

# Automating for Digital Transformation

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*Tools-Driven DevOps and Continuous Software Delivery  
in the Enterprise – Report Summary*

By Julie Craig

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# Automating for Digital Transformation: Tools-Driven DevOps and Continuous Software Delivery in the Enterprise – Report Summary

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# Automating for Digital Transformation: Tools-Driven DevOps and Continuous Software Delivery in the Enterprise – *Report Summary*

## Overview

Enterprise Management Associates (EMA) research has been tracking the rise of Agile development, cross-functional collaborations (DevOps), and Continuous Delivery for more than five years. During that time frame, Agile has become a mainstream standard practice for software delivery. “DevOps” has not only become part of the IT lexicon, more than 80% of companies now report the formation of cross-functional teams supporting application development and delivery. And both Agile and DevOps have become essential elements contributing to the rise of Continuous Delivery; Agile accelerates the speed at which software is created while DevOps “greases the wheels,” facilitating software delivery AND support at scale.

This report is based on survey data gathered during the month of October, 2015 from technology professionals “on the front lines” of application delivery. The ability of IT organizations to accelerate software delivery has become a primary factor supporting the explosion of innovation that has occurred over the past five years. Consumers have become empowered by mobility and social media while businesses have become empowered by insights drawn from big data and advanced analytics. These trends, contributing to the larger concept of the “Digital Economy”, are igniting a new level of interest in the benefits of delivering software faster, more efficiently, and at higher levels of quality than ever before.

At the same time, as the pace of business continues to accelerate, business leaders are increasingly recognizing the value of Digital Transformation initiatives. And although we typically think about DevOps and Continuous Delivery in the context of IT initiatives, it is clear that much of their momentum is being driven by executives seeking rapid transformation of the products and processes sustaining business growth. In essence, Digital Transformation requires transformation on the part of both IT and business, and both must be in sync for true transformation to occur.

Past EMA research on the topics of DevOps and Continuous Delivery<sup>1</sup> found that the top four drivers for Continuous Delivery were business- and customer-related. The 2015 survey confirms these findings. Businesses need new products and services to remain competitive, and customers expect to be able to interact with a company in efficient, seamless ways. In other words, from the business perspective, Continuous Delivery is no longer simply “nice to have”—it is a “must-have” for Digital Transformation as companies bank their futures on accelerating the speed at which new products are delivered to the marketplace.

The catch-22, however, is the fact that velocity is no longer enough. As software becomes increasingly revenue-critical, quality is as important as speed. So from the Continuous Delivery perspective, the true challenge is “acceleration with quality”—delivering software faster while ensuring the quality of the end product.

This Enterprise Management Associates (EMA) Research Report is a summary version of the full research report<sup>2</sup> of the same name, and builds on EMA’s 2014 research on similar topics. It reflects the findings of the survey associated with this report, which assessed the degree of alignment between IT and business<sup>3</sup>, uncovered best practices for DevOps and Continuous Delivery in high-performing companies, and evaluated the role of tools in promoting a growing digital economy.

<sup>1</sup> EMA, “[DevOps and Continuous Delivery: Ten Factors Shaping the Future of Application Delivery](#),” June 2014.

<sup>2</sup> Available for purchase and download at [www.emausa.com](http://www.emausa.com)

<sup>3</sup> While Continuous Delivery is now a widely accepted practice in both enterprise IT and independent software vendors (ISVs), DevOps practices are relevant primarily to enterprise IT. For this reason, this study focuses primarily on enterprise IT versus development teams within ISVs.

## DevOps, Continuous Delivery, and “Automating for Digital Transformation”

At the most basic level, DevOps is a combination of development and operations functions. As Techopedia defines it, DevOps is “used in IT to refer to roles or processes that bridge various departments—usually development and operations teams—to achieve a certain project management philosophy that involves more efficiency in communications between development teams and other parts of a greater business or organization.”<sup>4</sup>

While this definition is a good start, EMA analysts view DevOps from ecosystem, tools, and lifecycle perspectives. In this context, DevOps encompasses skilled IT and business professionals, automated processes, and tools supporting cross-functional collaboration with ongoing, integrated insights into each relevant lifecycle stage.

From this perspective, the relevance of DevOps is not confined to testing or deployment; it spans multiple stages, ideally the entire lifecycle. This broad view recognizes the need for ongoing collaboration across Development (Dev), Operations (Ops), and Line of Business (LOB) as software moves from requirements to deployment and production and then back to the start of the lifecycle as software requires modification over time. This scenario maximizes the efficiencies of individuals, teams, and processes while recognizing the fact that modern applications are far too complex to manage and maintain without cross-functional collaboration.

Automation is the essential core for delivering on this vision. It supports iteration within each stage of the lifecycle as well as the handshakes and artifact handoffs between the stages. In this scenario, each stage is appropriately instrumented and automated and the artifacts generated at each stage are shared with the next. Requirements generated during the design stage, for example, will need to be available in subsequent stages to support development, testing, and service-level measurements.

This DevOps vision also delivers a backbone of seamless efficiency supporting accelerated delivery of high-quality software to production—in essence, Continuous Delivery. The full value of automation as it supports Continuous Delivery lies at the intersection of speed and quality. Without automation supporting tightly integrated processes, it’s possible to deliver speed *or* quality. However, without unlimited budget and personnel (and maybe even with these things), it is not possible to achieve both speed *and* quality in the absence of automation.

The reality is that Continuous Delivery can only be accelerated to the degree that each stage of the underlying lifecycle is accelerated and handoffs between stages are optimized. From this perspective, the Continuous Delivery process is only as fast as its slowest link.

