



Metrics–Driven Performance Testing: Why It Matters And How To Achieve It?



Today's organizations develop software applications within an increasingly complex landscape. In an environment where speed is crucial and quality must be top-notch, Every enterprise application is expected to achieve high performance and deliver consistent results, regardless of the number of users accessing it at any point in time.

Therefore, testing the stability of your system really matters. As users demand a high rate of responsivity, application performance has a direct impact on the end-user experience. In this software delivery value stream, it should be demonstrated that your application is ready to handle high-powered workloads. No matter how well your application is functionally designed, it is of paramount importance that it must handle a huge surge in usage.

That's when performance testing comes to the rescue. Performance testing has long established a strong foothold in the software delivery life cycle thanks to its ability to easily simulate any size peak-load and its capability to monitor, detect, isolate, and resolve performance issues efficiently.

But, gaining a comprehensive overview of performance testing is fundamental to critical enterprise applications. Obtaining performance testing metrics provides all-important visibility and traceability across the testing lifecycle.



Performance Testing Empowered by Real-Time Metrics

In a software testing environment, the real-time flow of information is crucial. It enables you to spot bottlenecks and opportunities for optimization in real-time. Building a holistic metric system with the best-of-breed tools will combat this lack of visibility as it can identify potential performance issues before they can affect the users.

From analysing the existing systems, developing test plans, test scripts, and test scenarios, configuring load generation, to executing the tests and fetching the reports, performance testing is an exhaustive exercise. In a typical environment, companies lack a robust methodology for measuring productivity and ensuring the build satisfies the decided baseline in agile fashion.

Cohesive tracking systems with a broad set of metrics, spanning the end-to-end application performance testing, should be used to truly understand the concrete measure of the impact on business performance.





APTf 2.0: A One-of-A-Kind Solution For An Optimized Performance Testing And Monitoring

Incorporating visualization into the performance testing lifecycle allows important patterns to stand out. It enables smarter decision-making at all levels of performance testing and encourages an insight-driven testing practice.

In order to provide coherent project information and proactive remediation, Aspire's Performance Testing framework (APTf 2.0) built using open-source/free tools. APTf 2.0 provides comprehensive solutions to collect, report, and visualize the testing metrics. For a performance testing team, APTf 2.0 is major value driver as it correlates the testing metrics that are stored in disparate systems. It then pulls them all together and Grafana represents them in a single intuitive dashboard.

Unlike the other industry leading tools like JMeter/ LoadRunner etc.that helped generate HTML reports, APTf 2.0 is rich in customizable features to collect performance testing metrics and give a coherent view. With this single integrated solution, teams can monitor their application's performance live and detect key patterns.





