

AppPulse Web

Micro Focus® AppPulse Web is a SaaS application performance management solution that lets application developers isolate performance problems in client-side webpages, including those that use AJAX and JavaScript. It enables you to characterize the user experience, spot performance problems, and identify their root causes. It works hand in hand with Micro Focus AppPulse Trace to correlate client performance or availability problems to the transaction taking place on the server to help developers isolate and remediate problems.

Solution Overview

End-to-End Visibility into Web and Single-Page Application Pages

Modern web applications rely on static, dynamic, and single-page application (SPA) pages. Some of them dynamically update the displayed content using asynchronous JavaScript and XML (AJAX). Users on browsers and mobile devices have grown to expect a great user experience (UX) from these web applications—including lightning performance. And they are quick to abandon or uninstall applications that fail to provide it.

Application development teams must monitor the UX to ensure suitable performance on any browser on any client device and meet the challenges introduced by the use of asynchronous JavaScript calls. When performance problems are detected, they must determine whether the fault lies in the client software or on the server. And they need a way to correlate the front-end operation on the client with the transaction occurring on the back end. But lack of comprehensive and easy-to-use performance monitoring tools causes 40% of application teams to release applications into production that fail to meet UX objectives.¹

Key Features

AppPulse Web provides:

- **FunDex score**—A single, meaningful score for your mobile or web application’s entire user experience
- **Perceived load time**—Information on how the user experiences the load times of the web application pages
- **AJAX call information**—The AJAX URLs, their load times, the percent of page views taking longer than a threshold value, and the errors returned by the calls
- **Browser page load and volume**—Average and historical information on browser load time correlated to call volume to identify performance hot spots

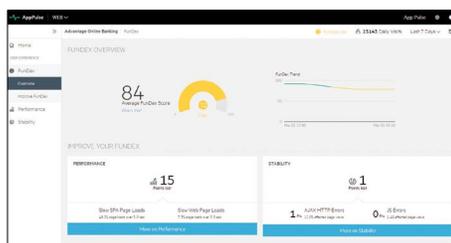


Figure 1. AppPulse Web monitors web applications to identify performance and stability bottlenecks and quantify the end-user experience.

AppPulse Web gives application developers visibility into client-side performance problems and provides tools to troubleshoot and drill into the root cause of problems. AppPulse Web reports on the performance of the web application, and it works hand in hand with AppPulse Trace to correlate client-side performance or availability problems to the transaction occurring on the server. This speeds up problem identification and resolution in a test or production environment enabling you to keep users happy and avoid loss of revenue and brand damage.

Did You Know?

74%

of application teams do not proactively examine user experience metrics in production.

40%

of apps teams will release apps into production that fail to meet UX objectives.¹

¹IT Ops, APM, and UX Survey—522 IT Ops Respondents, 2015.

Visibility into Web Applications When You Need It, Where You Need It

AppPulse Web provides visibility into the execution of the operations in the webpage, how fast they complete, and which ones cause errors or crashes.

When using webpages, it identifies the top slow-loading pages and breaks page load time into the following categories: redirect time, connection, SSL handshake, time to first buffer, HTML download, document object model (DOM) processing, and render. This information provides insight into network load, security certificate issues, server load, and payload size, all of which may be needed for troubleshooting. When using SPA pages, it identifies the top slowest loading SPA pages, the most problematic AJAX calls, and the most common types of errors encountered by AJAX calls or the top failed pages.

For either performance or stability problems, AppPulse Web enables the application team to continue the investigation of specific AJAX calls on the server using AppPulse Trace.

How It Works

When using AppPulse Web, AppPulse Trace is installed as a monitoring agent on back-end Java, Microsoft .NET, and PHP applications. It instruments the responses to the client browser with JavaScript monitoring code inserted in the header of the response (a commonly used method of instrumentation). When the browser processes the response, the monitoring code tracks the interaction between the application running in the browser and the back end. It monitors AJAX and JavaScript calls for performance and errors. It tracks the real load time for legacy HTML pages and the perceived load time for SPA pages.

Because AJAX calls are asynchronous and some of them may not complete until after the page components have loaded and been rendered, AppPulse Web uses heuristic algorithms to estimate the perceived load time and the correlation between an AJAX call and the perceived load time of the page. This information helps applications teams troubleshoot page issues and optimize the sequence of calls and the page design.

Key Benefits

AppPulse Web provides the following capabilities:

- **AJAX calls with HTTP errors**—AppPulse Web detects AJAX calls with HTTP errors and reports the number of impacted page views and the percentage of calls that have encountered the error. The errors are reported by HTTP status 4xx (client errors), 5xx (server errors), or both. Where a server error is detected, the report also links to the investigation on the server side with AppPulse Trace.
- **Performance isolation for the selected web or SPA page**—AppPulse Web provides the historical perceived load time correlated with the call volume. For the top five pages with perceived load time longer than 3.0 seconds, further drill down to average load time over time is available.
- **Web and SPA pages with perceived load time longer than 3.0 seconds**—AppPulse Web uses heuristic analysis to estimate the load time as perceived by the end user and reports the top five SPA pages along with the percentage of slow page views. Similarly for webpages, the top webpages with response times longer than 3 seconds together with their load times are reported. This enables the application team to quickly focus on the most likely problem.

