

Introducing Precise for Web

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About Precise for Web

Precise for Web provides you with the application performance management you need by proactively monitoring, diagnosing, detecting, and correcting performance problems before they become visible in your Web applications.

Addressing the needs of Web applications managers, system administrators, managers, quality assurance specialists and planners, Precise for Web provides a complete view of real user experience as well as Web application performance and resource consumption by capturing, measuring, and correlating performance metrics from all critical system components.

Precise for Web offers a wide range of data presentations to enable quick and accurate monitoring and performance analysis.

Recent operational data, for designated time periods, supplements operational data to enable operations staff to detect problematic conditions that occurred in the past and that are likely to occur again and again, if not corrected.

Performance data is achieved and a fully detailed display of the historical data is provided for use in performance, QA and capacity planning analysis.

Improved performance management

IT staff frequently search for answers to the following types of questions:

- Is a site compatible with the desired Service Level Agreement (SLA)?
- Are there performance problems for the Web application as perceived from the user browser and from the server side?
- If there is a performance problem, is it related to specific Web pages?
- If there is a performance problem, is it related to a specific URL and what Web page is impacted by the problem?
- If there is a performance problem, is it related to network performance?
- If there is a performance problem, is it related to the size of URLs that are part of the Web application and what Web page is impacted by the problem?
- If there is a performance problem, is it related to specific geographical locations?
- If there is a performance problem, is it related to specific users?
- Do users become impatient and abandon loading certain Web pages?
- Does the Web application generate request errors?
- Can usage patterns be associated with performance of the site from different locations?

Precise for Web can help you find the answers to these questions and more. In a regular Web application or e-business site poor user experience can lead to poor customer service, bad publicity, low work efficiency, over staffing and increased employee costs. The Web application users experience is crucial to the success of your business.

Precise for Web can show you the user performance parameters captured at the end-user browser as well as the Web application performance parameters captured from the Web server side. It can sort them according to different categories and correlate them according to specific business transactions to provide you with an indication of their effect on business performance goals.

This helps you pinpoint where you should really invest your time and efforts into improving performance. Performance metrics by themselves are not enough. Understanding which performance problems are really affecting your business helps you to focus your resources into smart business decisions.

Components of Precise for Web

Precise for Web employs a client/server architecture that provides high performance Web application monitoring and tuning.

The figure below illustrates the typical architecture of Precise for Web.

Figure 1 Precise for Web architecture

Precise for Web consists of the following components:

- Precise for Web FocalPoint prepares the data for load and loads it into the PMDB. In addition the FocalPoint periodically samples Web server instances to check their availability.
- The end user's browser displays the monitored Web application. If Precise for Web is configured to collect client-side performance metrics, a browser agent which monitors the performance of the Web application from the client-side is loaded with the Web application pages.
- The Precise for Web Dynamic Instrumentation agent injects Java script callouts to the original Web content. The JavaScript is used to collect client-side performance data from the end-user browsers.
- A Precise for Web Server agent is installed on any monitored Web application instance that server-side performance metrics and statistics data is collected for.
- An Insight Savvy for Network is installed on the server of any monitored Web application instance that network performance metrics on the Web application instance is collected for.

- The Precise for Web Collector receives raw data from all of the Web server agents, the Web dynamic instrumentation agent, and the Network agent. The Precise for Web Collector correlates the different types of data and summarizes the data.
- PMDB.
- As part of the Precise product suite, Precise FocalPoint, Alerts FocalPoint, Report Manager FocalPoint, and Insight FocalPoint. Precise for Web is fully integrated with Precise products, allowing you to view Web application activity in Insight, receive alerts using Alerts, and examine Web applications activity reports within Report Manager. For more information, see the relevant product manual.

Precise for Web browser agent

The Precise for Web Browser agent, in the form of a JavaScript script, is installed on your Web pages and is sent to all end users. This agent collects Performance Data from the users' desktops and sends it to a Precise for Web Collector.

Precise for Web Dynamic Instrumentation agent

The Precise for Web Dynamic Instrumentation agent is responsible for injecting Javascript code, executed in end-user browsers, to collect client-side performance data. The Precise for Web Dynamic Instrumentation agent is composed of a filter engine which is installed on the monitored Web application instance and modifies the Web server response dynamically, just before it is sent to the browsers.

Precise for Web server agent

The Precise for Web Server agent is installed on the monitored Web application instance. The agent is a filter which is installed in the Web server and monitors URL activity and performance. In addition a process samples the Web server statistics and aggregates them into periods of 30-seconds. All the above data is transferred to the Web Collector using TCP protocol.

