Riverbed
SteelCentral

Managing Your Digital Experience
Today is the era of digital business. Digital capabilities and IT were the top two CEO investments in 2016 and the percentage of enterprises creating advanced digital transformation initiatives will more than double by 2020.

Digital business is driving a convergence of people, business, and things that is unprecedented. It’s disrupting traditional business models—and the traditional technologies that support them. This convergence, from the human point of view, is called digital experience.

Managing digital experience is critical to business success going forward. By 2020, at least 30 billion end-user devices will be connected to the Internet. CEOs expect their digital revenue to increase by more than 80% by 2020 while 89% of businesses expect to compete mainly on customer experience. Lack of breadth for application support.

And yet—most companies lack the tools, techniques, and training for effective digital experience monitoring (DEM). Gartner research shows that only 5% of global enterprises have strategically implemented DEM technologies. More than a third (34%) of CIOs identify a gap in IT skills as the primary barrier to achieving their objectives, especially skills needed for new real-time data scenarios and advanced analytics.

Ineffective DEM can be very costly:

- 78% of all organizations are experiencing some inconsistency with their digital experience quality
- 60% of business leaders indicate poor digital experience quality leads to a noticeable drop in productivity of at least 31%
- An e-commerce site slowing down by just one second can cost up to $1.6 billion in annual sales
- A typical broker loses $4M in revenues per millisecond when their trading platform is 5 milliseconds behind their competitor

Digital business: people, businesses, and things (machines) digitally communicating, transacting, and negotiating with each other.

Digital Experience: the human experience of a user interacting with digital enterprise applications, and services.

Digital Experience Monitoring (DEM): the performance monitoring discipline focused on optimizing the human experience as the user interacts with digital applications, and services.
Digital experiences are, of course, enabled by underlying technologies. Thus, the quality of digital experiences is determined by the performance of those technologies, both separately and as they interact together in a complex chain of events.

Digital services are only as strong as their weakest link. Applications and digital services comprise a complex chain of interactions spanning applications, data, networks, infrastructure components, and devices.

All the parts of an application are links in the chain, and these links must mesh seamlessly across a complex, hybrid IT environment, which is partly in the cloud and partly on-premises with connectivity provided by a mix of private and public networks.

Any grain of sand in the gears, any tiny flaw in the infrastructure—from server failure, to issues within the software code, to a problematic database, to network latency, to user device compatibility—can slow the application down or cause it to fail completely. There are many potential causes of poor digital experiences (figure 1).

Enterprises, however, are ill-equipped to troubleshoot poor digital experiences. The war-room approach to performance issues is still common. As a troubleshooting exercise, war rooms are, by nature, reactive. As a result, companies set up war rooms to solve application performance problems that can’t be quickly fixed.

A cross-domain team of IT engineers responsible for network performance, app performance, and end-user experience come together to collaborate in getting to the root cause of the issue. The trouble is that each of these domains typically has its own set of performance management tools, which provide only fragmented visibility. The end result more often is finger-pointing from silo to silo as each domain seeks to establish its innocence. “It’s not my domain’s issue, so it must be yours”
SteelCentral Solution

To solve the challenges of delivering great digital experiences over complex infrastructure components, you need universal visibility. There are two steps to achieve this:

Collect and analyze all data

From all domains, all the time. Integrated visibility architecture that combines and unifies performance monitoring across the end-user, network, infrastructure, and application domains. SteelCentral is the only solution that provides this level of comprehensive coverage.

Integrated visibility spanning your entire application and service delivery architecture is the only way to address all of the potential problem sources and ensure high-quality digital experiences.

Provide an integrated view

Improve digital experience performance by blending end-to-end performance monitoring data and analytics from different domains in a common user interface to make it easy to share and tailor among various technical disciplines and stakeholders, and to drill down into any performance issue both reactively and proactively. SteelCentral combines breadth of monitoring and depth of analysis, presented in custom views according to role (figure 2).

Great digital experiences require the seamless orchestration of devices, networks, infrastructure, and applications. Achieving this goal requires universal visibility, and that can only be achieved with integrated performance monitoring end-to-end across the enterprise, presented in ways that are easily actionable for any role via a single pane-of-glass.
This comprehensive, integrated, approach delivers several key benefits for enterprise Digital Experience Management:

- Capture all data and transactions from all end-user devices, networks, infrastructure, and applications at a granular level for faster and more effective root-cause analysis. Devices and applications can vary widely, yet everything in the environment must be supported
- Provide fully integrated performance insights, blending and correlating analysis from all domains to provide a one-stop solution for managing the entire digital service

- Detect and fix problems before they impact the business with insights designed to guide fixing, optimizing, and prioritizing application and network performance for hybrid networks and SD-WAN architectures
- Measure, understand, and remediate business impact of poor application performance that leads to poor digital experiences
- Provide role-specific insights for each stakeholder via custom dashboard views, consumable by non-technical line-of-business managers as well as technical professionals

SteelCentral Solution Components

SteelCentral is an integrated and modular solution—it can be used to provide a holistic digital experience management while any component (figure 3) can be used independently, to solve domain specific problems. This allows investment protection as solutions can be extended at any time to provide additional breadth, depth, and capacity.