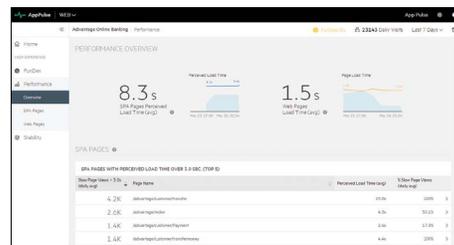


Figure 2. Identify the performance issues of your web and single-page application pages.

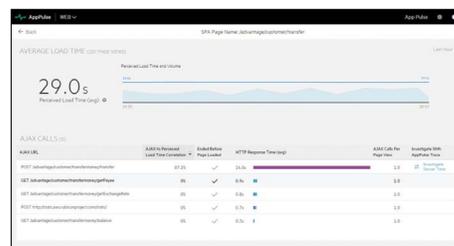


Figure 3. Analyze average page load times over time and identify AJAX URLs with lengthy response time.

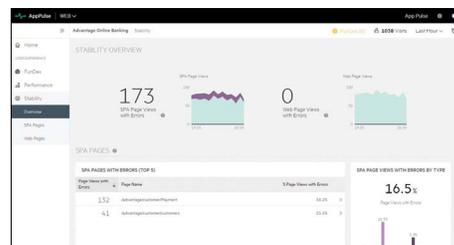


Figure 4. Identify the top web and SPA pages with errors by type.

- **Web and SPA pages with errors**—AppPulse Web identifies the top five web and SPA pages with errors. It reports the percentage of views with errors and the distribution by error type such as AJAX or JavaScript errors.

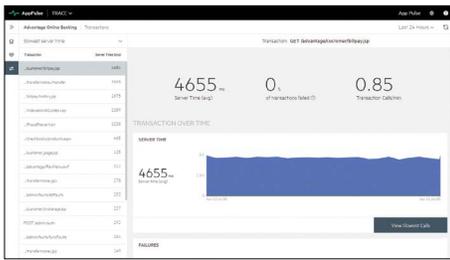


Figure 5. See which AJAX calls are slow. Drill down to server-side transactions.

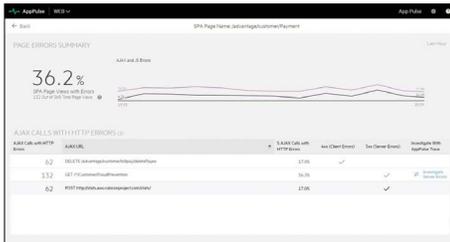


Figure 6. Correlate client-side AJAX calls returning 5xx errors (server errors) with server-side transactions, and drill down into them in context.

- **Transaction log tracing**—AppPulse Web delivers a correlated view of server-side log messages across distributed transactions for accelerated problem diagnosis and remediation.
- **Big data architecture**—AppPulse Web uses Micro Focus Vertica, a highly scalable big data warehouse, enabling AppPulse Web and AppPulse Trace to store, correlate, analyze, and report on millions of application instances.
- **Quick onboarding and configuration**—The onboarding process is fast and simple—just register online and download and deploy the AppPulse Trace agent. The AppPulse Trace agent performs the required instrumentation of the web application pages just before they are delivered to the client device. Within a few minutes of the user starting to use the web application, data will appear in the cloud-based AppPulse Web reporting application.

Part of an End-to-End Application Performance Management Solution

AppPulse Web is a component of the Micro Focus AppPulse Suite, which also includes AppPulse Trace, AppPulse Active, and AppPulse Mobile. Together they form a seamless solution that enables end-to-end visibility for web applications and related back-end services. The integrated AppPulse Suite enables: Hariberrovid molupti bearciis a nis rehend itius ipsanditius demped que officit optata

- **A consistent user experience**—Easily navigate among different modules of the AppPulse Suite with a consistent look and feel and streamlined flows. This provides a 360-degree view of the application from the client side, whether the application runs in a browser or natively on the client device, through the protocol and the network connection, to the back-end server-side application, to the problematic line of code.
- **Smart user-server correlation**—When AppPulse Web detects a failed request from a web application, AppPulse Trace captures the information and enables correlation of web-based user errors with server-side transactions, so the problem can be isolated quickly.
- **Reduced triage times**—When AppPulse Web identifies an availability or performance problem with a web application, AppPulse Trace lets you drill down from a specific failure to the exception on the server side. This enables fast decision making that reduces triage time and cost while delivering a great user experience.

Learn more at microfocus.com/apppulseweb

Contact us at:
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