

EBOOK SERIES

Agile Operations

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CHAPTER 1

Why Agile Operations Is Critical to Your Digital Transformation Strategy



Digital Transformation Requires Bimodal IT Operations

A long time ago, in a business environment less volatile and complex, IT Operations cared only for stability. Then the application economy happened—every company became a software company, and competitive pressures to rapidly innovate and iterate applications increased exponentially.

In response, businesses like yours are pursuing digital transformation strategies—adding digital components to all of their products and services (e.g., mobile applications, universal device support, Internet of Things (IoT), etc.). In this environment, Operations has to become more agile—but without sacrificing the stability that has been its hallmark.

Gartner defines this concept as Bimodal IT: Bimodal IT refers to having two modes of IT, each designed to develop and deliver information- and technology-intensive services in its own way. Mode 1 is traditional, emphasizing scalability, efficiency, safety and accuracy. Mode 2 is nonsequential, emphasizing agility and speed.¹

While Mode 1 has become table stakes for most operations groups, Mode 2 requires new thinking and processes around investment management, governance, collaboration and more. And success in both modes demands smarter, more flexible tools that have been designed to support today's complex IT operations.

**According to Gartner, “By 2017,
75% of IT organizations
will have a bimodal capability,
half will make a mess.”²**

Despite the risks and challenges inherent to Bimodal IT, leading organizations understand its importance in helping them meet the ever-growing expectations of today's customer. And they're counting on DevOps to help them bridge these two modes.

¹ Gartner, Glossary, <http://www.gartner.com/it-glossary/bimodal>.

² Gartner, “Predicts 2015: Bimodal IT Is a Critical Capability for CIOs,” Mary Mesaglio and Simon Mingay, November 18, 2014.

An Exceptional Customer Experience Across All Devices—Anywhere, Anytime

You've probably been hearing about digital transformation, DevOps and Bimodal IT for some time, but there's a reason why they've recently gone from "nice to haves" to necessities: in the application economy, your customers hold all of the power.

Because software is the primary way customers experience your brand today, you must be able to deliver an exceptional experience across all devices—from any place, at any time. Falling down on just one of them can have disastrous consequences.

The consumerization of IT has conditioned users to expect all software to perform flawlessly. But what happens when a company's new mobile application is slow and clunky compared to its website? A single negative experience broadcast on social media can go viral and cause exponential, far-reaching damage to a brand.

In order to avoid such catastrophes and exceed the expectations of the demanding modern customer, you must overcome a variety of challenges that can prevent Operations groups from reaching their bimodal potential, including:



Identifying issues within a complex IT infrastructure



Unifying siloed monitoring into a single source of truth



Breaking the technical debt cycle

CHALLENGE #1:

Identifying Issues Within a Complex IT Infrastructure



Operations groups have been monitoring infrastructure and applications since the dawn of IT, but this task has become increasingly complex as IT infrastructures have transformed in recent years.

For many enterprises, decades-old legacy systems and mainframes coexist with virtualized or cloud servers (both on- and off-premises) and as-a-service offerings—creating an intricate maze Operations must navigate when trying to monitor performance.

When Operations group cannot efficiently trace transactions as they move from customer-facing systems of engagement to back-end systems of record, it can be difficult to pinpoint the root cause of issues. As a result, performance suffers while mean-time-to-resolution extends—both of which can negatively impact the customer experience.

But what if you could trace transaction movement across cloud, mobile and legacy systems to quickly pinpoint root causes of issues? And what if you could feed that information back into dev/test systems to improve application performance at the code level?

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CHALLENGE #2:

Unifying Siloed Monitoring Into a Single Source of Truth



As enterprises grow—whether organically or through acquisition—their IT environments often comprise a mix of legacy and modern components assembled over time. And in many cases, each of these components came with or required its own tool for monitoring performance.

When issues arise in such environments, there are as many “sources of truth” as there are monitoring tools, which can lead to finger pointing and delays as various teams rush to absolve themselves of fault or responsibility.

And in the cases when these disparate tools do produce valuable data, the onus still falls on Operations to collate and triage that information before it can take action and resolve the issue.

