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# Why Everyone Needs to Own Customer Experience in the Application Economy

Democratizing the management of the user experience is the future of application performance management.



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## Executive Summary

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### Challenge

Today, because most interactions are digital, the application experiences you deliver to your customers are often the most important experiences they'll have when doing business with you. The viability of your brand largely rests on the quality of their experience with your applications, whether they are on PCs, notebooks, tablets, phones or soon even wearables. As a result, CIOs and technology leaders need to know how to deliver the application experience users expect.

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### Opportunity

With the right application performance management capabilities in place, CIOs will be able to proactively identify and remedy potential trouble spots before any customer facing issues arise. However, the opportunity to provide a superior performance and application experience will only exist for those CIOs who have the ability to find and share the right application performance data with right internal experts who are in positions to act swiftly and proactivity.

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### Benefits

The CIOs that are able to take the steps necessary to obtain the key performance information needed and share –or democratize–that data with business leaders, CIOs, development teams, quality assurance and testing teams and operational units will be the CIOs who will set their enterprises apart by delivering the experiences that provide customer satisfaction, boost sales and build loyalty.

## Section 1

# Software is now the face of your business

For years we've been hearing about the promises of ubiquitous computing and the rise of the application economy. Finally, with the rapid advancement of mobile computing, we're in the midst of that vision of truly ever-present computing and access to apps coming to full fruition. And when one looks at the powerful trends of universal broadband, mobile computing and the widespread use of agile development and IT management processes, and you see why so many organizations are successfully deploying more applications to an eager marketplace than ever was before possible.

What does all of this mean for CIOs as they help usher in their enterprises to better compete in the rapidly moving application economy? It means that the quality of the applications that the business builds and the performance of those applications are essential to the quality of your customer's digital experience. Every enterprise needs to consider itself as a software business. That's because business today is being rapidly recoded—literally rewritten—by software. Currently, no industry goes untouched by the application economy. Name it and software is transforming the industry.

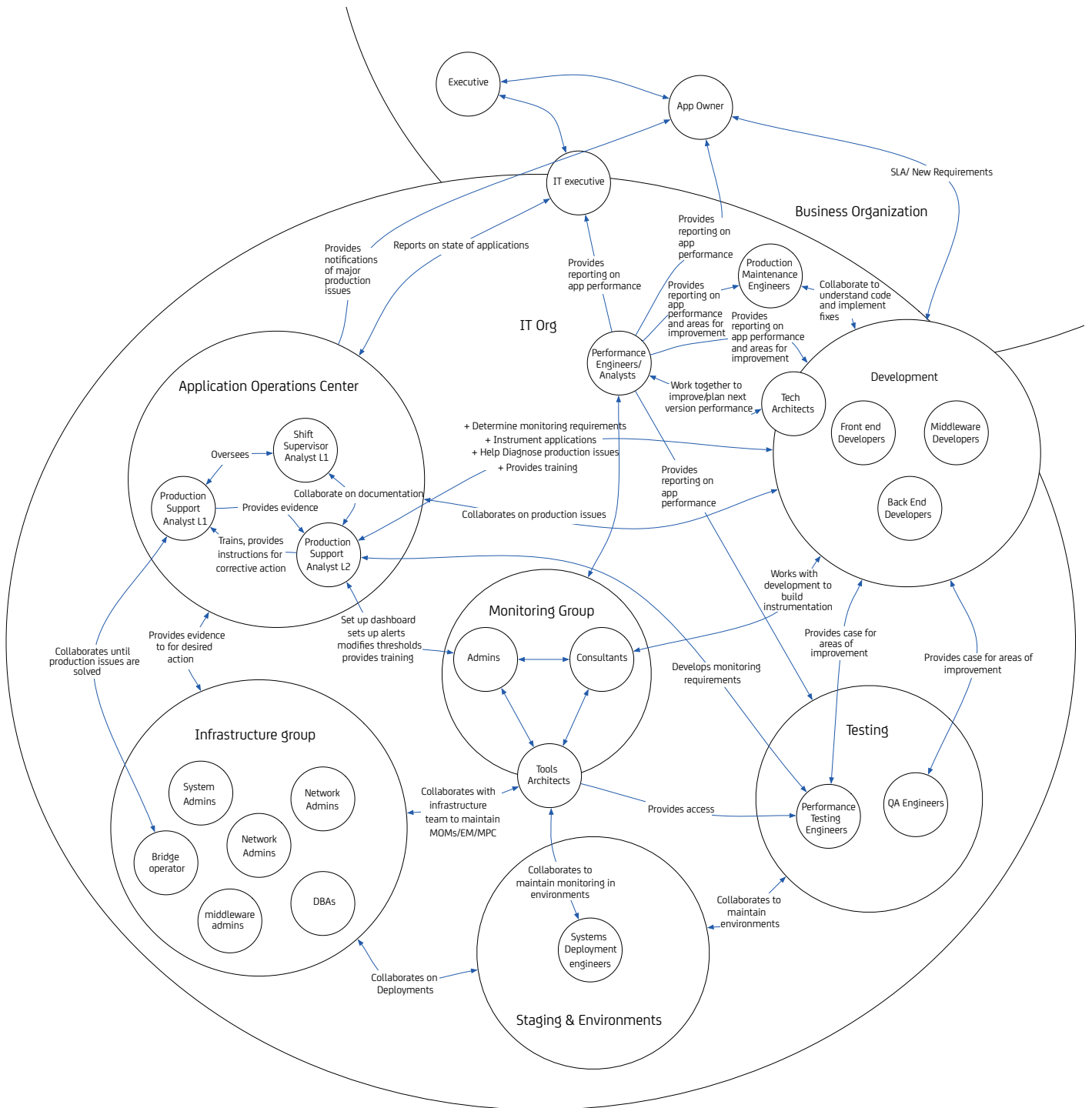
It's absolutely true. With this increased reliance on applications, it's more important than ever that enterprises monitor and manage the end-user application experience across all environments: physical, virtual, cloud and mainframe. Perhaps that's why investment in application performance monitoring technology is on the rise.