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<sup>4</sup> <https://www.techopedia.com/definition/13607/devops>  
Accessed November 23, 2015.

## Background and Methodology

The data in this report was gathered during Quarter 3 of 2015 from technology professionals “on the front lines” of application delivery. The survey itself was quite extensive, consisting of approximately 65 questions and more than 200 data points. In all, it was completed by more than 400 IT professionals.

The mix of roles in this study was similar to the mix seen in the 2014 research with, more or less, one-third of the respondents in each category. Thirty-eight percent (38%) of the respondents were in executive IT management positions (directors, VPs, or C-level); 34% were middle managers or architects; and the remaining 28% were IT line staff specialists. All respondents had some knowledge of their company’s budgets and revenue growth, and 47% had ultimate budget responsibility for product and project funding.

In terms of company size, very small companies with fewer than 250 employees were excluded due to the comparatively small scale of their deployments and small size of their IT departments. Fourteen percent (14%) of participants were from companies with fewer than 1000 employees; 50% were from midsized companies (1000 to 9999 employees); and the remaining 36% were from companies with 10,000 or more employees.

## Summary Findings: DevOps

As applications have become more complex over the years, application delivery has become an increasingly cross-functional activity. We first saw the growth of this phenomenon with the advent of Service Oriented Architecture. One department funded and deployed an SOA service, and when other departments realized the service was available they began to utilize it as well. At some point, resources began to be overused and/or unauthorized persons began accessing sensitive services. Multiple departments were then compelled to join forces to find additional monies to shore up infrastructure or rewrite software.

DevOps has also emerged as a product of complexity and shared resources. Obviously, in earlier days of computing, one operator sitting at a console could find problems very quickly. However, as client-server, and then web applications, and finally massively component-based and dispersed transactions made support increasingly complicated, pooled knowledge became a necessity.

Today, DevOps is the norm in IT departments of virtually every size—in this survey, 97% of the respondents reported DevOps teams within their companies. Teams are comprised of “dedicated” personnel in about 60% and are deployed in an ad hoc fashion in approximately 40%. Most often, these teams have names such as “Application Management” or “Application Support,” but in almost 25% of companies they are now known simply as “DevOps” teams. This is a major change compared to the 2014 survey in which fewer than five respondents reported having a team by that name at their company. This is another signal that DevOps has “crossed the chasm” and hit mainstream usage.

Another new finding, and an indication that applications have become increasingly critical to business well-being, is that these new DevOps teams are funded by Line of Business (LOB)—*not* by IT—

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in approximately 15% of companies. This was a major surprise since DevOps teams have traditionally been funded by multiple IT departments (which is still the case at almost 25% of companies), by IT operations (20%), or by the office of the CIO (20%).

It is also the case that relatively few companies (approximately 10%) are taking a lifecycle approach such as that recommended by EMA. As Figure 1 shows, comparatively few DevOps teams are involved in post-deployment activities, such as production support (34%) or Service Level Management (SLM) activities (20%), though these activities would seem to be a natural fit for cross-functionally trained technology specialists.

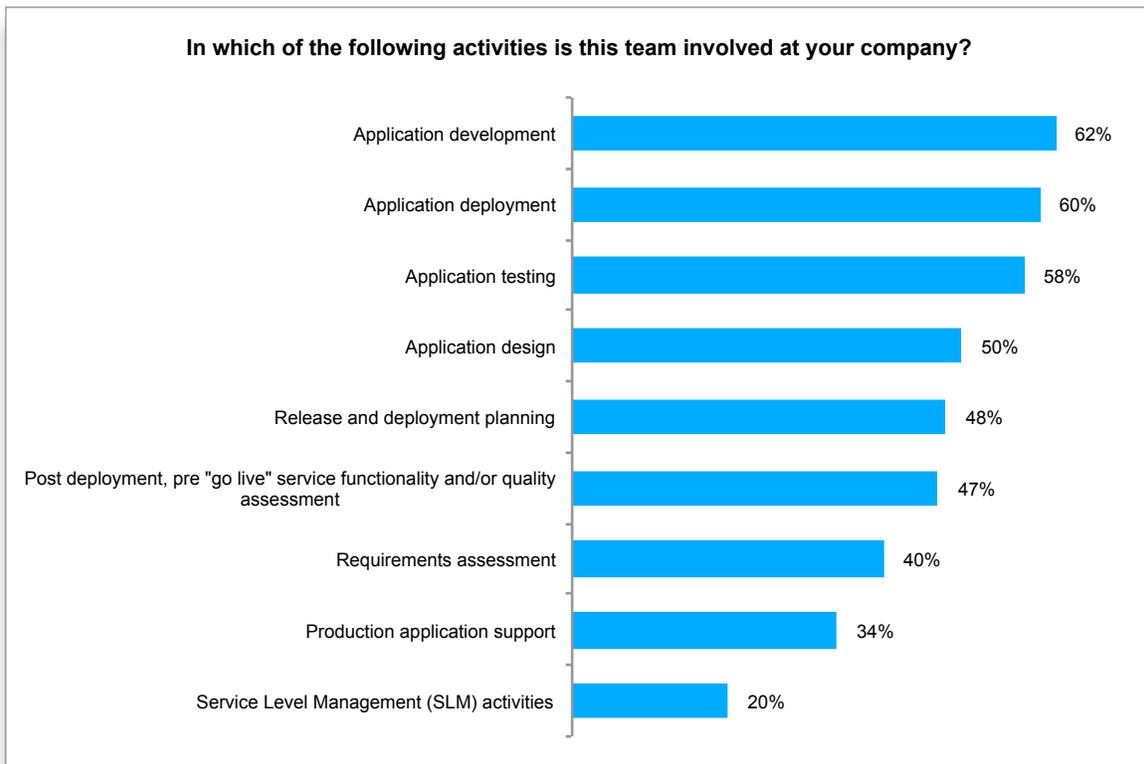


Figure 1. DevOps teams primarily involved with development through deployment in most companies