WHAT IF YOU COULD unify monitoring across all application and infrastructure components and gather actionable data you can use to improve the customer experience? And what if you could eliminate finger-pointing and wasted time with a single source of truth that promotes collaboration and rapid response?

CHALLENGE #3:

Breaking the Technical Debt Cycle



At some point in nearly every enterprise's history, suboptimal design decisions are made in order to satisfy business requirements—creating infrastructure fragility and technical debt. And when fragile systems fail, they create unplanned work for Operations that puts them in a reactive, break/fix mode and takes them away from supporting business goals.

The business compensates by setting bigger goals, and IT sacrifices manageability and reliability in favor of innovation and speed to meet aggressive deadlines. As a result, more technical debt accumulates, increasing infrastructure fragility and management burden—and restarting the destructive cycle anew.

What's more, technical debt creates tension between the bimodal aspirations of Operations. On the one side, they're doing everything they can do reduce or eliminate the technical debt's impact on IT performance and stability; on the other, they're potentially creating more debt as they react to market uncertainty and customer demands.

BUT WHAT IF YOU COULD break the technical debt cycle and dissolve the tension between Operations' two modes? And what if you could leave behind break/fix tendencies and proactively help the business achieve its goals?

A Move From Traditional IT to Agile Operations

In order to overcome these challenges, traditional, fragmented IT organizations must transcend silo boundaries and streamline efforts to collaboratively manage complete services from the customers' perspective. In other words, they must embrace Agile Operations.

By definition, Agile Operations supports Bimodal IT. In mode one, it specializes in the deployment, operations and ongoing support of digital services and applications created in agile development and continuous delivery environments. In mode two, it emphasizes collaboration with development and test teams by creating an agile feedback loop that shares unified monitoring of the end-user experience and the underlying service-delivery infrastructure.

When deployed within a DevOps framework, Agile Operations can help you:

- **Quickly pinpoint and resolve performance issues** from mobile to mainframe systems—and automatically incorporate this data back into development and testing for increased application quality
- **Unify application and infrastructure performance monitoring** into a single view and prioritize the actions that will most benefit the customer experience, improving overall release velocity
- **Take a more proactive approach to IT monitoring**, reduce the impact of technical debt and adapt quickly to ever-changing business goals

Collectively, these capabilities enable Operations to marry the stability they've always been known for—with the agility required to compete in the application economy.

CHAPTER 2

Measuring the Only Metric That Matters: the Customer Experience



In the Application Economy, the Customer Experience Rules

In the application economy, software is the primary way customers experience most brands.

You'd need to look long and hard to find a company that doesn't depend on a mobile app, a Web store or an online portal to communicate its message and deliver value to customers. For example in the hospitality industry, even the humble hotel room key has evolved from a key card to a Bluetooth application that lets you unlock your door with a smartphone.

**Overall mobile app usage
grew by 76% in 2014,**
with the largest growth happening
in the “Lifestyle & Shopping” category.³

As software has invaded all areas of business, the speed at which IT teams are expected to develop and deploy new services has increased exponentially—driven by both competitive pressures and a need to “canary test” innovations with fast iterations. Such applications are being built with Agile methodologies that drive demand for faster feedback from IT operations on application and infrastructure performance.

And because software is the most visible, 24x7 brand ambassador for your company, making sure it meets customers' expectations has become arguably the most business-critical responsibility of IT operations. That said, numerous factors, such as increasingly decentralized and complex IT infrastructures, have made monitoring the customer experience a more challenging task than in the past.

³ Khalaf, Simon, “[Shopping, Productivity and Messaging Give Mobile Another Stunning Growth Year](#),” Flurry from Yahoo!, January, 2015.

Application and Infrastructure Monitoring Become Increasingly Complex

Measuring the customer experience has never been easy, but it used to be less complicated. You may remember a time when you could say that, as long as key performance indicators (e.g., uptime, packet loss, latency, etc.) were within appropriate parameters, the needs of internal users and external customers were being met. And if they weren't, they always let you know about.

The complexity of the modern IT landscape has changed things. For one, your infrastructure and applications now extend into the cloud, where “as a service” components managed by third parties occupy the same ecosystem as your on-premises hardware and software. So not only do you have to monitor individual services that you may have little visibility into or control over, but you have to understand how they impact the up- and downstream components that comprise the complete service to the customer.