Unfortunately, despite such investments, most organizations aren't reaping the value from their application performance management efforts. Too often, the performance management tools that are in place, as well as the information they hold and the expertise to use them, are centrally located and managed, and their vast data repository on performance is only accessible to a select few "power users."

Yet today, with so many applications being built independently of IT, that approach is outdated. As the number of apps in use grows and these apps are widely distributed to mobile devices that centralized model to application performance management breaks down. That's because, with application change coming so much more rapidly than just a few years ago, complexity is higher—and yet organizations don't have the application performance expertise available where it's needed.

The solution is to democratize enterprise application performance management tools, expertise and information so that the ability to deliver high-performance experiences bridges business app owners, support teams, development and testing and others.

# Application Performance Management Ecosystem



## Frontline CIOs are under pressure to drive the business and customer experience, but most IT organizations are not ready.

What do we mean when we say that business is being rewritten by software? We mean that the quality of the customer experience is increasingly defined by the quality of the digital experience delivered to them. That makes most companies—whether a service companies, manufacturers, retailers or restaurants—essentially software companies.

This places the CIO at the frontline of customer engagement. As a result, the CIO and IT teams need the right tools to deliver optimal customer experiences—those that will drive high customer satisfaction, increase sales and cement long-term loyalty. It's about reacting more swiftly to application issues, obtaining better insight into what's driving application quality and having the ability to continuously improve application experience from the customer's perspective.

Application performance management also has grown more complex than ever. Today, cloud and mobile computing and the composite applications created through Application Programming Interfaces (API) and Service-Oriented Architectures (SOA) have changed how application performance is monitored and managed. Discussing application performance management efforts with enterprises makes it clear that most companies are trying to get their arms around the challenge—but the vast majority is not yet succeeding. According to a recent study conducted by IDG research Services (commissioned by CA), only 25 percent of respondents were very confident in their ability to meet user expectations. Not an enviable position in a world where business runs on software.

That data strongly supports our earlier argument: technology is moving too fast and application development methodologies and IT management frameworks are evolving too quickly for these centralized teams to keep up.

One of the biggest challenges is that IT and business leadership have a tough time getting the composite customer experience view that they need to drive optimal customer experiences. Unfortunately in too many cases, the IT team is reporting that all is well when the view from the customer's perspective is often quite different.

It's not that IT staff is being purposely misleading. They're not. They're often measuring the wrong things. They're measuring system workloads and server and database response times. That's all fine for what it can achieve—but also woefully inadequate today. Enterprises can't simply focus on such "speeds and feeds" and obtain an accurate view of the customer experience.

All parts of the business, not just the IT power users, need insight into the experiences of specific customer and user segments, as well as those of individual users. Digital experiences must beat, not just meet, customer expectations. And, contrary to popular approaches to application performance management, the measurement begins with the customer experience and drills into the application and supporting infrastructure from that point.