## Summary Findings: Continuous Delivery

In this study, Continuous Delivery also surfaced as the key theme impacting virtually all areas of IT and spanning deployment and support practices, tools selections, and Digital Transformation initiatives. Findings related to the interplay between business, IT, and software delivery clearly reveal the reasons why software delivery has become a key competency in recent years. These findings also reveal the revenue-related impacts of failure to evolve the software delivery process.

However, there are multiple dimensions to Continuous Delivery. While it can have a profound positive business impact, Continuous Delivery also compounds the difficulties associated with day-to-day management of production environments. So while the positive side of Continuous Delivery lies in the potential for business growth, the negative side can mean a decrease in service quality or increased costs related to managing production environments.

In short, increased frequency of code delivery equates to production environments that are far more dynamic and less stable due to constant and ongoing changes to production.

From this perspective, the research reveals a dichotomy at present between the organizational imperative of accelerating software delivery and the potential costs of doing so. However, both production issues and costs can be mitigated by well-chosen tools, and the types of automation investments that survey respondents view as “most important” are highlighted in the “Tooling Resources and Wish Lists” section of this report.

Figure 2 shows the primary drivers for Continuous Delivery. Survey responses make it clear that, while Continuous Delivery is most often presented as an IT-related initiative, the top drivers are actually business- and customer-related. Business demands for new services top the list, while customer demands for better application quality and new products/services come in second and third.

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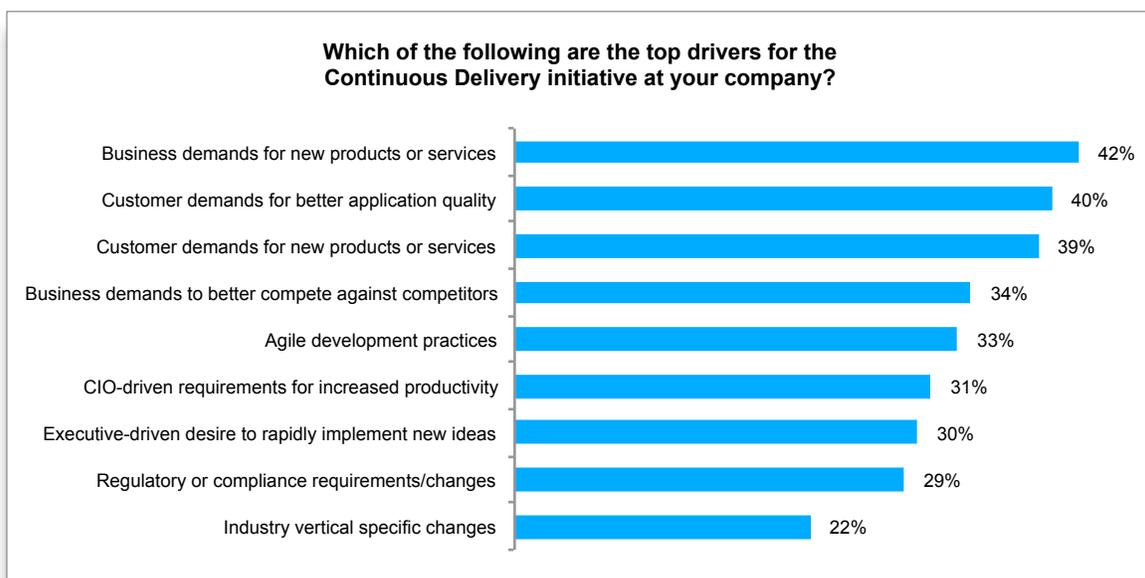


Figure 2. Business, customer demands are top 4 drivers for Continuous Delivery

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For companies practicing Continuous Delivery, delivery frequency is a key objective. As Figure 3 shows, almost 65% indicate that they are currently delivering software at least weekly. Nearly 15% are delivering multiple times per day, and more than 20% are delivering multiple times per week.

Related questions reveal that respondents are using a variety of metrics to quantify their Continuous Delivery initiatives. An increase in the number of releases delivered is the top metric, with defect counts and frequency of releases among the top metrics as well.