Application architectures have also evolved, moving from monolithic client-server configurations to a “microservices” style, in which suites of small services each run their own processes and communicate via lightweight APIs. The challenge here is that each service may be written in different programming languages and use different data storage technologies, which can make it difficult for IT operations to collect and rationalize data from the various sources—and provide it to development teams as part of a continuous improvement feedback loop.

Meanwhile, your customers have changed as well. Their expectations for easy-to-use, flawless experiences are higher than they've ever been, and when those aren't met, they don't hesitate to move onto something new. And they often do so without a complaint, so you may not even be aware of what the issue was—or how you could've addressed it.

EXPECTATIONS FOR EASY-TO-USE, FLAWLESS EXPERIENCES ARE HIGHER THAN THEY'VE EVER BEEN.

The Challenges of Measuring the Complete Customer Experience



In order to effectively monitor the customer experience, business services must be analyzed holistically, rather than as a collection of component parts and performance statistics. For many operations groups, this can create people, process and technology challenges, including:



BLIND SPOTS

In siloed environments, monitoring “blind spots” often exist as transactions move between the various service components. In addition, many operations groups do not have drill-down visibility into component services and environments provided by third parties (e.g., microservices, APIs, XaaS, etc.). Both situations create gaps where the root causes of issues can disappear.



OPERATIONS BOTTLENECKS

As development teams adopt Agile methods, they increasingly push operations teams to provide analytics and insight during pre-production stages that could proactively influence code and design of the next release. But with more teams coding faster than ever before, Operations may not have the agility to keep up with demand and essentially be in two places at once.



WAR-ROOM FINGER POINTING

When every group has its own performance data, war rooms are convened to uncover the root cause of an issue. The problem is, the data does not often point directly to a specific area or “issue owner,” so the right people may not even be in the room. As a result, these sessions devolve into unproductive turf guarding and finger pointing that push out mean time to repair (MTTR).



DATA OVERLOAD

Finally, the sheer volume of data from innumerable monitoring sources must be collected, rationalized and triaged before it can be acted upon—adding more manual effort and time to an already inefficient process.

Understanding the Risks of Ineffective Customer Experience Monitoring

Your network, database, infrastructure and software people can boast about individual performance metrics like 99.9 percent uptime or low latency, but none of them matter if users are having a bad experience with your service.

If internal users have a negative experience, it affects the overall adoption of your service, which is the primary way executives measure the ROI of an internal investment. What's more, when employees don't get what they need from IT, they often procure their own "shadow IT" assets, which can impact your budget and create security exposures without you even knowing.

With external customers, bad experiences directly impact the bottom line. It's bad enough if the service is a revenue generator itself (e.g., a Web

store), but even a poor-performing company website or portal can create a negative perception of your brand—which will indirectly affect revenue down the line.

There's also the possibility that the application performs well, but it's just not what users want. When this happens, it begs two critical questions: "How do we learn what they do want?" and "How can we feed that information back to Development in an actionable way, so they can quickly push out an update?"

Only **8%** of companies know the **scope of shadow IT** within their organization.⁴

Only **14%** of the **top 100 retail sites** rendered **feature content in fewer than 3 seconds**—the cutoff time at which most users will abandon a website.⁵

⁴ Cloud Security Alliance, "[Cloud Adoption Practices & Priorities Survey Report](#)," January, 2015

⁵ Radware, "[State of the Union: Page Speed & Web Performance](#)," spring, 2015.

Customer Expectations Drive New Thinking With **Agile Operations**

Understanding that a flawless customer experience is paramount to competing in today's market, leading IT operations teams are embracing the new discipline of Agile Operations. Agile Operations practices specialize in the deployment, operations and ongoing support of digital services and applications that are created in Agile development and continuous delivery environments.