When it comes to the user experience, CIOs and their teams must be able to turn application performance management into a strategic advantage, one that drives topline revenue through the insight gleaned from the right user application analytics that are based on accurately visualizing the customer experience.

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## Section 2:

# The Need to Democratize Application Performance Management

Why is it so important to focus first on the user experience? While it's true that user experience is a composite of the underlying business applications, services and infrastructure, one can't measure these individual components and expect to get an accurate view of the end user's experience. As the saying goes, the whole is greater than the sum of its parts.

For instance, it's quite possible for the mainframe, database, network and webservers to each be reporting themselves 100 percent, and yet the performance for specific user requests is quite poor. The reason could be a service within the server that is hanging, or a specific database query, or any other component that is not working well.

The only way to identify such issues is to look at the business service performance, and that in turn is the only way to fully understand the business impact of poor software and system performance.

With the right application performance management capabilities in place, enterprises are able to identify those individuals who have interacted with a site or application and have had an ideal interaction, and those who had negative experiences. With those measurements in hand, IT managers can drill into the technical details and gain an understanding into precisely why some users had an optimal experience and what caused the opposite experiences for others.

Unfortunately, most enterprises haven't established these capabilities. They're responding to downed applications or poor transaction throughput after such issues have already negatively impacted their users. And after one issue is resolved, another surfaces just the same way. And so it goes. There's no ability to identify the initial indicators of those types of failures and solve them before they become user disruptions.

In this new application economy, application performance management data and the customer experience insight that it provides is not just for the power IT users. Business leaders must have access to this information to know how critical business services are performing and where to improve the experience where necessary. When every business is run by software, it also requires business managers and application owners to work more closely with developers to define the quality of transactions desired.

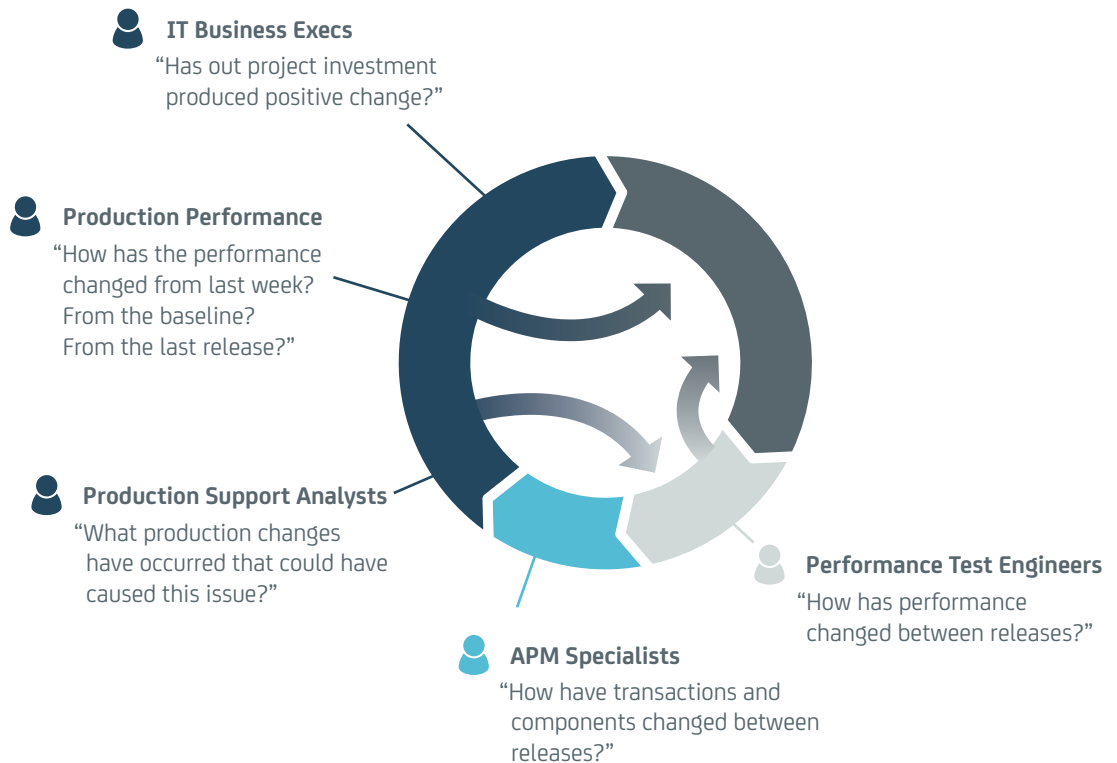
Thankfully, in our engagements with customers, we’ve learned what makes CIOs able to successfully own, measure and improve customer satisfaction in today’s application economy:

### Successful organizations embrace continuous monitoring.

More organizations today are embracing continuous development, continuous monitoring, and DevOps methodologies and for good reason: it increases business agility and makes enterprises more competitive. Application performance management is even more important as enterprises continue to embrace more agile development methodologies and organizational frameworks, such as DevOps.

