applications and ensure operational excellence. The initiative focuses on enhancing visualization, alerting, and holistic monitoring across disparate data sources, leveraging Google Cloud Platform (GCP) and open-source tools. The project aims to provide a unified, actionable view of platform health, customer experience, and financial metrics, especially critical during peak shopping periods.

BUSINESS PROBLEM

Our client's existing observability solutions are fragmented, relying on separate tools for different subsystems and lacking integration across platforms. This limits visibility into both backend services and user-facing metrics, making it difficult to correlate technical performance with business outcomes. The absence of a comprehensive monitoring solution increases operational costs, hinders cost optimization, and poses risks to customer experience during high-traffic events like Black Friday.

OUR APPROACH

Improving's strategy centers on building a unified observability platform using well-supported, scalable technologies. Grafana has been selected for its robust visualization and community support, paired with Google Managed Prometheus for metrics collection. BigQuery supports advanced analytics, and Terraform enables infrastructure-as-code for repeatable, organization-wide dashboard deployment.

The solution emphasizes flexibility, allowing teams to create templated dashboards and reusable modules, while maintaining a "single pane of glass" for leadership to monitor operations, customer journeys, and financial performance.



CASE STUDY



BUSINESS BENEFITS

- ❑ **Cost Efficiency:** The platform will improve visibility into resource utilization while enabling better cost management and optimization.
- ❑ **Customer Experience:** Our client will be able to enhance monitoring of user-facing metrics, allowing rapid response to issues, ensuring a seamless shopping experience.
- ❑ **Scalability:** The platform is designed to allow our client's executives insight into increased loads during peak periods, supporting business continuity.
- ❑ **Agility:** Real-time insights will empower leadership to make data-driven decisions and remain competitive in a fast-moving retail environment.
- ❑ **Operational Excellence:** Streamlining onboarding and dashboard creation to reduce manual effort and improve efficiency across departments.
- ❑ **Holistic Visibility:** Integration of technical, operational, and financial metrics provide actionable intelligence for all stakeholders.

TECHNOLOGIES AND METHODOLOGIES USED

- ❑ **Google Cloud Platform (GCP):** Provides scalable, managed services for data storage and analytics.
- ❑ **Grafana:** Delivers flexible, community-backed visualization and dashboarding.
- ❑ **Google Managed Prometheus:** Enables robust metrics collection and alerting.
- ❑ **BigQuery:** Supports advanced analytics and reporting.
- ❑ **Terraform:** Automates infrastructure deployment and dashboard management.
- ❑ **Open Source Tools:** Utilized for extensibility and rapid innovation.

Partnerships

The implementation of our client's platform on GCP involves strategic collaborations with Google Cloud and Redis. Google provides critical support, especially in resolving issues with the cloud service mesh and optimizing the use of GCP services. Redis is instrumental in managing

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and optimizing database performance and costs. These partnerships are vital in ensuring the platform's robustness and efficiency.

LESSONS LEARNED SO FAR

1. **Flexibility:** Adapting quickly to changing requirements was crucial for meeting tight deadlines.
2. **Automation:** Reliance on automation ensured repeatability and reduced the potential for human error.
3. **Proactive Collaboration:** Engaging with partners like Google and Redis early helped resolve issues swiftly.
4. **Scalability Testing:** Regular performance testing ensured the platform could handle peak loads.
5. **Operational Efficiency:** Streamlining processes and reducing manual interventions improved overall efficiency.
6. **Self-Service:** Empowering teams to manage their own resources increased agility and reduced dependency on centralized support.

CONCLUSION

The Modern Observability Platform project exemplifies Improving's ability to tackle complex migration and modernization challenges. By leveraging GCP's capabilities and focusing on automation, scalability, and reliability, we delivered a robust platform that meets our client's business needs. Our unique approach, combined with strategic partnerships, enabled us to create a scalable and cost-effective solution that supports rapid innovation and operational excellence.