AGILE OPERATIONS ENABLES THIS BY:



Unifying monitoring of applications and the infrastructures they run on, creating a holistic view of the complete service and all the components it comprises



Bringing disparate data and analytics together into a single, actionable source of truth that helps break down siloes and cultural barriers, eliminate blind spots and expedite root-cause analysis and repair



Supporting an agile and continuous feedback loop in which real-world data is fed back into the development environment, so issues can be proactively eliminated at the code level before they have a chance to affect customers

The Business Benefits of Holistic Customer Experience Monitoring

To gain a competitive advantage in the application economy, you must deliver the very best user experience by ensuring service improvements are based on real user feedback and application and infrastructure performance—from mobile to mainframe, on-premises or in the cloud.

AGILE OPERATIONS SOLUTIONS from CA can give your enterprise the holistic monitoring and in-depth management capabilities it needs to turn this feedback into valuable functions and reduce MTTR.



For example, CA Agile Operations solutions enable⁶:

Up to **77** % faster mean time to recover,
reducing issues and downtime that hurt
customer loyalty and revenue

Up to **85** % reduction in transaction
response time, giving your users
a better, faster experience

Up to **60** % faster productivity,
so your team can focus on adding
value to the business

⁶Based on actual Customers that have renewed with CA as of a 2014 review of CA Customer database.

CHAPTER 3

Three Steps to Achieving Agile Operations



Realizing DevOps Benefits with **Agile Operations**

In the first two chapters of this ebook series, we looked at the trends most impacting application delivery today—namely, the application economy and digital transformation—and took a deep dive into the common challenges operations teams face in managing complex IT infrastructures and exceeding different customer expectations.

In this chapter, we're going to shift direction and focus on what IT organizations need to change in order to achieve the ultimate goal of Agile Operations.

Before we explore that topic, however, it's important to remember that change will only occur within your application delivery practices when driven by evolution across people, processes and technologies. And the best way to ensure that happens is by adopting DevOps methodologies in which both Development and Operations groups have a unified objective of delivering better-quality, higher-performing applications at greater speeds and lower costs to the business.

The objective is realized when these groups work together to:

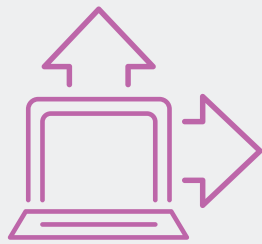
- Share responsibilities, metrics and goals
- Collaborate, distribute knowledge and learn from feedback
- Trust in each other, the technology and the process

Overall DevOps adoption shows continued growth,
up to 66 percent from 62 percent in 2014.

Source: RightScale 2015 State of the Cloud Report.

Introducing the Three Essentials for **Agile Operations**

While DevOps is a methodology that can support new application delivery paradigms, achieving Agile Operations requires new thinking, processes and tools in performance monitoring. On the following pages, we'll explain the three key steps IT organizations must take to attain Agile Operations.



1.

Scale up and across
elastic environments



2.

Improve **quality**
through collaboration



3.

Speed deployment
and issue resolution

STEP 1:

Scale Up and Across Elastic Environments



As applications are built on newer microservice architectures designed for the cloud, deep visibility is becoming increasingly important. This is especially true in big data architectures where trillions of unique performance metrics occur every month. These elastic environments create two problems: you have to monitor a lot more and what you monitor frequently changes.

Solutions that don't scale can't cope in this brave new world. They fail to address the needs we have now and the needs we're going to have in the future as sprawl and complexity only worsens.

Among the millions of bytes of data that can be monitored, you want the most important, action-oriented information to bubble to the top, so that you can be responsive to customer concerns. And when an application evolves, you want a monitoring solution that can keep pace.

This is what Agile Operations delivers. Monitoring must automatically expand and contract with your environment, collecting both high-level and detailed data and serving that data up to the appropriate expert at hand. It's a flexible approach, so as your IT organization grows, so does your monitoring capabilities. The right agile solution will allow you to scale effortlessly and continuously monitor how business critical applications and global networks are performing for end users.

IDC predicts the data universe will mature from
4.4 zettabytes in 2013 to an astounding
44 zettabytes by 2020.

Source: *The Digital Universe of Opportunities: Rich Data and the Increasing Value of the Internet of Things*,
EMC Digital Universe with Research and Analysis by IDC, April, 2014.