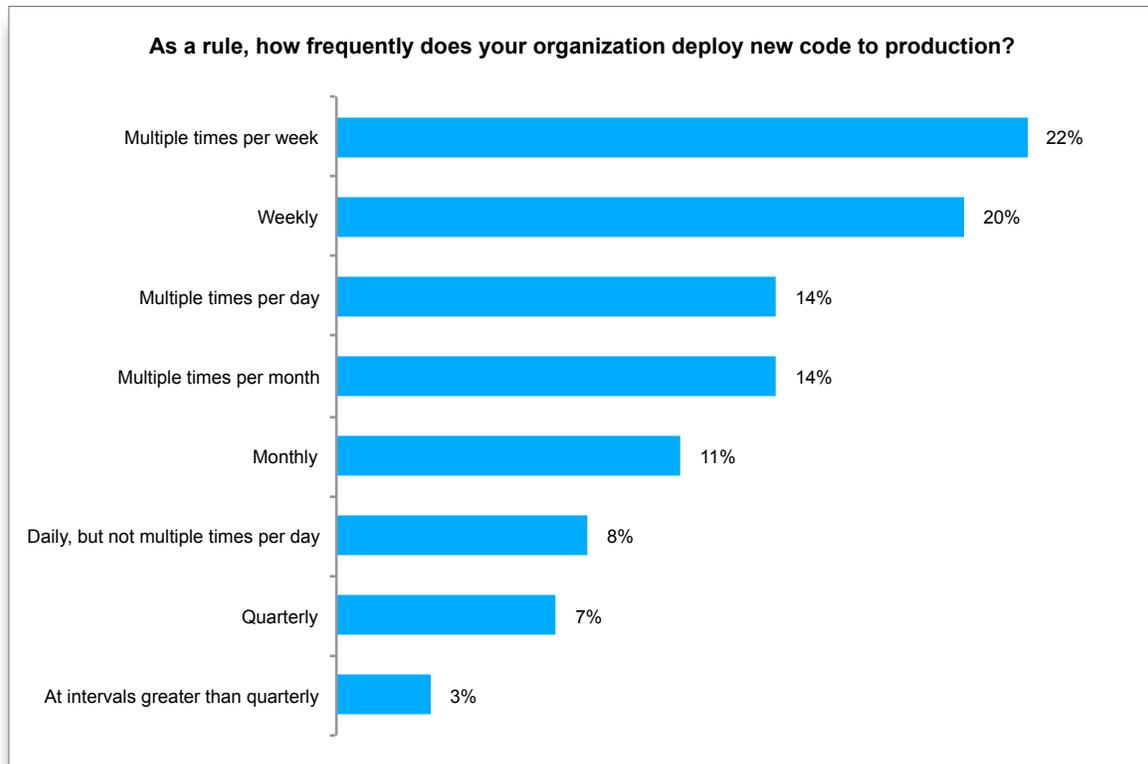


Figure 3. Nearly 65% of respondents delivering code weekly or more frequently

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Metrics such as these are important because EMA studies of Continuous Delivery have repeatedly shown strong links between delivery frequency and revenue growth. The results of this study corroborate similar findings in previous reports:

Companies in which “Continuous Delivery” frequency increased by 10% or more were 2.5 times *more* likely to experience *double-digit* ( $\geq 10\%$ ) revenue growth than those companies in which delivery frequency increased by less than double digits, was flat, or decreased.

EMA’s 2014 DevOps/Continuous Delivery research revealed a similar link, and this new study confirms that the prior findings still apply. This link is a key take away from this report and confirms the value proposition of tools supporting automation of DevOps and Continuous Delivery practices.

**Companies in which “Continuous Delivery” frequency increased by 10% or more were 2.5 times more likely to experience double-digit ( $\geq 10\%$ ) revenue growth than those companies in which delivery frequency increased by less than double digits, was flat, or decreased.**

Figure 4 is significant because it highlights the top bottlenecks hampering efforts to accelerate the Continuous Delivery pipeline. Manually troubleshooting issues arising from production changes is the primary bottleneck, and this was cited as the top constraint by a relatively wide margin (seven points). This not only reveals the biggest difficulty surrounding constant, ongoing change to production, but it is also one of the primary arguments for application-related automation. Application Lifecycle Management (ALM), testing tools, Release Management automation, Change Management, and Application Management platforms/suites all become valuable assets that reinforce the organization’s commitment to accelerating the lifecycle while still delivering high-quality production services.

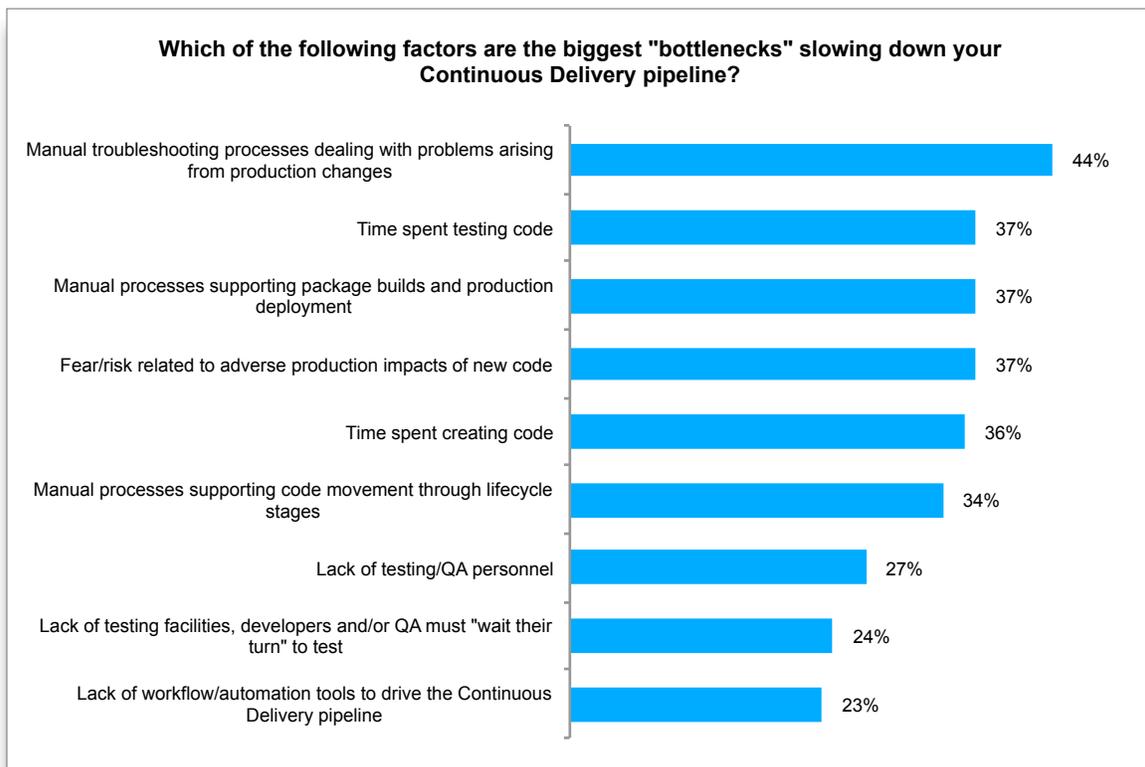


Figure 4. Production troubleshooting biggest bottleneck to accelerating Continuous Delivery

