

# TrueSight App Visibility Manager

Go beyond mere monitoring.



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## EXECUTIVE SUMMARY

We live in an always-on world. We are quick to adopt new technology, quick to increase our baseline expectations of service delivery and quick to abandon technology that is slow or unresponsive.

This is a critical shift for IT. Businesses must be able to provide users with rich, integrated and instantly available services. This means ensuring that they have insight into their applications behavior and the ways that users experience them.

## IT LANDSCAPE TRENDS AFFECTING APPLICATION PERFORMANCE

### The Mobile Consumer Mindset Drives Modern User Experience

There are 10 billion connected devices today; by 2020, that will double to 20 billion devices representing a whopping \$1.2 trillion dollar market.<sup>1</sup> This mobile-consumer mindset has created significant challenges for IT today. Seventy-one percent of IT leaders understand that mobile is transformational for their business strategy. But only 18% of those leaders have a comprehensive strategy to deal with it.<sup>2</sup>

The user expectation for easy, instant services has bled over from mobile applications to all applications. Website, browsers, and mobile apps are all held to the same high standard of instant updates, speed, and simplicity.

It is not only fast response times that drive user-expectation; seamlessness is also a key component. This is so ingrained in our day-to-day lives that we hardly notice it. This level of integration is expected, and that highly consumer-centric mindset carries into the B2B space.

The level of integration required to make our business interactions mimic the ideal consumer experience drives innovation and complexity. As the number of touch points increases so do the potential points of failure.

### The Situation

IT operations management and application developers are tasked with delivering services instantly and navigating the increasing complexity and potential points of failure. The landscape is changing, and IT must respond or risk the business missing the market or outsourcing IT.

<sup>1</sup> <http://mobilefuture.org/resources/lets-talk-connected-devices-infographic/>

<sup>2</sup> <http://www.zdnet.com/blog/sap/infographic-the-three-things-confounding-cios-going-mobile/3217>

## APPLICATION PERFORMANCE MANAGEMENT

Application Performance Monitoring (APM) is the first step in managing this complex IT environment. APM monitors and manages the performance and availability of applications to deliver ideal levels of service. This technology allows IT to collect real-time and historical data to give users a clear map of their applications and all the dependencies inherent to those applications.

### Dimensions of APM

Gartner identifies five core tenets in their APM Conceptual Framework.<sup>3</sup>

- Active and passive end-user experience monitoring
- User-defined transaction profiling
- Reporting and application data analytics
- Application component discovery and modeling
- Application component deep-dive modeling

## BEYOND APPLICATION PERFORMANCE MONITORING

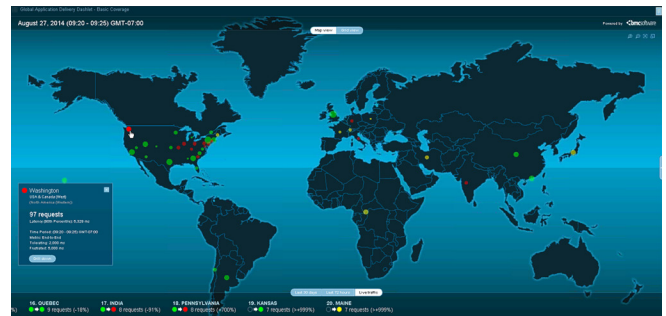
BMC TrueSight App Visibility Manager delivers real IT value in each dimension of APM. TrueSight tracks and measures user activity at the individual or location level—on premises or off. TrueSight keeps users happy and applications healthy, without the unnecessary noise.

- Monitor the performance and availability of web applications in real time
- Monitor synthetic transactions to predict application health and user experience
- Monitor application health and performance
- Diagnose and resolve application, performance, and availability problems
- Generate reports to ensure that service level agreements (SLAs) are being met and to investigate performance
- Run historical queries based on local and exported data

## END-USER EXPERIENCE AND USER TRANSACTION PROFILING

End-user experience is the first core tenet in the APM Conceptual Framework for a reason—it is hands-down the most important. Modern APM solutions must abandon the data-center-centric mindset that looks at the health of component parts instead of the overall application experience. Business depends on end-user experience, and end-user experience is a holistic sum. IT must identify and invest resources in the problems with the greatest impact to overall end-user experience and ultimately the bottom line.

The end-user experience management capability within TrueSight App Visibility Manager delivers end-to-end performance monitoring and management of physical, virtual, or cloud-based web applications to provide a true view of the end-user experience. TrueSight captures and securely stores web activity for every user session, including every page, object, error, and all associated timing. This helps IT ensure the quality and availability of web-based applications, determine whether applications meet service-level objectives, and proactively find and fix problems.