While IT testing applications for defects, security issues, and performance quality at the end of the waterfall cycle may have worked (somewhat) when applications rarely changed, today even tier 1 applications evolve more rapidly than they did just a few years ago—and new apps are being updated continuously with iterative improvements. Thus, as development and operations teams evolve to these more agile structures, monitoring and performance efforts must keep pace.

### 6 Ways that different roles in the software development life-cycle need to understand change





One primary concern with the move to DevOps, as well as continuous improvement and continuous deployment, is that enterprises that have yet to mature their approach to application performance management must successfully increase the frequency at which applications are updated. Unfortunately, many will fail to actually enhance the performance of the application and will actually increase the frequency of poor performance incidents and rapidly diminish application usability. In these cases, increased automation actually becomes a force multiplier for bad performance outcomes. Not good.

For success here, it's important to have the application Key Performance Indicators (KPIs) established by the business. And those experienced-based KPIs then are enforced through automated testing and continuous performance monitoring. Generally, without such input from business managers, the IT organization operates in a vacuum. It has lots of information but doesn't really have the quality criteria needed to help understand the end user context of that information. The right user experienced-based KPIs solve this challenge.

### Leading CIOs move beyond functional requirements.

User experience may be a “nonfunctional requirement,” but it's no less crucial. While functional requirements are tested to ensure that all of the capabilities that should be in the app are indeed present, this rarely happens for performance and user experience. But it needs to.

If enterprises are to compete, cost-effectively manage their portfolio of apps, and ensure that their employees are as productive as possible, the performance and user experience mindsets need to start in design.

In fact, if these attributes are calculated for during the design of the application, performance is enhanced; then, should issues arise in the testing phase, they are easy to remedy at that time.

### Forward-thinking enterprises look for user-centric KPIs.

As we mentioned earlier, it's vital to choose KPIs that are important to the user, as well as the context of what the user is trying to accomplish. IT teams tend to monitor what they think is going to be important, not always what actually is important for the business. The trick is to identify the components that have the most impact on the user—and the quality of user experience goes up.

This typically means shifting KPIs from system and computing activity to focusing on actual user and business activity, and prioritizing from there.

For instance, in a simple example of an online store, many metrics will be shopping-related. “How long does it take to update the shopping cart?” and “How long does it take us to process it when the customer selects Buy?”: these things all are part of a very domain-specific workflow, and they are the things your users and customers actually care about.

An international shipping provider learned this lesson without even trying. Rather than look at system workloads and other IT indicators, it found that what was really needed was to look at shipping label generation. The shipper learned that by looking at the rate of new tracking numbers being generated, it had increased the minute-by-minute performance demands on its site throughout the day.

If the shipping label printing volume decreases suddenly, then the shipper looks for other indicators to get an idea of what part of the process may have broken, and then quickly restore that service. Conversely, if the volume of label printing accelerates suddenly, the shipper can take actions to increase capacity.

### Democratize access to the KPI measurements that matter.

It's crucial to incorporate the businesses', operations' and developer's view into the KPIs. All three functions need access to critical application performance and customer experience data. This is because IT is not really in a position to understand all of those aspects of an application and their specific context to the user. This is exactly why IT very often retreats to things like CPU, memory consumption, disk space and thread counts that have nothing to do with the user's view of the application. By democratizing access to performance data, not only does IT see the information but so will developers and business owners—both critical cogs in driving customer experience and business growth.