## Summary Findings: Cross-Functional Practices and Organization

As Continuous Delivery initiatives gain momentum, it seems that Continuous Delivery is increasingly more tightly linked to cross-functional practices and processes. In more than 70% of companies, management of the application portfolio occurs at the C-level, director level, or VP level of the company. The fact that all aspects of application delivery are now monitored at the executive level is another confirmation of the importance of applications to the business.

Revenue growth can also be linked to the quality of day-to-day interactions between Development and Operations. Survey respondents were asked to rate the quality of these interactions as excellent, above average, average, or poor. Survey results *again* confirm (reinforcing the 2014 findings on the same topic) that DevOps practices also impact revenue growth:

Companies in which DevOps interactions were rated as excellent or above average were 11.5 times *more* likely to have double-digit revenue growth than those who rated these interactions as average or poor.

From this perspective, both DevOps and Continuous Delivery are not simply IT imperatives, they are strategic business imperatives. Building on last year's findings, it again appears that investments in automation supporting DevOps and Continuous Delivery can be viewed as investments supporting business growth as well.

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## Summary Findings: Tooling Resources and “Wish Lists”

From the tools perspective, it’s difficult to separate the concept of Continuous Delivery from the concept of automation. Since the days of Henry Ford and the birth of the assembly line, automation has become synonymous with accelerated delivery. Those IT organizations that have hesitated to invest in tools supporting release automation and application management in the past will likely find that acceleration of software delivery will force them to make these investments. Quantification of the revenue growth that we’re seeing as an outcome of Continuous Delivery should make it far easier to justify these types of investments in 2016.

In another confirmation of the importance of application management tools as part of Continuous Delivery initiatives, Figures 5 and 6 show that both Development and Operations are spending a great deal of time supporting production applications. As Figure 5 shows, developers are spending as much time supporting production as they are developing new applications.

And as Figure 6 shows, the top three tasks consuming the bulk of the operations workday are all application related. This is additional confirmation of the time-intensive nature of supporting complex modern applications, as well as the fact that accelerating Continuous Delivery initiatives requires tools investments supporting the application specific production impacts of such initiatives.



Figure 5 and Figure 6. Development and Operations teams spending large percentages of available time on production support

## Summary Findings: Digital Transformation

There are also links between Digital Transformation and Continuous Delivery according to survey respondents. Eighty-five percent (85%) of the respondents indicate that their companies are engaged in Digital Transformation initiatives, and 87% indicate that these initiatives are either “essential” or “very important” to business growth.

Figure 7 shows the top focus areas for such initiatives. Tied for first place are acceleration of the delivery of IT services and improvements to the quality of the services delivered to businesses.

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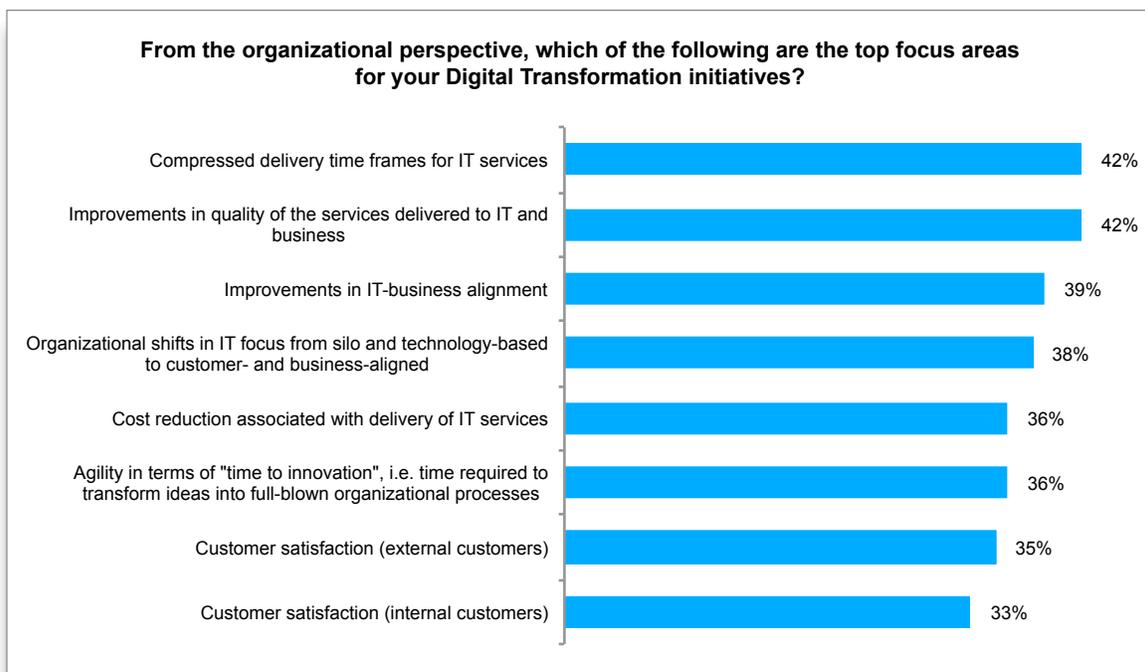


Figure 7. Faster delivery of IT services, quality improvements tie for #1 Digital Transformation initiatives for 2016

Finally, “automation of the Continuous Delivery process” is the top technology-related 2016 initiative supporting Digital Transformation, and by a wide margin. This again reinforces the value proposition of Continuous Delivery and demonstrates the fact that products supporting such initiatives will be clear priorities in developing 2016 tools budgets.