### With TrueSight App Visibility Manager, IT can:

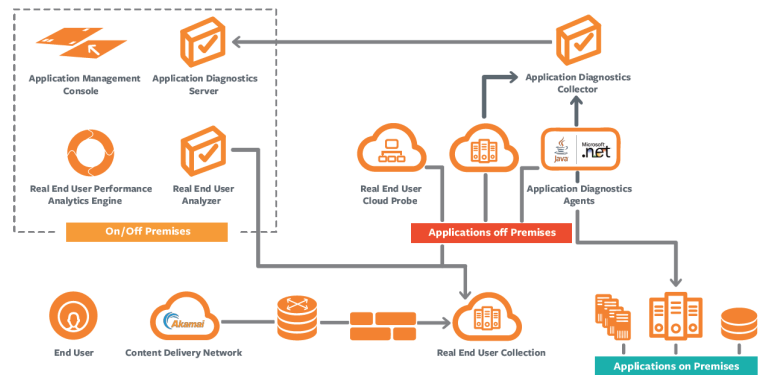
- Ensure customer satisfaction by proactively monitoring web application performance and availability from the end-user perspective
- Identify web application problems before customers call for help
- Diagnose and restore services faster
- Predict the performance of a web application prior to deployment
- Measure service levels

<sup>3</sup> <http://www.apmdigest.com/gartners-5-dimensions-of-apm>

BMC helps IT understand what users are actually experiencing in real time. TrueSight allows IT to gain instant visibility into web applications with views into service-level performance, incidents and errors, and performance metrics with geographic drill-down capability. By combining real-time end-user visibility with behavior-learning analytics, IT can detect problems faster and prioritize issues based on service levels and impacted users. TrueSight easily flexes to accommodate increasing numbers of data centers, increases in traffic, and increases in the number of applications under management.

Application complexity and user demands are driving increasingly complex infrastructure to support them. TrueSight App Visibility Manager covers the entire IT environment regardless of infrastructure composition. Infrastructures often include a blend of traditional network infrastructure, physical and virtual infrastructure, and private cloud. TrueSight provides integration into best-of-breed backend solutions and cloud application monitoring solutions to support complex IT environments.

Across this multifaceted infrastructure, complex applications and middleware are transacting data, users are interacting, and IT is watching. End-user visibility combined with the right level of application and infrastructure monitoring and analytics for complex event processing gives IT the insight to rapidly pinpoint problems and restore service faster.



## HOW DOES END-USER EXPERIENCE MANAGEMENT AND MONITORING WORK?

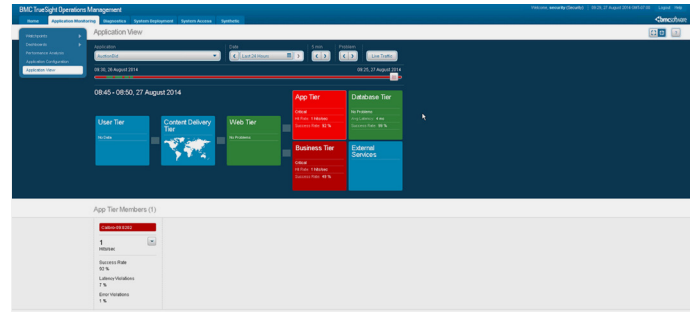
TrueSight App Visibility Manager performs transaction profiling by looking at the real-time users that are on the site. It allows IT to watch them transact and gives first-hand visibility into what performance or availability problems they are having, what errors they are receiving, and how service is being delivered. By watching the end user, IT can use that information to construct an understanding of what is happening to applications and infrastructure.

**With end-user experience monitoring implemented, IT operations can perform the following functions:**

- Monitor the end-user experience and prioritize issues based on end-user impact
- Monitor traffic, availability, and performance of web applications
- Monitor application health and performance
- Monitor synthetic transactions to predict application health and user experience
- Detect and diagnose the root cause of problems
- Generate reports to ensure that service level agreements (SLAs) are being met
- Run historical queries based on exported data
- Diagnose application problems and trace end-user experience problems to the application
- Monitor application infrastructure performance through integration with TrueSight Infrastructure Management

## REAL WORLD BUSINESS VALUE

Imagine monitoring the activity of an e-commerce application. TrueSight allows IT to watch the user interactions across the wire and establish a baseline based on that activity. This baseline shows the band of normalcy for the site with respect to time and covers multiple measures such as performance, number of errors, volume, etc. When behavior falls outside the baseline, TrueSight detects the incident. That incident is isolated and IT can drill down to see which users are impacted. In order to make the best business decision, IT needs to understand the magnitude. Is this an isolated incident? Is it systemic? How should resources be allocated to deal with the problem? This is especially critical in agile environments. TrueSight can be used to create release-specific baselines. Each time code changes, TrueSight measures how end-users interact with those changes, whether those changes caused unexpected service issues, and the resulting improvements in performance and availability as the agile development process progresses. IT can launch in context and drill down into user information, run reports, and send out tests.