STEP 2:

Improve **Quality** Through Collaboration

At the onset of an issue, it can be difficult to identify the culprit with traditional, fragmented monitoring. Administrators accuse one another of letting system errors fall through the cracks, which delays issue resolution, degrades the user experience and leaves the customer dissatisfied. Plus, the constant finger pointing can create more friction among an already divided staff.

Collaboration is an essential component of Agile Operations. And feedback loops can help you share information within and across departments, which is a pillar of DevOps. For example, when something goes awry:



Ian, the IT Operations Manager, wants to see, at a high level, what services are being impacted.



Jane, the Service Manager, wants to triage the problem and route it to the right person.



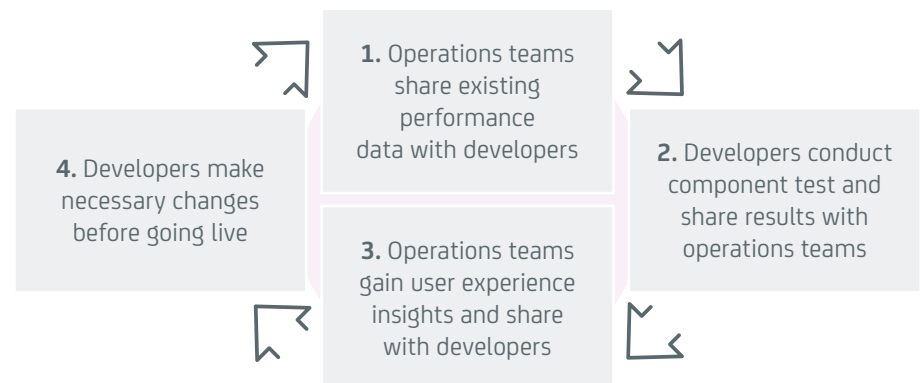
Matt, the Developer, wants to drill down into the transaction details to see exactly which component is failing.



Erika, the Network Administrator, wants to analyze the net flow of the network's packets.

Each member of the team may want to look at something different, but by sharing their findings, they can collaborate toward the unified goal of rapid response. This feedback loops also helps to drive improvements and remove problems before an application goes into production.

For Agile Operations, it's not just about bringing data together in a unified view; it's about bringing the data together in a tool that assists each user and enables group collaboration to drive continuous improvement. Think of it as data served your way, designed based on specific roles and dispersed to the appropriate staff accordingly.



STEP 3:

Speed Deployment and Issue Resolution



Today, the customer experience rules.

A positive experience with your brand can build lasting loyalty, and a negative one can ruin your reputation forever. You need to locate root cause, diagnose and fix problems fast. Plus, you need to become the type of service provider that can easily and quickly provide the infrastructure, applications and monitoring that can keep up with the rapid rate of change.

But, IT has become a bottleneck. Inundated by message storms, IT often addresses issues as they come in and gets distracted from those that warrant full attention. And IT's inability to provide the insights developers require forces them to go around IT to get what they need, resulting in disparate, specialized systems with siloed views. It's important to know when and where IT should react, just as much as it is for IT to equip developers with the tools they need to be successful.

With agile monitoring, issues are served in a view that IT can easily and quickly discern bigger, more immediate problems from those that are less complex and critical. What's more IT can scale the infrastructure on demand to enable developers to make changes in shorter sprint cycles and shift semi-annual releases to daily (if not hourly) updates.

Poor monitoring and a lack of collaboration get in the way of people being able to react swiftly to issues and proactively improve an application. In Agile Operations, the right tools, insights and visibility of business transactions can make all the difference.

A recent study reveals 85 percent of companies have a mobile backlog of between one and 20 applications, with a majority (50 percent) having a backlog of between 10 and 20 apps.

Source: Survey Finds Mobile App Backlog Directly Affecting Enterprise Revenue, OutSystems, October 27, 2014.

Performance Monitoring in an **Agile World**

In our agile world, environments are scaling up and down and fluctuating as technologies move in and out. All of this variability equates to terabytes of application and infrastructure performance data. So, what do you do with this information? How do you turn it into insight you can use to deliver the best customer experience possible? For many organizations, this is a top challenge.