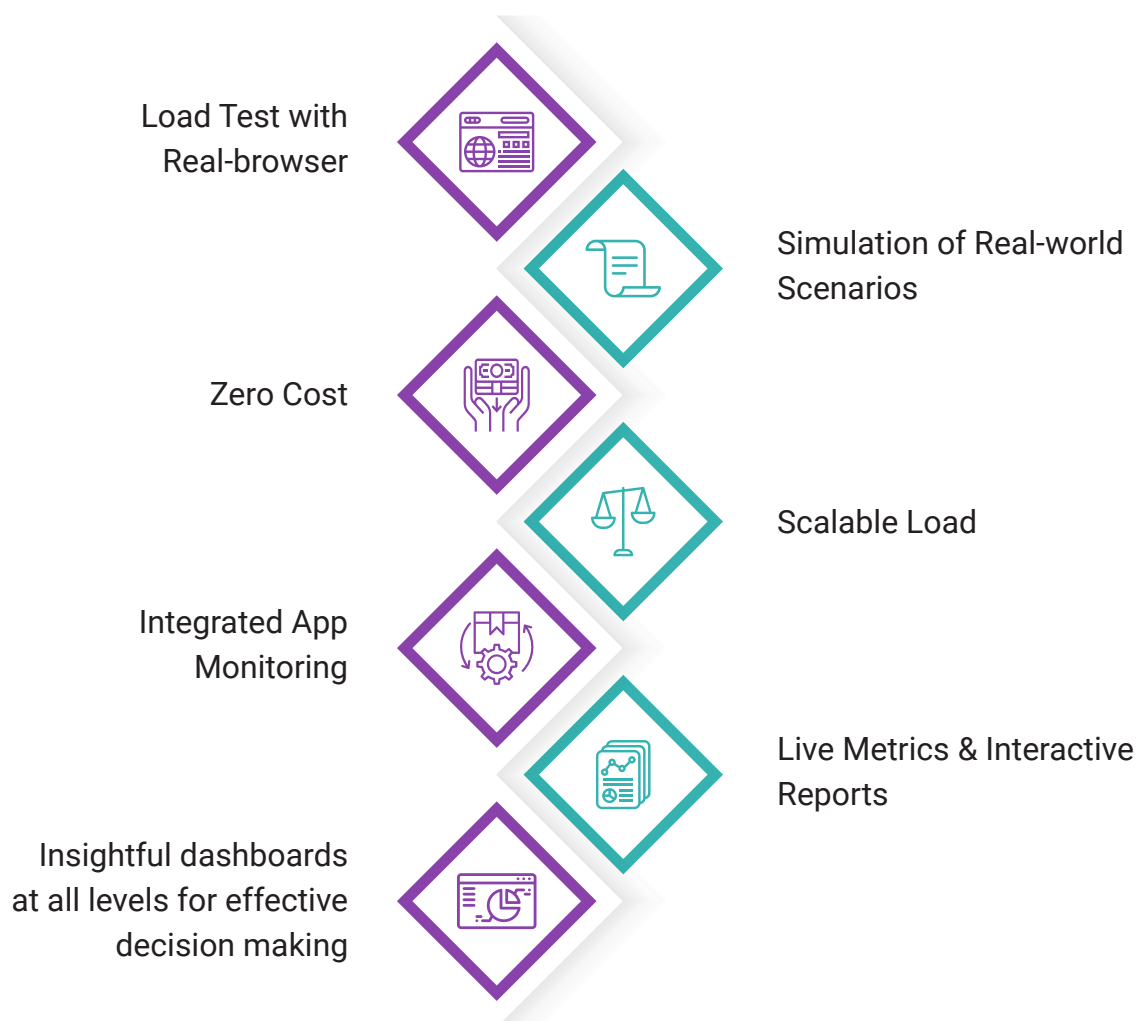
Features	JMeter	LoadRunner	APTf
User Simulation	Protocol level	Protocol/Browser	Hybrid - Real User Simulation through browser & at protocol level
Protocol(s) Supported	Web - HTTP/HTTPS, SOAP/REST, FTP, MQ's, TCP, Database, etc.	Web, .NET, Citrix ICA, FTP, Oracle, SAP, Siebel, etc.	Web - HTTP/HTTPS, SOAP/REST, FTP, MQ's, TCP, Database, etc.
License	Open Source	Commercial	Open Source/Free
Supported Browsers	Not Applicable	IE, Chrome & LoadRunner In-built	Chrome, Firefox, Edge, IE, Safari, Opera
CI Integration	No in-Build capacity	Yes	Yes, Jenkins, Azure DevOps
Infrastructure Cost	Less	Very high	Less
Scripting effort	Moderate	Moderate	Moderate-High
Load scaling	Highly scalable(Unlimited)	Yes - Withoverhead cost on infrastructure	Less - With lesser cost on infrastructure
APM - Integration	No	No	Dynatrace, AppDynamics, New Relic, etc.
Reporting	Yes: In-Built	SiteScope & Diagnostics	Out of the box dashboard - Web based interface (Grafana)
Real-time Test Monitoring	No	No	Yes (with BackendListener, InfluxDB, Grafana)
OS Support	Windows, Linux, Mac OSX	Windows	Windows, Linux



Core Benefits of APTf 2.0: Measure The Performance Testing With A Best-In-Class Solution