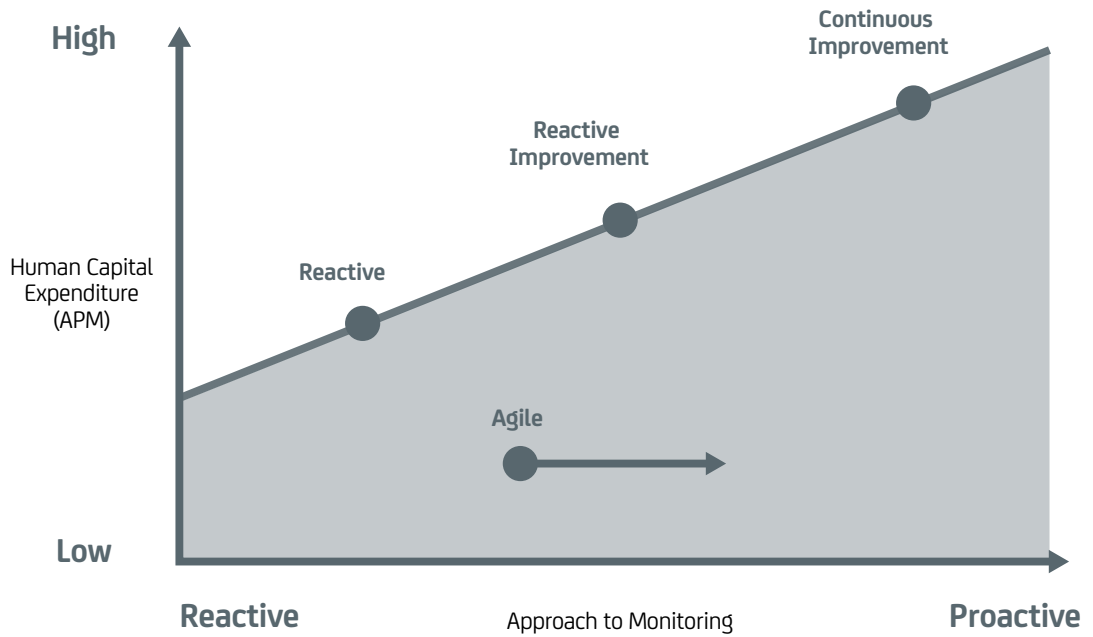


The customer experience itself is being directly measured in terms of business transactions. That helps the business prioritize the areas it wants to focus on, as well as which aspects of the application are having the greatest performance problem and the greatest potential impact. By continuously monitoring, measuring, and improving the application experience, leading CIOs are driving enterprise success in the application economy.

**Section 3:**

### What Success Looks Like

#### Four Organization Types in the User-Centric Maturity Model



Simply put, success looks like proactively managing application performance issues rather than constantly reacting to them—and thereby maintaining an optimal user experience. In these enterprises, application performance monitoring is relied upon to continually improve application performance. And this effort is a shared responsibility among operations, developers, QA and application owners.

In our engagements with thousands of enterprises, we found the following attributes to be present within companies that have successfully moved from constantly reacting to application performance issues and have learned how to continuously improve the experience of their users.

This is exactly what success looks like.

### 1. Governance is in place to create a performance culture.

Contrary to what many assume, business applications and services exist in a continuous lifecycle. Often, the idea for the application is born from within the business, given to developers, tested and deployed into production— where the operations teams take over. Traditionally, performance testing takes place—and if it is considered at all—at the end of the application testing phase. More often, there isn't performance information available until the application is deployed and operational.

What's needed is the ability to develop applications and software services with performance metrics in mind from the start, and then have the framework in place to enforce those goals throughout the entire lifecycle.

This way, organizations design applications with performance in mind from the very beginning, and this makes those baselines more manageable as applications and services live in production. When new features are added to the software service, performance issues are identified during the continuous performance assessments, before the application ever reaches the eyes of a user.

The enterprises that establish their performance baselines and democratize performance data are those that win. They know that performance quality and end user experience are managed by business leaders, CIOs, development teams, quality assurance and testing teams and operational units. This way, performance outcomes aren't a drag on employee, partner, and customer perception. In fact, such experiences reap increased productivity and top-line revenue.

### 2. Build a continuous performance improvement culture.

With continuous monitoring, including user experience as a critical app requirement, aligning with user-centric KPIs, and making that data available to everyone involved, enterprises can build a continuous performance improvement culture. Organizations that have the right foundations in place are able to continuously improve performance outcomes—even when there aren't any issues that would be visible to the end user.

Once app performance KPIs are established, it's then possible to create internal accountability for continuous improvement. Those with responsibilities in application design, development, and operations are evaluated on how they have improved services monthly and weekly and for documenting and broadly sharing and democratizing information that will help tune the user experience.

