

“High Performance...Affordable”

## Optimized Performance Testing (OPT) at Sonata Software

Performance is key in all spheres of businesses today. Businesses rely on rapidly scalable software applications to support their growing customer base while maintaining a consistent user experience. But no matter how functionally rich a software product or application is, if it fails to meet the performance expectations of the customers, it is bound to be branded a failure.

Pre-emptive Performance Testing of software products / applications, prior to their release, across multiple technology environments and varying user loads can help businesses avoid expensive remedial actions after going live, while ensuring a high level of customer satisfaction. Even after going live, periodical Performance Testing of software products / applications is essential to ensure robust service delivery as they may undergo changes in functionality as well as the deployment environment.

However, setting up a reliable Performance Testing environment always comes at a significant cost – both capital expenditure (capex) and operating expenditure (opex) – owing to the need for highly skilled resources as well as prohibitive investments in hardware environments and software toolsets.

This is where Sonata steps in to help enterprises as well as software product companies.

### Sonata's Credentials and Expertise

Based on an outcome-driven service model, Sonata's Testing Practice offers a compelling business proposition – cost optimization, productivity enhancement and improved software quality. Leveraging a Global Delivery Model (GDM), Sonata manages large and complex testing engagements for its customers worldwide. It offers a bouquet of specialized testing services for software applications, covering their various facets such as functionality, performance, compatibility and usability.

Sonata's Performance Testing Practice is backed by over 20 years of experience in building highly scalable software products as well as enterprise applications.

Highlights of its offering include:

- Expertise in executing Performance Engineering engagements across complex, multi-platform environments for several software product companies as well as enterprises.
- Expertise in common Performance Testing environments and multi-faceted alliances with leading players like HP, Radview, IBM and Microsoft.
- Proactive investments in a reliable and scalable Performance Testing lab, including hardware and software tools, as well as alliances with the providers of cloud computing-based virtual test lab environments.

#### Tools Expertise

- HP (LoadRunner, Performance Center)
- Rational Robot
- Segue SilkPerformer
- Empirix E-Test Suite
- Radview WebLoad
- Compuware QALoad
- OpenSTA
- Microsoft WAST

### Innovative 'Shared Services' Delivery Model

Sonata's innovative service delivery model leverages virtualized test infrastructure offered by the latest advances in cloud computing, as well as its investment in Performance Testing tools offered through a shared services model. This reduces the cost of ownership by almost 70%.

#### End-to-End Performance Testing Services

Consulting

Execution

Analysis

Reporting

Commercial testing tools - shared license models

“Cloud-Computing” - Virtualized test lab infrastructure

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Sonata's experience in setting up and operating virtualized "test infrastructure on tap" also helps enterprises and product companies save the time required for setting up expensive and complex multi-machine test lab environments. It also leverages its investments in Performance Testing infrastructure and commercial tools to offer a shared license model to its customers, which provides them with on-demand access to sophisticated testing tools during their testing cycles, at a fraction of the price.

And what's more, this "pay-per-use" model enables software product companies as well as the end-users to align their Performance Testing investments with their growth by converting some of their capex into a needs-based opex.

Sonata's modular services design equips it well to help even those companies, which may have already invested in Performance Testing infrastructure to leverage their expertise and Global Delivery Model, by providing a team that can ramp up or down flexibly with their testing cycles. Sonata's Performance Testing team can leverage its customers' assets remotely, thereby offering 100% investment protection to them. It can also set up and manage a dedicated test lab, specifically customized to its customers' needs.

## Proven Track Record

Sonata's Performance Testing team has expertise on a wide range of Performance Testing environments and tools. It has alliances with most of the premier commercial as well as Open Source tool vendors, including early adopter partnerships, specialized training programs as well as premier support arrangements – all of which can be leveraged to its customer engagements. This is backed by a robust methodology that leverages the above assets, best practices borne out of Sonata's experience and its cost-efficient Global Delivery Model to deliver applications that can scale to meet the current as well as future performance requirements of enterprises and software product companies.

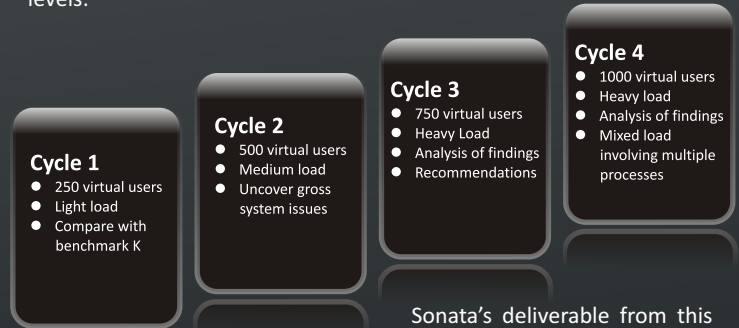
Planning	Test Design	Execution & Reporting
<ul style="list-style-type: none"> <li>Identify test environment</li> <li>Identify key performance scenarios</li> <li>Define service level for each scenario</li> <li>Identify the right tools for performance testing</li> </ul>	<ul style="list-style-type: none"> <li>Configure test environments</li> <li>Define check points</li> <li>Develop usage profile - # of users, transaction rates etc.</li> <li>Design load test cases</li> </ul>	<ul style="list-style-type: none"> <li>Develop performance test scripting</li> <li>Multi cycle execution (increasing user loads)</li> <li>Identify and report performance bottlenecks</li> <li>Document Test Results</li> </ul>

## Flexible Engagement Model (OPT)

Sonata's 'fixed price, fixed scope' engagement model – OPT– helps software product companies and enterprises release a fully tested business application within a period of 6-12 weeks, depending on its complexity. OPT includes the following activities and deliverables:

- Identify five business scenarios & key performance parameters
- Setting up the virtualized test environment in tandem with cloud-computing partnerships
- Leveraging performance testing tools under an innovative shared services model
- Designing and scripting the Performance Test
- Executing the four cycles of Performance Testing for incremental user loads

Incremental loading technique showing system behavior at various load levels:



Sonata's deliverable from this engagement is a detailed report on performance assessment and performance bottlenecks along with recommendations for performance improvement.

## About Sonata

Based on an outcome / SLA-driven service model, Sonata's testing practice group offers a compelling business proposition – cost optimization, productivity enhancement and improved software quality -- to enterprises and software product organizations. Leveraging on a Global Delivery Model, Sonata has been managing large and complex testing engagements for its clients worldwide for over 15 years.

Sonata has established alliances with testing tool majors and attained expertise in most of the standard test tools. Sonata's testing frameworks and re-usable assets help improve the quality of testing and time-to-market.

Sonata Software, an IT Consulting and Services company, provides software services to global companies. Sonata's customers span across the US, Europe, Middle East and the Asia-Pacific. Its portfolio of services includes IT Consulting, Travel Solutions, Product Engineering Services, Application Development, Application Management, Software Testing, Business Intelligence, Infrastructure Management and Packaged Applications.

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