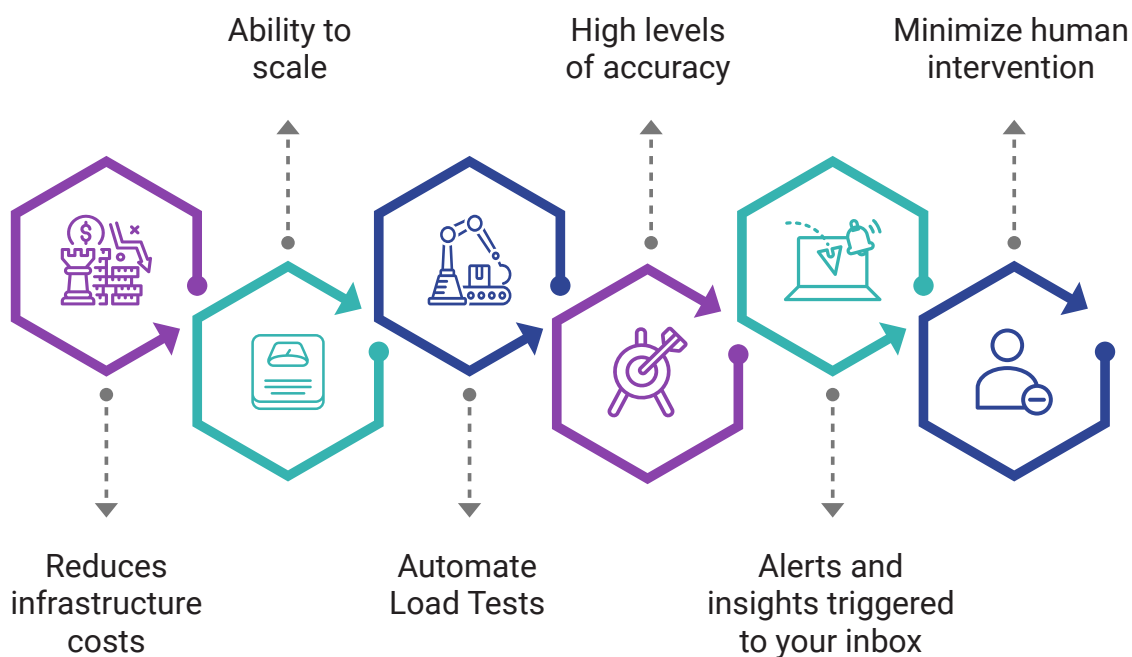
APTf 2.0 provides a centralized metrics management system to building more performance reporting integrations. Here is the threefold advantage of APTf 2.0 over the traditional reporting tools.

A Quick Glimpse into the Features of APTf 2.0!





The APTf 2.0 Advantage



Comprehensive Reporting

In typical protocol-level testing, the request is sent to the server in order to measure the response time. JMeter then records this. But this traditional approach lacks the method to measure how the browser renders the information. JMeter is incapable of noticing how the browser responds to the data.

