

OpTier Experience Manager™

Moving from end-user experience
monitoring to experience management

Product white paper

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Introduction

Organizations are increasingly tracking service availability and response times in order to understand the level of performance that end-users are experiencing. They need to turn this data into actionable information that will allow them to identify and resolve performance issues in a timely manner, before business users are impacted. In order to achieve this goal, organizations need not only the ability to monitor the performance of applications from the end-user perspective, but also full visibility into the flow of transactions across every middle and back-end tier. This paper discusses the top challenges that IT teams are encountering when trying to ensure optimal experiences for end-users, systems and services within the entire organization. It highlights the capabilities that organizations need to have in place to be more effective when addressing these challenges.

Market overview

The need for end-user monitoring

Inability to identify and resolve performance issues before end-users are impacted

Many organizations face a gap between the performance metrics that IT management teams can capture and the actual performance that end-users experience. Often, performance dashboards will show that all services are being delivered at optimal levels of performance, but users may still not be satisfied with that performance level. In that case, the only way that IT teams really learn about performance issues is through complaints from end-users. However, most end-users are unlikely to contact their IT team every time they experience problems with accessing critical data. This leads to a visibility gap between these two groups that can significantly impact employee productivity and disrupt business processes.

“74% of problems reported by the end-users through the service desk are not detected by infrastructure management.”

Jean-Pierre Garbani
Vice President, Forrester
Research, “Managing IT
From The End User

Organizations are increasingly moving away from solely using metrics, such as time to troubleshoot performance issues or mean time between failures, when they are trying to become more proactive in evaluating their performance and dealing with performance issues. How long it takes to identify that there is a problem is important, but how long it takes for service to be restored is even more important. Additionally, organizations are starting to take the next step in managing application performance by putting processes and technology in place to allow them to identify and resolve performance issues even before end-users are impacted. After

degradation in application performance impacts business performance, it is already too late. Organizations need to equip their IT departments with appropriate tools to allow them to be more proactive and resolve potential performance issues before they impact business users.



Inability to measure business impact of performance issues

Organizations are increasingly realizing that issues with availability and performance of enterprise applications impact their bottom lines. Assessing the business impact of application performance issues allows IT to prioritize and make educated decisions about necessary actions to improve the performance of their infrastructure and applications. Additionally, it allows organizations to calculate and monitor ROI from purchasing technology solutions for managing applications and infrastructure. However, the majority of organizations struggle when trying to measure this impact. Due to an inability to monitor the quality of end-user experience, many organizations still find it difficult to gain visibility into how many users are

being impacted by application performance issues, what business processes are being disrupted, or how performance issues are impacting revenue growth, customer satisfaction, and cost effectiveness.

“Performance management is about trying to find the root cause of poor performance, such as availability of a Web site or response time.”

Inability to isolate the root cause of performance issues

Many organizations are still struggling to identify whether their application performance problems are caused by the network, server, or application itself. Inability to break down response times for each transaction into these three segments often leads to “finger-pointing” between different teams within the IT department and increases the time needed to troubleshoot and resolve performance issues. This results from a lack of tools for monitoring the entire transaction flow and, therefore, organizations are not able to understand how networks and servers individually are impacting the delivery of applications.

ComputerWorld

Get to the Root of a Performance Problem with Scorecards, June 11, 2009

Inability to analyze and trend application usage

In order to successfully implement their experience management initiatives, organizations need to look beyond just the speed and availability of applications, gain an understanding of how application are being used, and be able to capture data about user behavior and frequency of usage. A combination of performance metrics such as application and transaction response times, usage metrics, and session abandonment rates enables organizations to eliminate the visibility gap between IT departments and business users and to be more effective when measuring the business impact of application performance issues.

Issues with existing end-user monitoring solutions

In many cases, vendors will pair end-user experience monitors with traditional application performance management (APM) tools. While these APM tools are useful for troubleshooting a particular tier (e.g., Java code, database), they do not provide always-on visibility into the full transaction path to complement the end-user visibility provided by end-user experience monitors and to isolate the problematic tier on which an APM tool should be engaged. The result is that APM tools are sometimes engaged for a lengthy “deep dive” investigation of an application tier when the real problem is in a different tier entirely.

Organizations are beginning to realize the importance of real-time monitoring of the entire transaction path for each transaction that goes beyond the end-user. This type of approach



allows them to take the correct actions to resolve any potential problem before end-users are impacted by them, and, therefore, to be more proactive when delivering services to business users. Combining solutions for transaction monitoring with capabilities for monitoring the quality of end-user experience would greatly increase the value of both groups of solutions to end-user organizations.