Insight Savvy for Network

Insight Savvy for Network is used to collect the network performance data of the Web application instance. For more information, see the relevant product manual. The data is transferred to the Web Collector for correlation with server-side data.

Precise for Web Collector

The Precise for Web Collector is installed on every machine that has one of the above-mentioned Web agents installed, including the Precise for Web FocalPoint.

The Precise for Web Collector:

- Receives all data collected by the agents on the machine it is installed on.
- Performs the basic processing.
- Correlates the different types of data and summarizes it.
- Creates files with the summarized data, that are later transferred to the FocalPoint machine for processing by the Data Loader.

Precise for Web FocalPoint

The Precise for Web FocalPoint is composed of two processes: a FocalPoint process and Data Loader process.

The FocalPoint service handles several unrelated tasks:

- Answering data requests from the GUI or other Precise products.
- Cooperating with the PMDB to load the data files prepared by the Data Loader.

The Data Loader loads collected data and prepares it for loading into the PMDB. The functionality of this process includes:

- Sampling Web instances periodically to determine their availability.
- Preparing data to be loaded into the PMDB.

How Precise for Web works

Browsers and Web application servers are the first and most common technologies used in today's Internet-enabled companies. The quality of a user's experience of a Web site, gauged by the response time, is a direct reflection of the company's commitment to customer relationship management and other similar business strategies.

Unfortunately, the business consequences of poor performance are greatest when the demand is at its peak. Precise for Web continually measures the business performance of a Web site by measuring key performance indicators and comparing those measurements against service level objectives.

Precise for Web provides detailed visibility into the performance of a Web application and the business transactions the application supports. The solution is leveraged to ensure the service provided to the Web application users is high-quality and the critical business opportunities supported using the Web application do not get disrupted.

Precise for Web provides customized data that can be collected from the client-side or from the server-side, such as the application user or any application title formatted in the Web page.

Precise for Web measures the real response time of end users to ensure the timely delivery of content to visitors. It tracks page views to determine the most active pages on the Web site, helping to prioritize areas for improvement.

Precise for Web measures the real response time of Web applications to provide pinpoint analysis of the problems that impact the end user. Using Precise for Web, you can prioritize problems not just by the fact that they occur but also by how severely they impact important business transactions.

Using Precise for Web, you can define and monitor service level thresholds to ensure customer satisfaction and retention. Precise for Web also tracks, abandons and requests errors to quickly determine potentially lost business and help prioritize redesign efforts.

Using Precise for Web, you can group users into geographic locations and connection types (high speed or dial-up) to provide the information needed to isolate the root cause of performance degradation. Also using Precise for Web, you can view the activity divided by the users that performed it.

About improving your Web-based business

Improving the quality of experience for Web application users requires the collection of key performance indicators (KPIs) to attract and maintain customers. Business models that leverage Web applications need to be continually monitored, and these KPIs are leveraged to ensure profitability and maximum return on technology investments.

Performance visibility over time is required to increase business efficiency and prioritize future investments. Knowing where to focus resources and the impact they will have on the bottom line provides the intelligence required to increase customer satisfaction and loyalty.

Providing a positive experience to users leads to higher work efficiency, shorter sales cycles, and ensures that business goals and user satisfaction goals are met.

Customer Relationship Management (CRM) using the Web depends heavily on a Web site's stickiness and its ability to provide self-service capabilities to customers. While this 24x7 customer interaction opens alternative business opportunities, it also creates challenges for ensuring business efficiency.

Metrics related to Web site performance can measure the success of funneling customers to this alternative support channel, but success can only be displayed if transaction volume and response time are among the metrics that are tracked.

Comprehensive visitor analysis is required to determine the effectiveness of Web-based content. Precise for Web allows you to track the behavior of individuals and groups, providing critical business information.

About streamlining your Web-based business

Focusing on the customer experience improves the relationship between the service provider and the user. Understanding the response time on a mission-critical business transaction provides a "report card" on how well customers are being serviced and their probability of retention.

Web sites will continue to play an increasing role in today's business strategy. Measuring KPIs of Web sites provides data to ensure faster, smarter decisions and maximum profits.

Recognizing inefficiencies is the first step in making improvements. Precise for Web delivers a methodology for identifying inefficient business processes as well as the ability to drill down and pinpoint the root cause of performance degradation.

What you can do with Precise for Web

Use Precise for Web to detect, diagnose, and resolve performance problems in your Web applications. Precise for Web helps you build performance metrics based on performance data gathered at an end-user desktop and/or at the Web server. The metrics can be correlated with the sites business goals to verify that improvements and related expenses are prioritized by their impact on the business.

Where to get more information

More information on Precise, its products, technical notes, and so on, can be found in the Release Notes document for this version.