

2011 Application Performance Management Survey: Apps on the Move

Business White Paper

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Abstract

Application Performance Management company AppDynamics recently surveyed a group of professionals directly responsible for the oversight of application performance, specifically in Java and/or .NET environments. Based on the answers from over 150 respondents, certain themes came into focus:

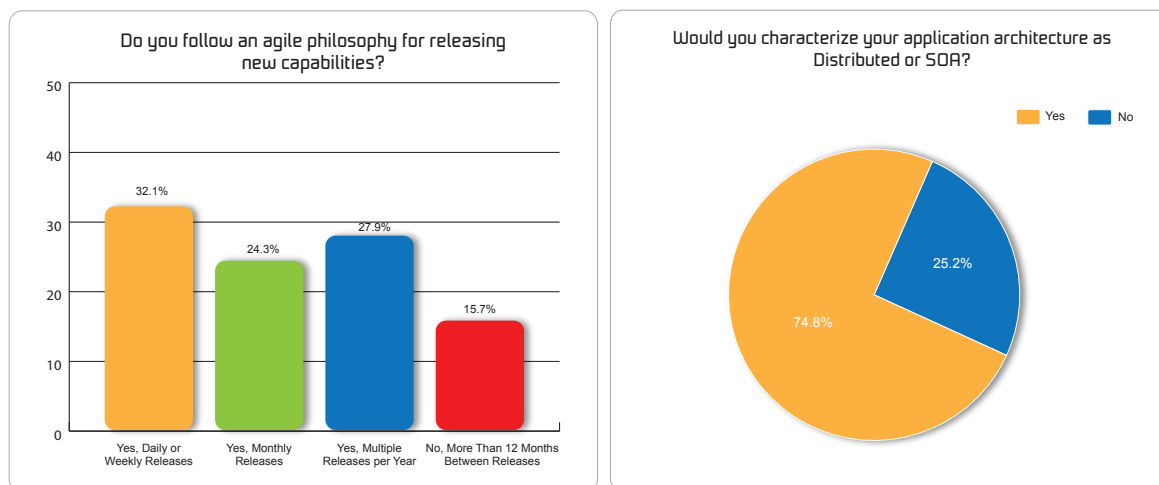
- Agile Development and Service-Oriented-Architectures (SOA) represent the “new normal.” The vast majority of respondents release new capabilities multiple times per year and operate applications built with SOA architectures.
- Application professionals are optimistically moving forward with virtualization and cloud initiatives. They have identified the business reasons why moving applications into cloud and virtual environments makes business sense, and they anticipate financial and competitive advantages from the transition. However, in some cases, significant challenges have prevented those projects from being completed.
- Respondents agree that these new initiatives – agile, SOA, cloud, and virtualization – create new complexities and force them to confront a higher rate of change. The majority of respondents indicate that managing these new environments is harder than legacy environments.
- Application outages and performance failures in mission-critical continue to plague app owners, with many companies reporting serious problems that lasted more than several hours. As a result, respondents have begun to embrace “DevOps” practices and have started to look for application management tools that are suited to resolving issues quickly.

The overall picture of application performance suggests a continued state of change, complexity, and volatility – fueled by the rise of Agile/SOA as well as the continued migration of applications to the brave new world of cloud and virtual environments.

The following summary provides more details around these insights.

THE NEW NORMAL: SOA & AGILE

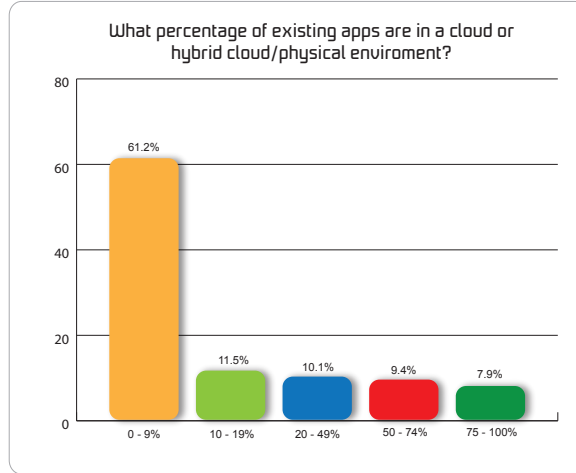
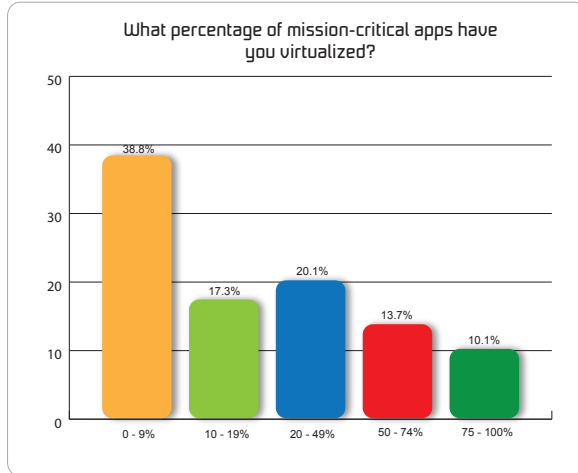
Survey respondents indicate that they’re past the point where Agile and SOA represent a future destination for their IT departments; rather, these environments have become the status quo. 85% of respondents indicate that they perform multiple “agile” releases on a monthly, weekly, or even daily cycle. At the same time, 74% of respondents characterize their existing architecture as distributed or SOA.