It’s also clear that today’s businesses have not only made the link between accelerated delivery of software services and business growth, they have also connected the dots between accelerated rates of production change and the need for automation.

## Summary

DevOps practices have become an industry mainstay, although only 25% of respondents to this survey see DevOps from the same comprehensive lifecycle perspective as do EMA analysts. Continuous Delivery is also gaining momentum, but is taking longer to implement because it requires acceleration of the entire software lifecycle.

What Continuous Delivery has done is, in effect, massively increased the rate of change to production environments. The findings of this survey confirm the comments of multiple IT practitioners in interviews conducted by EMA analysts throughout 2015, who indicate that accelerated software delivery often brings with it an escalation in the number of production problems.

Automation has always been one of the best ways to ensure application quality, and this is particularly true in view of these findings. Automating personnel-intensive tasks (such as manipulating test data, building test environments, executing quality assurance tests, deploying software packages, and troubleshooting production issues) minimizes the possibility for human error inherent in multistep processes. It also supports “build once, run many” scenarios in which automated processes can be controlled by standardized tools with repositories, policies, templates, and similar organizational assets designed to promote and enforce quality assurance.

We as an industry are nearing a point where the absence of enterprise management automation could well mean the demise of a business. We have already seen this in the security arena, and the rise of Continuous Delivery brings the message home to application support teams as well. It’s very difficult to “continuously deliver” software without adequate Release Management tooling. It’s also the case that manual support processes have now run out of runway; automated management toolsets have become a necessity for those companies seeking to deploy and support applications at speed and scale. That being said, the findings of this report should provide ample ammunition for developing priorities for both types of enterprise management tools acquisitions in 2016.

## Interview with Chief Technology Officer and Platform Services Specialist at Hiscox, a Global Insurance Provider

### *Interview process*

On November 23, 2015, EMA analysts interviewed two Hiscox employees, Gareth Wharton and Steven Hawkins. Wharton is the company's CTO, reporting directly to the CIO. He is responsible for the architecture and platform services teams. The platform services team is essentially a cross-functionally-trained DevOps team responsible for processes, best practices, and enterprise management tools deployments. Steven Hawkins is a member of the platform services team and has been involved with the IBM UrbanCode Deploy acquisition since the initial Proof of Concept (POC) almost 2 years ago.

### *Can you tell me a bit about your company?*

Hiscox is an insurance provider delivering specialised underwriting services, across the globe. Insurance offerings are tailored to geographies and industry verticals, with, for example, in the US professional liability insurance plans for architects, engineers, bookkeepers and insurance agents.

With 100 years of experience in the insurance industry, an "A" rating by A.M. Best Company, and a 97% customer satisfaction rating, Hiscox does business in multiple geographies including the UK, the US, Europe, Asia, and Bermuda.

### *What were the drivers for seeking out the IBM UrbanCode Deploy solution?*

Back in 2013, we set out to rebuild our IT strategy. The business wanted us to become more nimble and flexible, since IT flexibility is central to the ability to make business-related changes. To do so, we needed to accelerate the delivery of the new code the business required while reducing the costs associated with deploying new releases.

As part of the process, we analyzed every part of software development lifecycle and mapped inefficiencies. From this Lean review we knew we needed to put a Continuous Integration (CI) initiative into place, and we started with a blank canvas. Over time we developed a tool chain of around 10 or 15 components addressing the change process, the cultural mindset, and other elements necessary to improve flexibility. IBM UrbanCode Deploy is one component, and we are just starting to deploy another component, which is IBM Rational Test Virtualization Server (for service virtualization).

### *What was your POC/acquisition strategy?*

Our POC was a bakeoff between UrbanCode Deploy and another leading vendor's solution. We chose UrbanCode Deploy because it seemed to be more "mature". We liked the fact that UrbanCode Deploy utilizes "plugins" that enable us to trigger jobs on other platforms directly from UrbanCode Deploy processes. We also liked the security model and ability to template processes enabling easier adoption, which made UrbanCode Deploy feel somewhat more "polished" than some of the other products we looked at.

### *What steps did you take to implement the solution, and how did you use IBM Professional Services resources?*

Once we had made our decision, we then requested funding to invest in tooling and in changes to culture and processes. Once culture and process changes were in place, we "wrapped" process automation around them to create a governed, audited, synchronized delivery pipeline.

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We started with the POC and basically grew it into a non-production environment. We then incorporated UrbanCode Deploy into our production runbook to get a few initial projects up and running.

Since everyone's IT environment is different, IBM's services organization worked with us on site, on and off, for 1 ½ months. Process transformation is as difficult as automation, and we feel we have access to best people within IBM, who have helped us to become successful in our use of the product.