Introduction to experience management

Existing approaches to end-user experience monitoring

Currently, organizations aiming to improve the effectiveness of monitoring the delivery of IT services to business users have five different classes of technology from which to choose: 1) Synthetic transaction monitoring; 2) Client-based monitoring; 3) Instrumentation based end-user monitoring; 4) Appliance-based passive end-user experience monitoring; and 5) Software-based passive end-user experience monitoring. Below is a brief overview of each of these techniques.

The synthetic monitoring approach (also known as active monitoring) is based on simulating transactions by using synthetic agents that are periodically being sent to application servers and then record their response and measure their response times. To minimize the overhead and potential service disruption to the real business users, synthetic transactions are sent in intervals (typically once every 15 minutes) rather than continuously. This approach does not measure performance based on monitoring actual transactions, but creates “fake” transactions to estimate the actual quality of end-user experience. These solutions are relevant for verifying availability of services for applications that are not used on an on-going basis and can be pinged for health in idle times.

Client-based monitoring solutions are installed on end-user devices and collect application performance data as experienced by the user of that specific device. This data is sent to a centralized repository where it is aggregated and analyzed and can be accessed by IT management teams. A similar approach is instrumentation-based end-user monitoring, which is a technique that uses performance monitoring scripts that are injected into web pages to measure the quality of end-user experience. Even though these two approaches are effective in monitoring application performance and user patterns, they are intrusive techniques that may be difficult to maintain in the long-term.

Another approach for monitoring end-user experience is passive monitoring (also known as real user monitoring). Solutions for passive end-user experience monitoring, which can be software-based or appliance-based, monitor real transactions in real-time by recording, aggregating, and analyzing data being sent across the network. These solutions collect performance data by “sniffing” data packets being transferred over the network and recording this information to a centralized repository.



The key difference between these approaches in the terms of value that they deliver to end-user organizations comes from the usability of the performance data they provide. Data provided by passive monitoring solutions is typically more accurate, as it comes from monitoring actual transactions as opposed to simulating performance by creating synthetic transactions. More importantly, most of these approaches are limited to monitoring the end-user experience and alerting organizations when performance falls below pre-defined

“IT decision makers need more sophisticated end-to-end application performance visibility and analysis to keep up with increasingly dynamic IT environments. OpTier’s efforts to link end-to-end transaction monitoring with end-user experience analysis directly target this emerging set of IT management requirements.”

Mary Johnston Turner
Research Director for
Enterprise Systems
Management Software at IDC

baselines, but they lack the capabilities for in-depth analysis of the root causes of performance failures. As organizations attempt to identify and resolve performance issues before they impact business users, they need to take a more holistic approach that includes capabilities for monitoring the end-user experience as well as robust capabilities for identifying specific parts of their enterprise infrastructure that are causing these problems.

OpTier Experience Manager™

Capabilities

OpTier Experience Manager is an always-on passive (i.e. agent-less) monitoring software product that provides visibility into application availability, response times and end-user behavior. It offers historical analysis and trending of transaction usage by users, geographies, and groups enabling IT to continuously monitor and proactively assure optimal user experience.

OpTier Experience Manager allows organizations to not only measure IT related metrics from the end-user perspective, but also to understand how performance issues impact their organization’s business performance. This can be done through advanced dashboards that provide information about cost per transaction, number of users impacted, their locations, and the number of failed transactions for each business process.

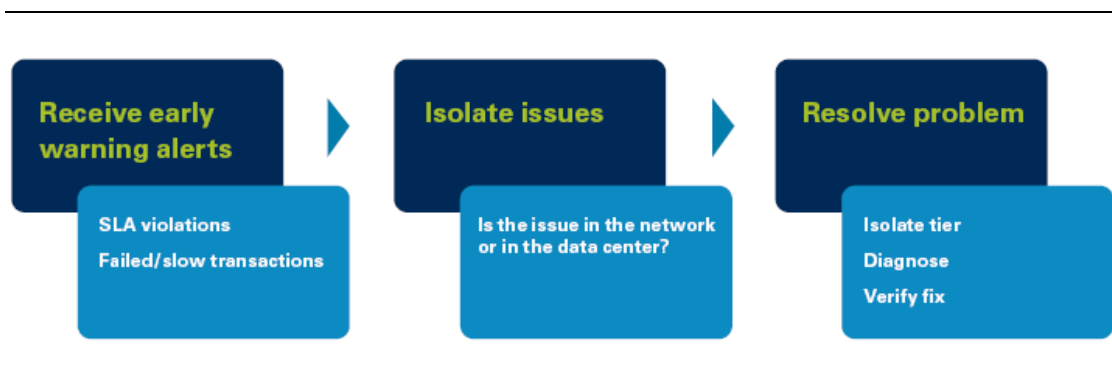
Additionally, OpTier’s Experience Manager measures application performance and compares the actual performance to Service Level Agreements (SLAs). It issues alerts when performance falls under pre-defined SLAs. The product enables organizations to not only compare identify transactions that are not meeting pre-defined thresholds, but also to gain visibility if the delay in response times is being caused by the network or servers. That can drive some measurable business benefits for IT teams, as it eliminates “finger-pointing” between different IT teams and allows organizations to do initial triage to determine if the source of the problem is in the network or an application tier.