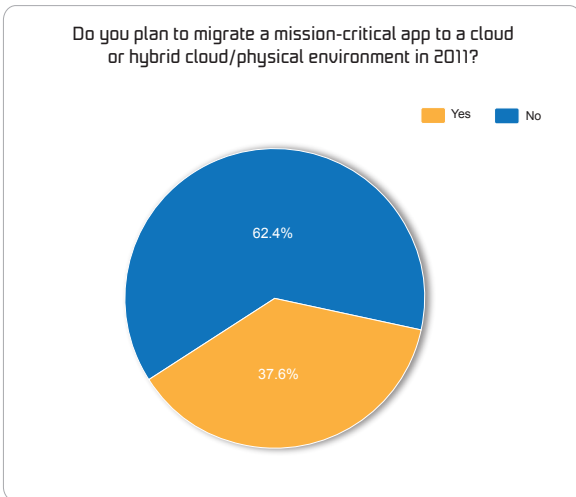
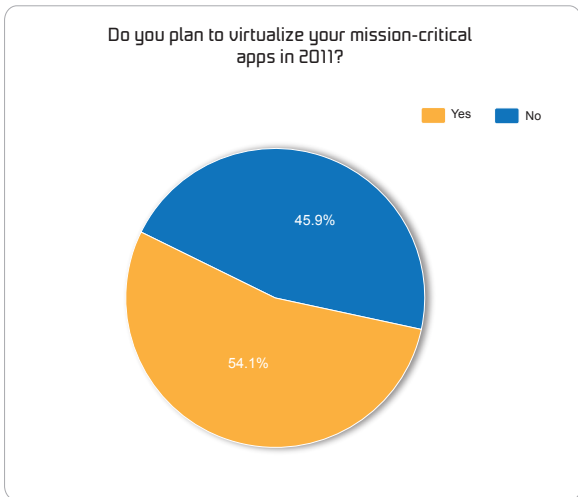
These trends will continue in 2011: nearly 49% expect to ramp up agile deployment in 2011, and 66% expect to leverage additional SOA initiatives in regards to mission-critical apps.

WHERE ARE APPS MOVING—AND WHY?

Not surprisingly, as many application owners consider virtualization adoption to be a stepping stone to cloud deployments, more respondents stated a preference for initiating virtualization projects over moving apps to the cloud. At the same time, significant virtualization projects have already been completed: over 60% of respondents have virtualized 10% or more of their mission-critical apps. But the adoption of cloud or hybrid environments for critical apps appears to be far less.



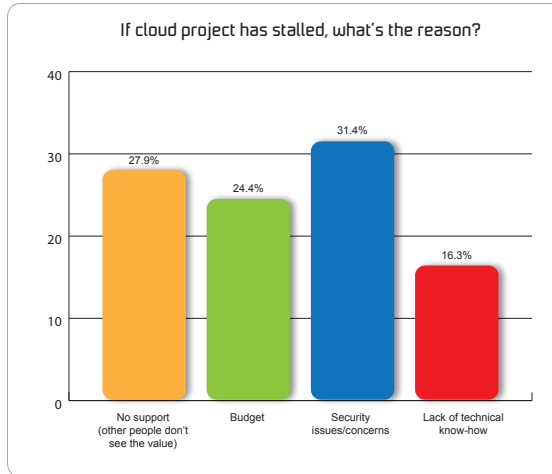
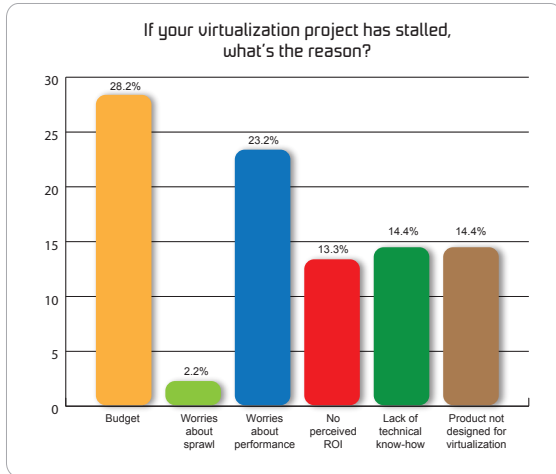
This trend is set to continue in 2011. Respondents indicated that they're interested in proceeding with virtualization projects before worrying about migrating apps into the cloud. 54% have virtualization projects on the docket for 2011 versus only 37.6% for cloud.