![SteelCentral Solution Components](image)

*Figure 3 SteelCentral components.*
End-User Experience and Application Performance Monitoring

SteelCentral Portal
SteelCentral Portal blends data from all SteelCentral components and provides a centralized, dynamic view of an enterprise’s digital experience and application performance environment.

This holistic view gives operational teams a single source of truth for end-user experience and application performance, accelerating troubleshooting, and providing meaningful data for stakeholders throughout the enterprise.

SteelCentral Aternity
Aternity monitors the end-user experience of every enterprise application, running on any physical, virtual, or mobile device. Aternity enables users to rapidly diagnose and resolve end-user issues and optimize the productivity of tech-dependent workforce.

Aternity’s user-centric approach enables enterprises to detect performance issues by learning and analyzing user behavior in real-time, resolving performance problems faster, and attaining the service levels demanded by the business. Aternity is available via SaaS or on-premise.
SteelCentral AppInternals
AppInternals monitors applications to give users application performance visibility and provides powerful analytics to help you improve application performance, user experience and business impact.

AppInternals traces every transaction from end-user device or browser, to the application back-end, while capturing second-by-second system metrics in production environments. This gives users multiple perspectives into end-user experience, demographics, and application performance, along with convenient workflows for root cause analysis and problem discovery.

SteelCentral AppResponse (Application Monitoring)
AppResponse provides powerful, flexible network and application analytics and workflows to speed problem diagnosis and resolution. Functional immediately out of the box with pre-defined insights and a rich variety of performance metrics, SteelCentral AppResponse helps you get answers fast. It combines application analytics and end-user experience monitoring in a single solution so you have everything you need at your fingertips to resolve performance issues quickly.
SteelCentral Portal

SteelCentral Portal blends data from all SteelCentral components and provides a centralized, dynamic view of an enterprise’s network, infrastructure, and UC performance.

This holistic view gives operational teams a single source of truth for network, infrastructure, and UC application performance; accelerating troubleshooting and providing meaningful data for stakeholders throughout the enterprise.

SteelCentral NetProfiler

NetProfiler is a centralized reporting and analysis console that you can use to quickly view network performance and troubleshoot issues before your end users ever know there’s a problem. It combines network flow data with packet-based performance metrics to provide proactive monitoring, analysis, and reporting.

NetProfiler uses automated discovery and dependency mapping to understand the application services in your environment and automated behavior analytics to baseline normal performance and alert you to changes as soon as they occur—typically before users are even aware that performance is degrading.
SteelCentral AppResponse (Network Forensics)

SteelCentral AppResponse 11 offers network forensics and historical analysis in a single solution so you have everything you need at your fingertips to resolve network performance issues quickly. It passively monitors the network and collects packet data for continuous, real-time and historical monitoring and fast troubleshooting. It indexes, and stores the packets in such a way that there is no need for file transfers when performing forensic analysis.

By continuously recording the packets traversing the network, rich troubleshooting details are always available when you need them, saving time and money by minimizing the effect downtime has on business productivity and reducing or avoiding business-stopping slowdowns or outages.

SteelCentral NetIM

NetIM is a holistic solution for mapping, monitoring, and troubleshooting your infrastructure components.

It enables companies to capture infrastructure topology, detect performance issues, map application network paths, diagram your network, and troubleshoot infrastructure problems.

As an integrated component of the SteelCentral platform, customers are able to manage infrastructure issues as an integral component of blended performance management.
SteelCentral UCExpert

UCExpert monitors and troubleshoots the performance of unified communications environments.

It provides a multi-vendor, multi-tenant user interface that supports Microsoft Skype for Business (formerly Lync), Cisco, and Avaya and offers an at-a-glance view of overall UC performance when multiple UC solutions are deployed.

As a result it quickly helps you justify your investment by understanding UC performance adoption and usage, identifying root cause of network degradations, device errors or user mistakes and reducing the number of escalations by enabling desktop support to be more self-sufficient.

References

1. Gartner's 2016 CIO survey
2. Ibid
6. Gartner research on DEM 2015
8. Ibid
About Riverbed

Riverbed Technology, Inc. enables organizations to modernize their networks and applications with industry-leading SD-WAN, application acceleration, and visibility solutions. Riverbed's platform allows enterprises to transform application and cloud performance into a competitive advantage by maximizing employee productivity and leveraging IT to create new forms of operational agility. At more than $1 billion in annual revenue, Riverbed’s 28,000+ customers include 97% of the Fortune 100 and 98% of the Forbes Global 100. Learn more at riverbed.com.