They lack the ability to monitor a broad and evolving set of platforms, services and infrastructure, and have gaps in performance data caused by:

- Complex tools that require specialized skills not commonly found in house
- Insufficient deep dive diagnostic information in the context of a problem
- Excessive amounts of transactional details that make it nearly impossible to sort through efficiently or correlate to a specific event or point in time
- Innumerable alerts without categorization that make it difficult to prioritize response time

When combined, these gaps can manifest as cavernous holes in the customer experience. The services customers want are never deployed or delayed at best, and their issues go unresolved for too long.

To effectively monitor customer experience, business services must be analyzed holistically, rather than as a collection of component parts and performance statistics. And issues must be identified and fixed before a user even knows there is a problem. But, that's not all. To stay competitive, you need to incorporate your performance data back into development and testing for increased application quality and greater customer satisfaction.

According to a recent study, the top demand driver for DevOps among IT and line of business (LoB) executives was to improve the quality and performance of their applications.

Source: DevOps: The Worst-Kept Secret to Winning in the Application Economy, CA Technologies, October 2014.

CHAPTER 4

Exploring the Tools That Enable Agile Operations

Introducing CA Technologies Solutions for **Agile Operations**

In the last chapter, we discussed many of the new dynamics that impede IT operations' key goal of ensuring that their businesses thrive in an increasingly application driven economy—an economy where delivering the perfect software blend of **SPEED and QUALITY at SCALE** is now critical for business success—one that suggests IT operations must itself become more Agile.

In this chapter, we're going to elaborate on the Agile Operations solutions from CA Technologies that help enterprises assure good business user and customer experience in highly dynamic agile environments.

AGILE OPERATIONS SOLUTIONS FROM CA ENABLE YOU TO:



Improve quality

and the customer experience through end-to-end transaction visibility using CA Application Performance Management (CA APM)



Scale up

and across elastic environments with full Unified Monitoring using CA Unified Infrastructure Management (CA UIM)



Speed the delivery

of mobile apps and manage that experience to guide updates and enhancements with CA Mobile App Analytics



Improve Quality through Collaboration with CA APM

In an era where mobile and digital interactions reign supreme, enterprise organizations must proactively manage the applications that drive their business and reputation. Ensuring a quality experience is a shared goal across IT, meaning teams must collaborate towards optimizing that experience as applications are developed, released and monitored.

So, how do you ensure every engagement, interaction or transaction is positive for customers and your business? How can teams better focus on what's important?

CA Application Performance Management (CA APM) is the APM solution global brands trust to proactively identify and resolve issues across physical, virtual, cloud and mobile applications. CA APM delivers a

solution that is E.P.I.C.—Easy, Proactive, Intelligent and Collaborative. It enables every user transaction to become a loyalty building interaction, provides an opportunity to differentiate the business and frees your experts to focus on impactful issues.

With CA APM, you can bring Developers and Operations teams together to work toward the shared goal of producing the type of seamless user experience that gives your organization the competitive advantage. One-click, role-relevant notifications enable better communication between specialists to resolve problems faster, with analytics continuously providing essential feedback DevOps teams need to drive application improvements.

Key features of CA APM include:

- **Team Center-Perspectives** simplifies complex application topologies
 - **Team Center-Timelines** helps you quickly recognize change related problems
 - **Team Center-Differential Analysis** speeds the triage process
 - **Mobile-to-Mainframe APM** gives you 20/20 visibility from mobile engagement to business conversion
 - **APM Command Center** provides simple management of thousands of agents at enterprise-class scale
 - **Smart Instrumentation** automatically collects deep transaction traces when a problem occurs
 - **Modern application support** with added functionality for Java™, .Net, PHP, Node.JS and more
-

Why CA APM for Agile Operations?



CA customers have experienced notable benefits since adopting Agile Operations solutions, including:

Rackspace Uses Tools from CA Technologies to Ensure Application Performance

Challenge: Rackspace needed to ensure it had the toolsets in place to effectively manage and support a wide range of applications.

Solution: Using tools from CA Technologies, Rackspace receives visibility into its applications so it can fix performance issues before they reach the customer.