The reason for pursuing virtualization and cloud projects pertains to business agility; 65% are hoping to become more agile as a result of migrating their apps. But cost savings clocks in as a secondary reason for the migration, as well as the desire to gain an overall competitive advantage.

At the same time, respondents indicated that they continue to face challenges in regards to their app migrations, and different reasons were noted for stalled virtualization and cloud initiatives. In the case of virtualization, the primary reason was budgetary. Performance issues were also a grave concern, potentially as a result of application owners worrying about increased production outages and performance slowdowns post-virtualization.

Surprisingly, fear of virtual sprawl – which is a much-written about problem in regards to virtualizing apps – appears to be a negligible concern.



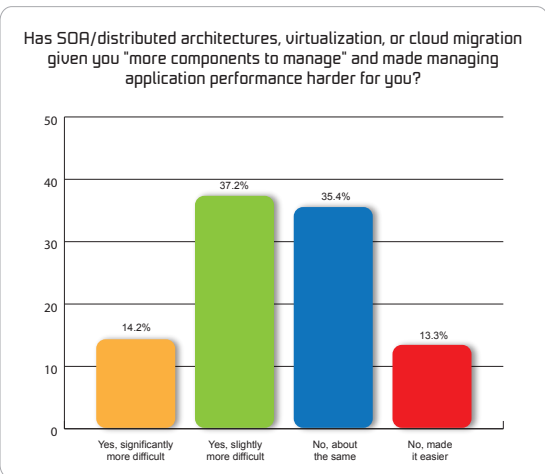
But in the case of moving apps to the cloud, security concerns were paramount.

It's notable that the secondary reason for the stalling of cloud initiatives was "No support/other people don't see the value" (27.9%). This suggests that although virtualization has been heavily socialized and accepted within IT organizations, cloud initiatives remain hampered by stakeholders attempting to parse between business hype and business reality.

COMPLEXITY ON THE RISE

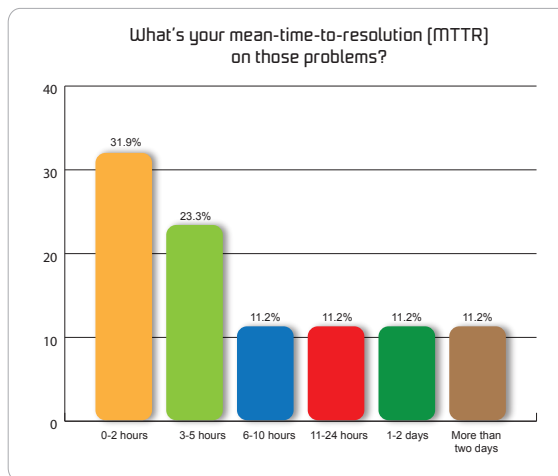
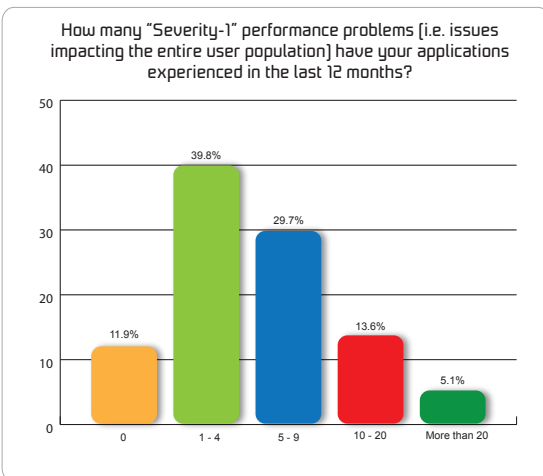
Survey respondents agreed that the compounded effect of these new initiatives – agile, SOA, cloud, and virtualization – have given them more complexity to manage and forced them to confront a higher rate of change.

The implicit conclusion is this: "it used to be easier." When applications lived within a relatively simple, monolithic environment where a single database talked to a single server, application performance was close to being a solved problem. But SOA, Agile, and the advent of virtual and cloud environments have made the landscape much more difficult to manage.



APPLICATION PERFORMANCE: THE STATE OF THE NATION

As a result of all this complexity, critical applications continue to suffer significant problems in terms of both production outages and performance failures.