End-user experience management and monitoring is a comprehensive way to verify actual impacts within the IT environment and TrueSight provides all these capabilities in a single platform.

## SYNTHETIC END-USER EXPERIENCE MANAGEMENT

TrueSight allows IT to manage and monitor end-user experience in a couple of ways. The first is a synthetic transaction approach. Imagine that a synthetic transaction is like a robot. This robot has a pre-defined script that completes a transaction in a fashion that we could expect a user to do. Then TrueSight monitors and measures the domino effect across the entire application within the production environment. Synthetic transaction monitoring is used to predict application health and user experience. This approach is excellent for quality assurance scenarios. It gives IT the ability to test for unforeseen issues when implementing things like new code or infrastructure changes. It also gives IT an idea of the general performance and availability of the application and the components it touches.

Borland Silk Performer for BMC TrueSight Operations Management provides synthetic transaction monitoring for predicting application health and user experience. Synthetic transactions are based on the execution of scripts that simulate user transactions. TrueSight manages the performance and reliability of applications by executing complex business transactions and monitoring performance and functional behavior. Synthetic transaction monitoring enables the business to proactively check service level agreements (SLAs) and receive notification of a breach before the end-user is impacted.

**TrueSight supports the monitoring of business transactions for enterprise applications that are based on technologies such as the following:**

- Web (HTML)
- Client -server databases
- Java EE applications
- .NET Framework applications
- Web services
- ERP and CRM applications

## REAL END-USER EXPERIENCE MANAGEMENT

Synthetic capabilities are very useful, but they cannot be relied on as a sole measure. A synthetic approach will always make assumptions about what end-users will do. There is a singular truth about end-users. They will always do something unexpected. They will always try and use an application in a way for which it was not designed. The good news is this behavior drives better application development. The bad news is, it causes errors and degraded user experience in the meantime. For this reason, it is essential for IT to have visibility into real end-user transaction data.

TrueSight delivers this visibility by capturing real-world traffic in real-time. TrueSight then displays that information in clear visualizations that show geographically where impacts are occurring and where in the stack application performance is faltering.



### What is real-time, end-user experience monitoring and how does it work?

TrueSight real end-user experience monitoring uses packet capture analysis to passively watch actual transactions from real users as they interact with a web application across physical and cloud environments, the internet, corporate networks, and content delivery networks (CDNs). TrueSight App Visibility Manager delivers accurate, real-time transaction and detection information about sessions, applications, and content levels.

A Real User Collector captures user sessions in real time, and a Real User Analyzer reports on errors and slow performance through the TrueSight application management console to help IT fix problems when they occur.

### What does the system watch?

The system monitors web traffic (a data stream across a digital network between a client computer and a web server). In web-based applications, the user's browser software sends requests to a web server by using HTTP or HTTPS. The web server responds with the pages, images, and other documents the browser requested. The result of these individual requests is a web page.

### What does the system report?

TrueSight real end-user experience monitoring creates web application metrics from the web traffic data collected, identified, and used in analysis. IT can directly query the metrics or drill down to the metrics through dashlets, watchpoints, reports, and session analysis. For example, the Application Performance Reporter dashlet shows the network performance of web applications over a specified period of time. It shows the areas where end-users are experiencing poor performance due to high network usage. This information can help to identify areas where web application performance can be improved by using content acceleration services.

TrueSight App Visibility Manager enables extended performance reporting and analysis. Extended Reporting is an optional component that provides additional analysis capabilities and reporting derived from TrueSight real end-user experience monitoring performance metrics. With extended reporting, TrueSight delivers reports designed to address the needs of business owners or other technical stakeholders in the organization.

Application Name	Last 24 hours		Last 7 days		Last 30 days	
	Network Utilization %	Transfer Rate Mbps	Network Utilization %	Transfer Rate Mbps	Network Utilization %	Transfer Rate Mbps
All-Pages	87.37	0.25	87.52	0.25	87.53	0.25
Browser: Chrome	N/A	N/A	N/A	N/A	N/A	N/A
Browser: Firefox	83.05	0.41	82.97	0.41	82.84	0.41
Browser: Internet Explorer	88.37	0.24	89.48	0.25	89.48	0.25
Geo: Asia	88.20	0.10	88.33	0.10	88.33	0.10
Geo: Europe	86.93	0.11	86.93	0.11	86.93	0.11
Geo: United States	87.84	0.21	87.35	0.21	87.38	0.21

Application Performance Reporter dashlet

## APPLICATION COMPONENT DISCOVERY AND MODELING

End-user experience management and user transaction profiling give IT the ability to discover breakdowns in performance and availability of applications. The next step is uncovering the software and hardware components that are touched in the transaction so that IT can begin troubleshooting the root cause.