#### Success story: Insurance Provider Unfeters APM Data, Minimizes Downtime

The cost of poor application performance wasn't theoretical to this national provider of property and casualty insurance. This insurance company was constantly rushing to solve pressing performance issues—and it was costing them customers. The situation had to be remedied quickly.

The firm looked inward in a significant IT soul search to uncover why it was suffering such application performance issues and to uncover the root organizational and technological causes.

The answer turned out to require not only an improvement in monitoring, but also decentralizing application management performance data and building a culture of accountability around application performance improvement.

A central part of those efforts included putting the resources and technology in place necessary to best distribute the application performance information throughout the business: application owners, developers and operations teams. The result enabled the organization to move from steady fire-fighting to a posture of continuously improving the production environment and increasing the number of transactions it could handle while also reducing the number of resources required to do so.

### 3. Successful organizations plan and budget for performance improvement.

As you see, having the right people with access to the right information is critical to build on and execute the organization's high performance vision. Equally, arguably more, important than having fancy tools and dashboards is making the right investments. That includes investing in the establishment of consistent processes around managing performance expectations, training people, setting the right application performance baselines (from the perspective of the user), making performance data available to all constituents, and then constantly testing those thresholds and improving where necessary.

### 4. Successful organizations standardize on the KPIs that matter.

Application and software service performance KPIs must be incorporated throughout the application lifecycle. As applications and business services continue to grow, change and adapt, this automation and intelligent management of KPIs is critical to success.

However, it's vital that these KPIs be focused on what matters: user experience and quality business outcomes. KPIs that are based solely on system availability and component level performance are not likely to bring long-term relevance to that goal. For long-term and sustainable improvements, KPIs need to focus more on the business metrics that the applications and systems are enabling.

### Success Story: APM Data Democratization Drives App Performance

This global media and entertainment company needs to ensure that it provides the best experience possible for the shoppers visiting its web and mobile sites. The better apps and sites perform, the longer people stay—and the more they will buy.

To make certain its customers receive the best experience possible, this enterprise unlocked access to its application performance management data so that, rather than only a few internal experts having access to critical performance information, that data was unleashed so that application owners, operations teams, developers and others could see and respond to performance issues immediately.

Forwarding these application performance management efforts even further, this household-name enterprise created application performance dashboards so teams could see the immediate impact app changes had on performance. The key to their success was in providing all of the relevant application performance information to operations, development, and application business owners in a format that made sense to the specific needs of their jobs.

## 5. Successful organizations focus on the robust ROI of quality control and high performance applications.

What happens when end users have bad experiences, whether on the Web or on the phone or tablet? Typically, what happens is not good. They are not patient, and customers can be quite vocal. Perhaps you will experience the social media angst expressed by users of WhatsApp, Adobe® Creative Cloud, Facebook and others recently endured during their outages. Or, for some users the reaction can be silence. These users and customers don't complain. They just move on. The same is nearly as true for existing customers: after a bad app experience or two, they will reach out to a competitor and you will never know why. They're just gone.

## 6. Successful organizations embrace automation and the intelligent management of KPIs.

By automatically identifying problems with the right KPIs, operations teams can swiftly pinpoint the source of the issue and just as swiftly bring performance back to acceptable thresholds. With automated application performance management and the intelligent management of KPIs, enterprises can put sustainable mechanisms into place. They can implement feedback loops between the monitoring, operations, developers, QA and business executives. With that groundwork laid, performance issues will be rapidly resolved with solutions tailored toward the precise issues at hand.

## Section 4:

### Conclusion

In today's application economy, enterprises must focus on the application experience they are delivering to their users and customers across physical, virtual, and cloud environments. Because the vast majority of customer encounters are experienced through application interactions on the web or mobile devices, the CIO must be able to take ownership of the application experience—and take the steps necessary to obtain the key performance information needed and also share—or democratize—that data with business leaders, CIOs, development teams, quality assurance and testing teams and operational units for rapid remediation. These CIOs understand that great performance is driven when all of these teams understand what they need to know to act.

This is precisely why more enterprises are investing heavily in the modern application performance management systems that can handle today's highly distributed and mobile applications. With those tools in place, enterprises are able to quickly spot those customers who had an ideal interaction—and those who did not. And with the insight provided by the right application performance management, IT managers are able to drill into the technical details to gain an understanding of precisely why the experiences of some were defective. The CIO then can deliver the experiences that provide high customer satisfaction, increase sales and cement long-term loyalty.



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