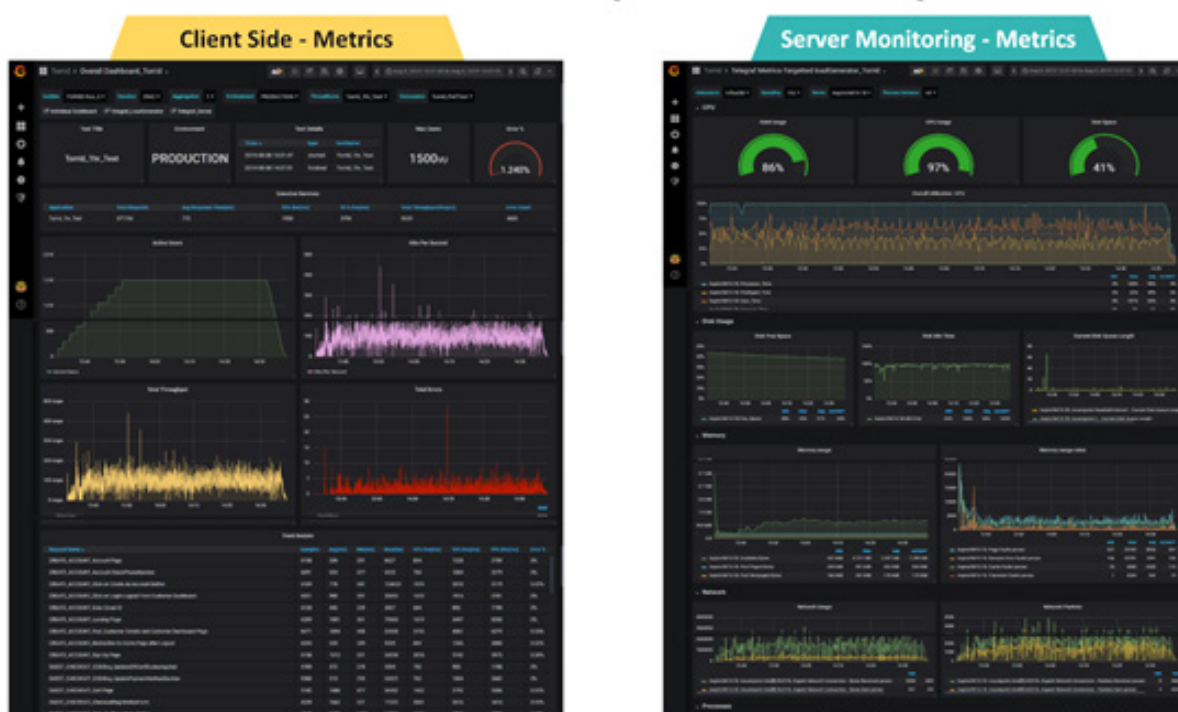
Now with APTf 2.0, it is easier than ever to capture a set of user-centric metrics that includes Time to First Byte, First Paint, First Contentful Paint, DOM Interactive Time, DOM Content Loaded, DOM Complete, On-Load Time, and the total time it took to fully load the page. The framework can provide additional metrics of navigation events as well, large enough to provide insights into the performance.





Metrics In Real-Time: Anytime, Anywhere

Testing teams usually are using siloed solutions that required multiple databases and consoles to track performance metrics. Gone are those days. APTf 2.0 helps you monitor performance testing metrics and process events as they occur. This real-time performance monitoring solution aggregates and correlates performance metrics, analyzes patterns, and displays them on customizable dashboards.



The Promise of Better Decisions

Traditionally, testing metrics brings spreadsheets, charts, and footnotes to mind. The result is disjointed information flow, leading to inefficiencies and a delayed decision-making process. APTf 2.0 assembles massive amount of data and makes the metrics easier to understand and interact with.

It empowers testing teams to view and edit dashboards in real-time and share dashboards with executive stakeholders to ensure that everyone is viewing the data while troubleshooting application issues.



Getting Performance Metrics Right With APTf 2.0

One big breakthrough of APTf 2.0 is how it helps testing teams to interact with reported information. Unlike having static data, users can navigate information as APTf 2.0 is highly interoperable with Grafana, which can enrich your metrics collation and visual representation. Our iterative, end-to-end approach involves integration with JMeter, Database, and other customizations which help address fragmented performance testing and thereby create harmony to deliver streamlined, high-performance software applications.

When it comes to user simulation, for example, the APTf 2.0 tool provides a hybrid framework—an amalgamation of protocol testing and real browser testing. For load scaling, though tools like LoadRunner would be efficient, it will cost a fortune. But APTf 2.0 provides a cost-effective infrastructure with no compromise in scaling up the load as needed. By visualising the performance testing metrics in dashboards, you can spend less time in digging through logs.

Users can have a web-based Grafana interface as an out-of-the-box integration for reporting and APTf 2.0 augments its capability. It is easier than ever to monitor JMeter results with APTf 2.0 by implementing BackendListener and InfluxDB.

For queries or to kick-start your performance testing journey in 4-6 hours, write to us info@aspiresys.com



About Aspire



Aspire Systems is a global technology services firm serving as a trusted technology partner for our customers. We work with some of the world's most innovative enterprises and independent software vendors, helping them leverage technology and outsourcing in our specific areas of expertise. Our core philosophy of "Attention. Always." communicates our belief in lavishing care and attention on our customer and employees.

For more info contact

info@aspresys.com or visit www.aspiresys.com

NORTH AMERICA
+1 630 368 0970

POLAND
+44 203 170 6115

INDIA
+91 44 6740 4000

MIDDLE EAST
+971 50 658 8831

EUROPE
+44 203 170 6115

SINGAPORE
+65 3163 3050