## *What types of training did you require?*

In addition to the onsite assistance from IBM, there is quite a good tutorial area and knowledge base in IBM developerWorks. It includes a nice walk through of the key areas that a user would use. It also includes definitions and a guide as to how to create processes and workflows. So although you wouldn't necessarily need IBM on site to get the product up and running, it is very helpful to bring them in to help you convert your existing runbook and to a set of processes and plugins customized for your own environment.

## *How are you currently using IBM UrbanCode Deploy?*

We have been using UrbanCode Deploy as part of our Continuous Delivery process supporting our two most critical applications for the past 12 – 14 months. While we as a company are running approximately 140 applications, we chose to use UrbanCode Deploy initially primarily to support the two applications which are the “fastest moving”, in other words, those which change most frequently. We have now been in production for over a year in the UK, and are just now deploying to another development site in the US.

The process is as follows: On each code commit, Bamboo<sup>5</sup> picks up the code, compiles it, and, when complete, pushes it to UrbanCode Deploy to deploy into the CI environment. Our CI environment pipeline is now entirely automated and “hands off”. Deployments to additional environments can be done on request with only a single click from UrbanCode Deploy.

## *Can you describe or quantify the positive outcomes from your UrbanCode Deploy deployment?*

- *Improved change control:* Using UrbanCode Deploy, our change control process is even more robust than it was in the past. There's no way to get around change control—it is built into the process and happens the same every single time. We have full auditability, and still go through the Change Advisory Board, which is now primarily a process of telling people in advance how and when an update will occur.
- *Minimal “fallout” related to production changes:* Adverse impact to production from code changes is minimal—like anything, the more you practice the better you are at it. For one thing, we have far better visibility and predictability. The tool itself enforces rigor and signoffs, and you can't circumvent the deployment process with manual workarounds. This works particularly well for combined onshore, offshore teams.
- *High probability of successful deployments:* We generally find our releases are successful, and have done more than 6,000 releases in the UK in the past year.

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<sup>5</sup> Additional information on Bamboo is available at: <http://bit.ly/1XoYkuM>

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- *Time savings:* We have also saved significant amounts of time, and, by association, money by automating our deployments.
  - *Before:* In our “old world”, we needed 8 people and 3 hours to do a release. Due to downtime windows and risk of adverse production impact, this typically had to happen on Saturday morning. This meant we needed to pay 8 people for 3 weekend hours each, and that our staff had to lose part of their weekends.
  - *After:* Today, we do far more releases in a far shorter time frame. Last week, for example, we did 47 releases. Since releases now require only 2 people and 20 minutes, we have massively reduced the “per release” cost. This has allowed us to become much more granular on when and what we release.
- *Cost savings:*
  - Per release cost has decreased by from £1,600 (approximately \$2390) to about £50 (approximately \$75).
  - £10 million annual savings in cost avoidance (approximately \$14,927,500)

## Quotes

*“UrbanCode Deploy also gives us the flexibility to work in different ways, and we continue to gain maturity and efficiency. Historically big releases mean more people work more hours as we near release. Now, we are able to keep the number of people flat while massively increasing the amount of work they are able to do”.*

*“Companies new to Continuous Integration and Continuous Delivery should recognize that the people and process-related challenges are as significant as the tools-related challenges.”*

Summary of Outcomes
Improved change control – full auditability, repeatable processes
Minimal adverse production impact – improved visibility and predictability
Higher probability of successful deployment – 6,000 releases in the past year
Headcount and time reduction – reduced 8 person requirement per release to 2, reduced 3 hour time window to 20 minutes
Cost reduction – Per release cost reduced from £1,600 (\$2390) to £50 (\$75), total of £10 million (\$14,927,500) annual cost avoidance

## Interview with Chief Operating Officer/Chief Digital Officer at PointSource, a Premiere IBM Business Partner Utilizing IBM Bluemix, IBM MobileFirst to Develop Mobile Strategies for Clients

### *Interview process*

On December 1, 2015, EMA analysts interviewed Stephanie Trunzo, Chief Operating Officer and Chief Digital Officer at PointSource. Based in Raleigh, N.C., USA, PointSource is a design and development firm that works with clients to develop “mobile strategies based on user data and business requirements to create digital experiences that transform business. By partnering with enterprises we develop, deliver and launch those strategies. Our goal is to delight customers, enhance brands, improve productivity, create new interactions and address business needs”.<sup>6</sup>

### *Can you tell me a bit more about your company?*

PointSource is a Premiere IBM Business Partner, and we build mobile strategies and applications for companies of every size. We assist with aspects such as design, user experience, marketing, etc. and partner with the client throughout the process. If they do have in-house resources, we work with them to develop best practices for mobile development and implementation as we jointly complete their projects.

### *Which IBM products are you utilizing in your client engagements?*

We use a wide suite of technologies, including IBM Bluemix, IBM MobileFirst, IBM Web Content Manager, Cloudant and the IBM Engage marketing solutions. We are also using IBM UrbanCode for some client implementations of Continuous Delivery.

### *As a Platform as a Service (PaaS) supporting both application development and hosting, Bluemix is a relatively new product and PointSource can obviously be described as an “early adopter”. How did Bluemix come on your company’s radar?*

I was familiar with Bluemix from a previous position. As an IBM business partner, we are always inclined to try IBM technologies first. However we aren’t an “IBM only” shop and are not “saddled” to IBM solutions—our teams use the products they like and those clients request. However in the case of Bluemix there has been no pushback on internal or client adoption.

In fact, as we grew the PointSource organization, our developers began asking for Bluemix. And as they became proficient on the platform, they also began to share their knowledge with their team members. I guess you could say it was a “groundswell” on the part of our developers.