Benefit: CA APM's algorithms identify trends that help Rackspace take the proactive measures necessary to prevent a site or environment from failing over and provide the best performance possible.

 [WATCH THE VIDEO](#)

DevOps Helps National Australia Bank (NAB) Drive Better Customer Experience

Challenge: NAB needed to switch its focus from back office, branch-supporting software to delivering a great user experience directly to customers through multiple platforms.

Solution: NAB leveraged CA Technologies DevOps Portfolio solutions, including CA APM for critical web-application monitoring, together with CA Service Virtualization.

Benefit: NAB has lowered its transaction response time by 82 percent, increased its service restoration time by 90 percent and decreased the time it takes to identify issues by 86 percent.

 [WATCH THE VIDEO](#)

A Study by Forrester Research Reveals CA APM Delivers Substantial Business Benefits⁷

Increased productivity of developers:
Yr 1 = 15%, Yr 2 = 10%, Yr 3 = 5%

Total savings more than
 **\$4.2m**

Application downtime
reduced by 60%

Avoided costs of more than
 **\$4.3m**

 [READ THE STUDY](#)

⁷ The Total Economic Impact™ of Application Performance Management (APM) From CA Technologies, Forrester Research, April 2015.

Scale Up and Across Elastic Environments with CA UIM

Today, infrastructure is expanding as cloud, microservices and big data architectures begin to become prevalent. These highly scalable and distributed architectures are designed to future proof the business, but introduce more operational complexity. So, how do you manage the complexity without adding more silos and specialization? How do you ensure that your existing operations staff can scale at the same pace of the latest technology?

CA Unified Infrastructure Management (CA UIM) is an Agile Operations solution that allows you to proactively manage IT infrastructure performance across traditional and cloud environments through a single, unified view and architecture. With CA UIM, you gain end-to-end visibility into your entire IT infrastructure by bringing the monitoring and management of the environment—including physical and virtual servers, networks, databases, storage, private and public clouds and end-user response times—into one unified architecture.

By supporting more than 140 new and evolving technologies across your data center and the cloud,

this solution has the monitoring extensibility you need to quickly leverage the IT infrastructure needed to support business growth.

Key features of CA UIM include:

- **A single unified platform** provides scalable, resilient and reliable IT monitoring across all critical IT resources
 - **Service level insights** allows you to effectively set, keep and report on SLA commitments and service level objectives (SLO)
 - **9 Tablet-friendly HTML5 custom dashboard** displays in HTML5-enabled browsers and on a range of mobile devices
 - **Unified Network Analysis** integrates with CA Network Flow Analysis to reduce mean-time-to-repair
 - **Support for Big Data infrastructures** enables users to proactively manage big data environments and microservice style architectures, with support for Hadoop, Cassandra and MongoDB
 - **Advanced analytics** identifies high priority infrastructure performance issues
 - **Marketplace @ CA** provides out of the box integrations with third-party tools
-

Why CA UIM for Agile Operations?



CA customers have experienced notable benefits since adopting Agile Operations solutions, including:

TriZetto Reduces Resolution Times by 76 percent and Prevents 18 Outages with CA Technologies

Challenge: TriZetto solutions are critical to simplifying its clients' IT operations, which means the company must ensure continuous availability and performance. Its existing monitoring platform was highly complex resulting in lengthy triage times.

Solution: CA UIM monitors more than 10,000 applications and endpoints—from virtual servers to custom TriZetto applications.

Benefits: TriZetto cut the time managing IT monitoring tools by 60 percent and the time spent on triage calls by 43 percent.



[READ THE STUDY](#)

CNBCloud Bases New Customer Service on CA UIM

Challenge: CNBCloud needed a monitoring tool for its entire environment to support many services and customers, including its virtual requirements.

Solution: CNBCloud chose CA UIM to deliver quick and simple monitoring of its entire cloud infrastructure. It now uses this tool to offer Monitoring-as-a-Service (MaaS) to its cloud customers.

Benefits: By expanding its services, CNBCloud forecasts **year-on-year growth of 50 percent**. The CA solution delivered a Return on Investment (ROI) in nine months.