OpTier Experience Manager is deployed as a software solution on a server connected to a network tap or SPAN port and monitors all HTTP/HTTPS packets across the network. This packet information is aggregated with other information sources (e.g., log files and page tags) to provide a complete view of the end-user experience.

End-to-end Business Transaction Management

Even though OpTier Experience Manager provides valuable capabilities as a standalone product, the value of this solution significantly increases if it is used in combination with the company's flagship product, OpTier CoreFirst®, the industry leading Business Transaction Management (BTM) solution for data center transaction visibility. The seamless integration of award-winning OpTier CoreFirst with OpTier Experience Manager creates OpTier BTM™, the first end-to-end solution for both end-user monitoring and transaction management.

OpTier BTM enables organizations to gain visibility into every transaction from the end-user through every tier of the data center. It enables organizations to go from identifying the existence of a problem to assessing the problem scope and probable cause in just two clicks.



The true value of end-user experience monitoring solutions is derived from their ability to provide actionable information that can help organizations mitigate the risk of deterioration of business services delivery. The combination of OpTier Experience Manager and OpTier CoreFirst enables organizations to achieve their number one goal for application performance management: identify and resolve performance issues before end-users are impacted. Having a single interface for receiving early alerts when there is a potential threat to the quality of the end-user experience, determining if the problem is network or server related, and quickly isolating the problem by time, tier, transaction and affected users, is a recipe for more proactive application performance management.

The first true BTM solution for experience management

The combination of OpTier Experience Manager and OpTier CoreFirst provides organizations with an opportunity to leverage an integrated solution that allows them to take their BTM capabilities to the next level. As a result, for the first time organizations are able to monitor end-user experience for each business-critical transaction while still being able to drill-down to each infrastructure tier. Measurable operational benefits of taking this type of approach include: higher success rate in preventing performance problems before business users are impacted, reduced mean time to repair performance issues, improved effectiveness and efficiency of IT management teams and reduced risk in rolling out new applications and new releases. More importantly, this approach helps organizations improve their business performance as measured by metrics such as reduced cost per transaction, optimized cost of



enterprise infrastructure and mitigated lost revenue opportunities, as well as improved customer satisfaction, employee productivity and brand image.

Vision for the experience management market

The market for end-user experience management technologies is rapidly changing as a result of the following trends:

- End-user expectations are changing and users are increasingly expecting faster applications that are available nearly 100% of the time.
- There is a significant increase in the number of services that IT must deliver in an efficient manner, delivered via a variety of clients (e.g. mobile, desktop) and application types (e.g. Flex).
- The beneficiaries of these services are increasingly not end-users, but other online service consumers (e.g., Web service consumer, virtualized clients, cloud service consumers, FIX protocol services) especially with the advent of SOA, virtualization and cloud computing.
- Measuring the business impact of the quality of the end-user experience is becoming increasingly important for end-user organizations.

OpTier is addressing these changes in the market through its focus on Experience Management as the successor to traditional end user experience monitoring.

Summary

End-user experience monitoring solutions deliver value to organizations by providing dashboards and alerts to notify IT staff when there are issues with availability and speed of applications. However, these solutions are not as effective in identifying parts of the enterprise infrastructure that are causing the problems which makes it difficult to troubleshoot and resolve performance issues.

In order to be effective in managing experience, organizations need to take a holistic approach that starts with proactive management of the end-user experience and includes capabilities for managing the experience for each business-critical transaction across multiple infrastructure tiers.

Leveraging an end-to-end business transaction approach to experience management enables organizations to collect actionable performance information for each transaction and significantly reduce the time needed to identify and resolve performance problems.



About OpTier

Of the billions of business transactions conducted every second, more are assured by OpTier than by any other IT management software company.

OpTier's Business Transaction Management solution (OpTier BTM™) enables business application owners to take control over service performance and availability. OpTier BTM assures the quick and successful execution of all business transactions, by managing every step of every transaction. It delivers unparalleled visibility of all business transactions in order to eliminate outages, effectively manage change and improve end-user experience. OpTier, with a fast-growing list of Global 2000 customers, pioneered the concept that transactions are where IT and business meet.