88% of respondents reported that they have experienced at least one Severity 1 problem in regards to mission-critical apps in the past 12 months, and nearly 50% have experienced five or more such problems. Furthermore, the Mean-Time-to-Resolution to resolve these issues was not speedy. Over 40% of respondents took longer than 6 hours to achieve problem resolution, which is approximately 3x worse than what Aberdeen research indicated was “best practice” in their February 2010 report, The APM Lifecycle. Over 10% of respondents took longer than 2 days!

Perhaps as a direct response to these issues, over 36% of respondents have already embraced a DevOps philosophy, where both IT ops and dev manage applications in tandem.

There’s been a great deal of blog and Internet hype about the rise of the “DevOps” movement, but it does appear as though the practice is being embraced. Nearly a third of survey respondents noted that their Development and Operations teams share the same reporting structure and are jointly responsible for the performance of mission-critical applications.

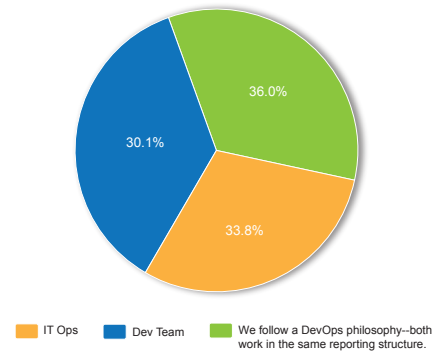
The simple conclusion is that the prevalence of SOA and Agile turns the idea of DevOps from a nice idea into a business imperative. Trying to manage complex applications from within silos is a recipe for disaster. If Agile and SOA represent the “new norm,” then collaboration between Development and Operations teams is also quickly becoming a new reality as well.

There’s another key reason for the apparent prevalence of performance problems and a long MTTR: despite the apparent pain associated with production-level app management, IT hasn’t made a sufficient investment in Application Performance Management (APM) tools. Very few respondents use a true APM tool.

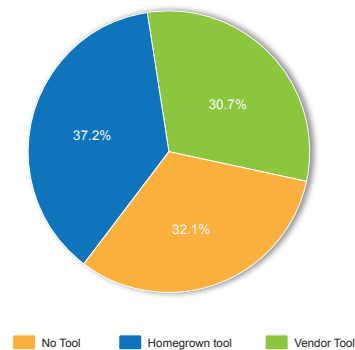
37% of respondents “fly blind” and use absolutely no tool; 30% use a homegrown tool. Only 30% use a third-party APM solution. It may be possible to conclude that the persistence of application outages and failures is due to insufficient use of high quality Application Performance Management (APM) tools.

In regards to those who did use an APM tool, 48% indicated that they lack deep diagnostics that also carry low overhead – but that this is a desired feature. Other features that respondents wished they had were better visibility, the ability to auto-discover application components, a heightened ability to trace business transactions, and the ability to remediate capacity in cloud and virtual environments.

Who is responsible for managing app performance in your organization?



How do you monitor Tier 1 apps in production?



SUMMARY

Application environments continue to evolve at a rapid pace. Companies have not only adopted Agile release cycles and built SOA environments to support their IT teams, but they plan to expand their use in 2011. At the same time, virtual and cloud projects continue to be pursued – although virtualization is more highly prized than cloud at the moment. Budget and performance concerns weigh on virtualization projects, while security concerns – and in some cases, a lack of perceived value – are slowing down cloud initiatives.

All of these innovations have given IT Operations more complexities to manage and more obstacles to overcome in an environment where change is the new constant. This explains why respondents indicate continued performance problems in regards to Tier-1 applications, with performance failures and relatively long Mean-Time-to-Resolution periods being the norm. Contributing to this situation, in many cases, is the lack of a strong APM tool that contains all of the features application owners need to manage highly distributed production applications.

The complexity of managing mission-critical applications will only intensify in the near future. However, there are interesting new developments – such as the appearance of a better collaboration between Development and Operations, and the emergence of a new breed of APM tools designed specifically to enhance troubleshooting and root cause diagnosis for distributed applications. New strategies and best practices for application performance management must continue to be formulated to ensure the proper running of these applications in today's new environments.

ABOUT APPDYNAMICS

Founded in 2008, AppDynamics is a next-generation Application Performance Management (APM) company that delivers rapid problem resolution for highly distributed applications through easy-to-use transaction flow monitoring and deep diagnostics. Unlike other APM providers, AppDynamics finds the root cause of performance problems without introducing excess overhead or requiring a complex and costly installation. AppDynamics is also the first APM provider to dynamically scale applications in virtual, physical, and cloud environments. For more information, visit www.appdynamics.com or download our free java performance tool at www.appdynamics.com/free.



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