[READ THE STUDY](#)



[WATCH THE VIDEO](#)

Speed the Delivery of Apps and Manage the Experience with CA App Experience Analytics

In today's application economy, providing the best user experience is critical to building customer loyalty. With over one million apps available for download, you have one chance to provide a great user experience and deliver value to your customers. How can you ensure a great digital experience that elevates your offering above the thousands of other choices?

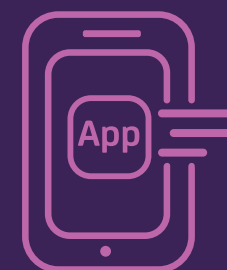
CA App Experience Analytics provides your business analysts, app developers, IT operations and support teams with the complete visibility and insights needed to achieve user loyalty and maximize potential value to customers. CA App Experience Analytics provides

a comprehensive solution to visualize and analyze user experience and app health, capture and investigate issues and inform app teams with real-world customer usage data to help you understand customers' overall digital experience.

Using these insights to optimize the user journey helps you attract and retain new customers, increase revenue, achieve faster resolution times and deliver innovations quickly by boosting development productivity. With visibility throughout the app lifecycle, you can continually improve quality, design, performance and the user experience.

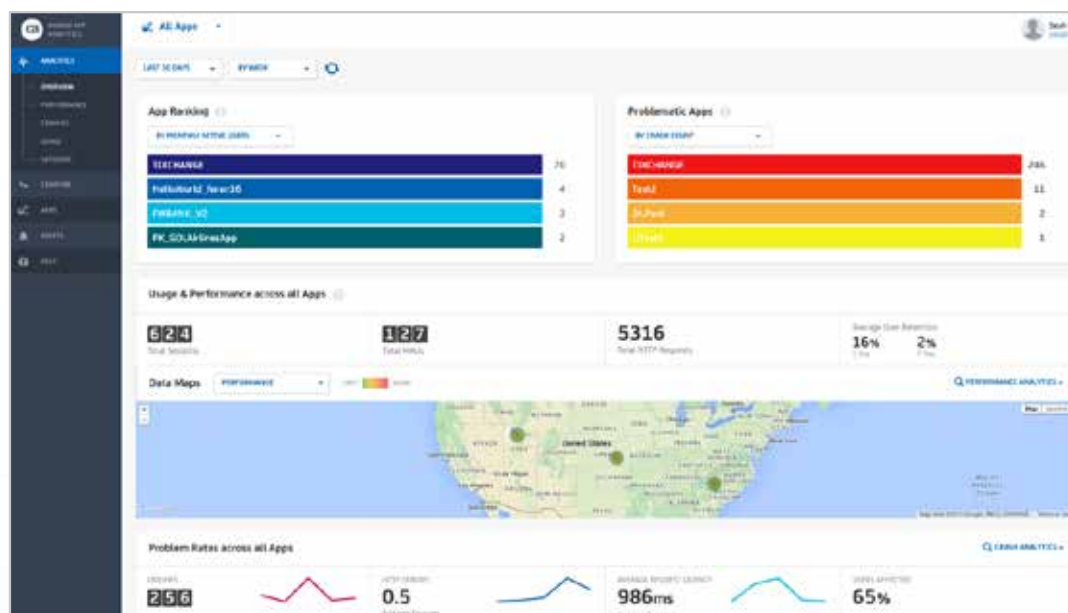
Key features of CA App Experience Analytics

- **User experience analytics across web, mobile and wearables.** Gain insights, track, report and analyze data and determine stickiness based on user visits, the user's journey and usage.
- **Web errors and mobile crash analytics.** Analyze and identify root causes and business impacts to continually improve the end-user experience for mobile and web applications.
- **Performance analytics.** Gain end-to-end performance details from mobile and web all the way to back-end systems, including mainframe and cloud, to address incidents before they impact the user experience.
- **Data studio.** Use flexible and dynamic dashboards to easily view and combine user experience and performance data with out-of-the-box, role-based templates.



Why CA App Experience Analytics for Agile Operations?

CA App Experience Analytics provides details on **stack trace, network state, device configuration, affected users** and **where the issues are concentrated**—by region, device type, network and OS version—all in real time.



[APP EXPERIENCE ANALYTICS](#)



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