

## CASE STUDY

# Improving User Experience via Application Performance Management

*SQA Group partners with a private equity company to stand up an APM capability*



## OVERVIEW

HarbourVest, a private equity fund and one of the largest private equity investment managers globally, has experienced rapid growth and continual expansion of service offerings to high-end investors over the last decade. While the company's growth acceleration has enabled it to derive greater return for its investors, it has also placed pressure on its investment management platform to handle increasingly complex and newly introduced workflows for both internal and external users. As a result, the system was also experiencing challenges with peak usage and end user experience.

Without its own Application Performance Management (APM) discipline or expertise to tap internally, HarbourVest partnered with SQA Group via its Performance Engineering-as-a-Service offering. Beyond just addressing acute performance issues of today, a parallel objective was to position HarborVest to be able to detect and head off future and even more costly and brand-impacting issues before they happen.

## ENGAGEMENT DETAILS

Specific components of the engagement included:

- Address acute performance issues and create a foundation for APM at HarbourVest
- Conduct evaluations of end user experience metrics and expectations, systems architecture, and core platform functionality
- Form hypotheses from discovery inputs and use the lens of performance engineering
- Activate performance engineering-driven usage models and test design to initiate a process of scientifically determining initial baselines of potential root causes that are contributing to performance degradation
- Iterate with HarbourVest resources and functions to implement tuning recommendations aimed at incremental systems performance improvements

## IMPACT

Without its own APM discipline or expertise to tap internally, HarbourVest partnered with SQA Group to address acute system performance issues and create a foundation to continue building upon. The impact of the engagement includes:

- **APM Journey Underway:** From zero in-house capability to foundational APM elements stood up to be built upon
- **System Response Improvement:** Improved systems' response by 30%, powered by modeling and test
- **End-to-End View:** Characterization of usage, captured within a model to generate baselines, benchmarks, and other tests
- **Risks Detected:** Identification of system hot spots that when tackled will lead to substantial improvement

## RECOMMENDATIONS

APM needs to be an always-on capability, versus a one-time fix. As such, SQA Group stood up a performance engineering discipline within HarbourVest, designed to be built upon.

APM provides the biggest value to an organization when it considers the variations of concepts such as load, capacity, stress, performance, and scalability as unique but deeply interconnected components. Below are core components SQA Group considered when standing up HarbourVest's always-on APM discipline:

- ▶ **Performance Engineering Expertise:** *Hyperspecialized understanding of the non-functional requirements and system-under-test architecture, end user expectations, business workflow priorities, and usage model design simulation.*
- ▶ **Golden Workload Activation:** *Scientific and data-driven approach that simulates a reality-based, worst case scenario system usage and strain, so that a scalable and repeatable performance testing architecture can be designed and extended as needed.*
- ▶ **The APM Sandbox:** *A dedicated and protected working environment in which performance engineering activates the handpicked tools, data sets, usage models, expertise, and simulations to unearth system hot spots that reveal optimization opportunities.*
- ▶ **Performance Tuning Orchestration:** *APM ownership methodology that analyzes post-test cycle results and outcomes to prioritize actions and recommendations to improve key metrics, systems performance and end user experience.*

Based on these core pillars, SQA Group established prioritized recommendations for HarbourVest to take next that — when enacted — enable the firm to de-risk for today and drive towards opportunity for tomorrow.

- Optimize API queries and general database performance
- Stagger API calls using different intervals, where practical
- Implement QueryBuilder controls and consider governing periods of peak usage
- Build a practice of analytics across all digital transformation projects
- Continue to mine and leverage data for deeper insights
- Utilize continual insights to develop SLAs and alerts for monitoring
- Seek out common queries to optimize and deploy as standard products for end user selection
- Work on dedicated test data sets and investigation of the impact
- Increase CPU, continue to examine other system limits to monitor “shift” in bottlenecks
- Work closely with vendor-provided blackbox components (BTS) for performance engineering
- Stand up a single pane of glass, with a specific focus on user experience KPIs