TrueSight App Visibility Manager actively seeks out these components down to the most granular level. This includes mapping the servers and operating systems. TrueSight has intuitive drill-down capabilities that allow IT to zoom in and out for the needed level of detail.

TrueSight application diagnostics proactively detect and isolate application performance issues from the end-user perspective before they negatively impact business reputation and revenue. These diagnostics reduce the time, effort, and operational cost involved with monitoring dynamic applications by providing both IT and the business with real-time insight into application performance and its impact on user behavior.

TrueSight provides a common application diagnostics platform that shows the appropriate detail at the operations level, support level, and developer level.

TrueSight can drill down into individual tiers, or delivery components, such as Java, .NET, middleware and even database information. The solution is granular enough to drill down to the line of code and the method call that could be causing an issue.

### TrueSight application diagnostics provide information for the following performance indicators:

- Application availability issues (up time and down time)
- Poor response times (general latency)
- Stalled requests (deadlocks and timeouts)
- Capacity and leak issues (CPU, memory, thread watermarks)
- Code faults (reports of infrastructure failures, including stack trace)
- General usage (hits)
- Overall service levels (good and bad ratios)
- Application component dependencies (flow exit points and framework execution)
- Normal application flow path performance (call-tree metrics and baselining)

TrueSight App Visibility Manager provides insight into application performance issues from an end-user perspective. By monitoring application health and performance, administrators can isolate and detect issues in applications for failed or slow transactions by isolating the offending tier and even the line of application code.

This dynamic map is built into the backend. This means that as IT is watching transactions, areas of sensitivity become easily visible. This is incredibly valuable. This capability pinpoints the impacted components so that IT can assign the right team to fix the problem—whether this be the operations team, the Infrastructure team, or the application development team. It is a clear vehicle of communication for resolving issues and returning to service quickly.





## NETWORK MONITORING

TrueSight even scales beyond the component level to monitor the network. Network monitoring is included in TrueSight Operations Management through our exclusive partnership with Entuity. Entuity for TrueSight Operations Management is an all-in-one network management product for enterprises, cloud and managed service providers, and system integrators.

Built on an intelligent, elastic architecture, Entuity creates a layer of abstraction between users and the underlying architecture, shielding them from the complexities of managing servers, interconnections, and databases for a virtual view of the network. Though not part of TrueSight App Visibility Manager, this product utilizes APM-triggered event data when used with the broader TrueSight Operations Management solution.

## REPORTING AND APPLICATION DATA ANALYTICS

A good APM solution provides a single truth. By collecting a wide breadth of data and reporting on that data with clear, user-friendly visualizations, TrueSight App Visibility Manager eliminates guesswork. Instead of relying on the narrow health metrics of domain specific tools, TrueSight aggregates that data to pinpoint problems so that IT can restore service faster.

TrueSight reports on application monitoring and management metrics across the entire enterprise and provides a customizable dashboard. These dashboards are interactive, allowing IT to see a trend and drill down to find more granular information.

## CONCLUSION

TrueSight App Visibility Manager goes beyond application performance monitoring to provide comprehensive insights into the user experience. In addition to tracking and measuring user activity at the individual or location level—on premises or off—it filters data to ensure IT has the information it needs without the unnecessary noise.

TrueSight App Visibility Manager analyzes multiple factors across user sessions, automatically pinpoints anomalies, and isolates performance issues by user, network, or host time. IT has visibility into applications from a single user, a specific transaction, or an entire customer group or location. This drives comprehensive and granular diagnostics, capacity planning, change management, and service level management. All of this ongoing monitoring across all application tiers is reported in a single, intuitive interface. TrueSight achieves all of this without the need for an additional deep-dive tool.

TrueSight App Visibility Manager is a complete application performance management solution. No matter where applications are hosted, this approach delivers real-time, end-to-end visibility from an end-user transaction to a single line of code. Gain real-time, real-user application performance monitoring purpose built for IT operations to detect and analyze user experience issues.

BMC delivers software solutions that help IT transform digital enterprises for the ultimate competitive business advantage. We have worked with thousands of leading companies to create and deliver powerful IT management services. From mainframe to cloud to mobile, we pair high-speed digital innovation with robust IT industrialization—allowing our customers to provide amazing user experiences with optimized IT performance, cost, compliance, and productivity. We believe that technology is the heart of every business, and that IT drives business to the digital age.

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