We did encounter differing opinions on source control tools, since about 50% of our clients are familiar with Git and preferred to continue to use it over the source control solution built into Bluemix. Luckily, Bluemix has an integration that supports Git so that has not created a problem.

### *How do you see the projects you are doing with your clients as tying into DevOps and Continuous Delivery functionality?*

We have discovered, in many cases, that although clients come to us for for mobile expertise, it is often equally helpful to them to learn more about DevOps and Continuous Integration and the processes that go into making them work. For example, one client we are working with had never before released in less than 18 months. Now we are releasing iterations as often as monthly.

<sup>6</sup> PointSource.com, downloaded 12/1/2015 from: [www.pointsource.com/aboutus](http://www.pointsource.com/aboutus)

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*Focusing now on Bluemix, many readers will likely be unfamiliar with its specifics. I know it is a Platform as a Service that developers can use to write code in their preferred language, and that the platform also includes pre-built modules such as databases and analytics, for them to use as “building blocks”. What type of learning curve is required to come up to speed with Bluemix in terms of mobile development?*

The learning curve is really fast. We have been hiring because we’re growing; however, we haven’t had to do extensive amounts of enablement for our new developers for them to understand the platform. We do have sandbox projects where we ask new employees to produce an app. Assuming they understand modern technologies such as JavaScript, we have seen new hires challenged in this way who have had apps working in two weeks. Much of what exists on Bluemix is in the form of microservices, and developers are simply using knowledge they already have to develop software and consume resources from a new source.

*In working on client projects, can you quantify the differences in time requirements for developing mobile apps on Bluemix versus by traditional manual processes?*

Well if we started a new project under traditional terms it would take 2 or 3 months simply to get a hardware and software environment in place to start the project. Now it takes a day, so the speed of getting started is incomparable.

However not only does Bluemix make it easy to get started, a big part of its value lies in the immediacy of working in the cloud. Developers aren’t spending time building environments, tracking down database installation CDs, or waiting for testing resources. It’s all available on the platform. This availability of services is part of the Bluemix value proposition.

*What other thoughts can you share with readers about developing mobile applications with Bluemix?*

I think that Bluemix is about offering a faster on-ramp to mobile applications and services. In the mobile space, speed to market is critical. Bluemix gives us the ability to offer faster time to market as a key value-add to our customers.

Bluemix also gives us the ability to ensure we are incorporating best practices into our projects and the educational aspect is important as well. Shifting focus from environment maintenance to actual development practices give clients a better understanding of development lifecycles and Bluemix as an implementation platform.

*Can you share a vignette from your customer projects with our readers?*

Finish Line is an athletic retailer. They wanted to build a loyalty application specifically tailored towards their “VIP customers”, those customers who were always first in line when a new product was queued up for release. The app is tailored towards these “winners circle” customers. It incorporates a release calendar and when the new model of the customer’s preferred athletic shoe is released, the customer is notified. They are offered an opportunity to purchase the newest model before it hits the market. In this case, mobile elevates the experience for them and offers rewards points, etc. which are vital to keeping good customers.

## Final Quote

*“I think that the best way of putting it is to not be afraid of what you don’t know in terms of mobile. Often times, decision makers for our projects are not the people who are most familiar with IT technologies and mobile development. They are coming from the CMO’s office or Line of Business. There is often a significant amount of fear associated with making technology choices, and the stages of the development lifecycle are based on a language they don’t know how to speak.*

*One of the best things about Bluemix is that you don’t need to know. Developed and maintained by IBM, whether you leverage the IBM-hosted or on-premise hosted version of the platform, you can rest assured that you are using a high quality, modern platform.*

*In other words, IBM and Bluemix help executives lead their companies into the mobile world with assurance that they are making a solid technology choice. And with the assistance of PointSource, they also receive the benefit of specialists that can help them develop processes and practices around DevOps and Continuous Integration to help them become more agile in delivering mobile technologies on an ongoing basis.”*

Summary of Outcomes
Faster ramp up – 2 to 3 months required to get development environments in place reduced to 1 day
Faster release iterations – example client decreased release frequency from 18 months to monthly
Bluemix use driven from within, as developers requested access for project they were working on
Developers freed up to spend time on developing versus on “operational” tasks such as installing databases or waiting for testing resources – resources are always available on the Bluemix platform
Developers become productive faster – Some new hires have had Bluemix apps up and running in as little as two weeks
Faster time to market makes clients more agile – Retailer able to tailor mobile apps supporting sales/marketing efforts to specific product releases and customer segments
Platform form factor reduces inherent risks of making the “right” technology decisions for mobile app development and delivery

## About Enterprise Management Associates, Inc.

Founded in 1996, Enterprise Management Associates (EMA) is a leading industry analyst firm that provides deep insight across the full spectrum of IT and data management technologies. EMA analysts leverage a unique combination of practical experience, insight into industry best practices, and in-depth knowledge of current and planned vendor solutions to help EMA's clients achieve their goals. Learn more about EMA research, analysis, and consulting services for enterprise line of business users, IT professionals and IT vendors at [www.enterprisemanagement.com](http://www.enterprisemanagement.com) or [blogs.enterprisemanagement.com](http://blogs.enterprisemanagement.com). You can also follow EMA on [Twitter](#), [Facebook](#) or [LinkedIn](#).

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### Corporate Headquarters:

1995 North 57th Court, Suite 120  
Boulder, CO 80301  
Phone: +1 303.543.9500  
Fax: +1 303.543.7687  
[www.enterprisemanagement.com](http://www.enterprisemanagement.com)

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