

CIO ROUNDTABLE:

DevOps and the CIO

An Enterprisers Project Virtual Roundtable | March 2014

DevOps, the emerging IT methodology that advocates a collaborative working relationship between Development and IT Operations, is a hot topic today as companies strive to deploy applications faster, more reliably, and more securely. Easier said than done, however, when internal camps are sharply divided. On one side, a customer-facing group of developers who are motivated to change things rapidly. On the other, an infrastructure operations group whose mission is to standardize and reinforce stability. So how should an IT executive encourage, oversee, and participate in the formation of a DevOps culture? The Enterprisers Project assembled a group of seasoned IT leaders in an interactive exchange to find out.

Panelist Profiles



PETE BUONORA
Enterprise Architect
BJ's Wholesale Club



LEE CONGDON
CIO
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TOM SODERSTROM
Chief Technology Officer,
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MERV TARDE
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Warner Music Group

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On Drivers for DevOps

THE ENTERPRISERS PROJECT: What is creating demand for DevOps in your organizations?

TOM SODERSTROM: The demands for DevOps are increasing dramatically because we have to develop so many more things much more quickly—and the one-size-fits-all model where you have years of budget for one thing is not there anymore. In the end, what is driving it for us is the need to automate everything.

LEE CONGDON: Our journey started a couple of years ago, but we really got serious last year when we visited Netflix and Facebook and learned that they're pushing hundreds of changes into production globally on pretty much a continuous basis. We were being driven by a need for fast responsiveness to our business and the reality that our production team didn't have visibility into the priorities that our internal customer-facing team did.

PETE BUONORA: At BJ's we are at the beginning of transforming to more of a DevOps culture in some areas such as mobile app development and e-commerce. We've started to see there are conflicts between the processes that we have in place and the DevOps mentality. It is easy to fall back into a waterfall mindset, but we need to be able to iterate on consistently to meet business needs.

TEP: What does DevOps look like in your organization in early 2014? Have there been challenges in making it real?



Merv Tarde

MERV TARDE: We look at areas of business that need fast turnaround for DevOps and use more of a waterfall approach for back office areas.

When we moved to an agile methodology several years ago we were putting out functionality or complete applications as quickly as the business need-

ed them. We haven't really seen a problem from the business point of view because of the close coordination that we have around our Officers table. From a DevOps perspective I would say that it's the agile approach that we are moving toward because of the response of that group.



Tom Soderstrom

TOM: We do a lot of prototyping, and those prototypes are DevOps. A prototype is developed for testing, then handed

over to Operations if it passes muster and becomes a pilot. We bring the developer along to transition it. We're kind of half-and-half now. A few years ago we were completely not DevOps.

LEE: We reorganized in the third quarter of last year and actually put the Operations and Information Security Team in charge of IT Enablement. We added the DevOps folks to that group so that they took ownership and created a much more agile end-to-end process. My folks taught me that it's all about automation and being able to quickly move development projects to the various stages and put them into production without having to do a lot of manual work and infrastructure tasks.

PETE: A lot of it is just moving on from traditional IT things we have always done and bringing in some of these new approaches and thinking about how we apply them properly so we're delivering our business value in the time needed. For example, we're seeing how cloud computing can enable some of these things and how building up our internal capabilities, step-by-step, will deliver more automation. These are things that smaller DevOps cultures and companies have been using for a number of years, but for us it's quite a shift.

DevOps and the Role of Cloud

TEP: Pete, you touched on an interesting facet of DevOps, which is the use of cloud and Platform-as-a-Service to accelerate and even enable the benefits of DevOps. Is cloud something that goes hand-in-hand with bringing a DevOps culture and practice to life in your company?

MERV: When we looked at going to the cloud to deploy things faster, we found out

DevOps as Organizational Reality

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that we're about 90 to 95 percent virtualized in our Operations area. So we can turn things around probably a little bit slower than maybe a cloud application, but not that much. We have found that becoming virtualized has really allowed us to respond to the business much quicker when it comes to deploying infrastructure.

LEE: We are coincidentally using our Cloud Services team, the folks that are writing the shared services that will be used by all of our cloud applications, as the DevOps pilot. And certainly the ability to set up virtual machines in cloud environments rapidly is a plus. But I would say they're complementary, not a prerequisite for us. Having the ability to use cloud services for development and certainly [to] achieve our strategy of being able to deploy internally and externally, indifferent to the environment from an application perspective, is going to be important. But right now they're complementary.

TOM: The cloud is part of our DevOps strategy. We are fully operational in cloud computing and have been playing in it for six years. What we discovered is that, as we try something new, we start it in the cloud—and that way we are not impacting any of the internal IT because we can do it so much faster. So we use various clouds, depending on the sensitivity. We can test it out there, we can make sure it works, and then if it makes sense, we can deploy it inside or outside or preferably in a hybrid manner where we use a hybrid cloud. So it has made us much, much, faster and cheaper because if it doesn't work, we just tear it down and don't have to transition computers.

PETE: Cloud is where I believe we will see some major benefits. Such as the ability to experiment by quickly setting up infrastructure and also templating infrastructure. I think that's quickly maturing internally and externally. With the leading cloud services, you get more ability to template-out entire environments beyond just what typical virtualization will give you. And also the ability to spin down environments when they are no longer needed. There are also a wide range of services that are already built into the environment

and ready to turn on such as monitoring, load balancing, archiving and backup services.

One area where we're struggling a little bit is where the data resides and how to best

manage that and get connectivity into legacy systems when you want to get the data and then present it back into a more modernized system that may be hosted in the cloud. What's the best way to approach those things? We're still working through that stuff with a vision towards enterprise API's and services.

“ *We have found that becoming virtualized has really allowed us to respond to the business much quicker when it comes to deploying infrastructure.* ”

Tips on Making DevOps Real

TEP: What challenges might a CIO or an IT executive face in trying to bring a DevOps culture to life, and what tips would you give them?

LEE: I will make the general observation that you've got a customer-based group of developers that are motivated to change things very rapidly because they're trying to be responsive. Then

you've got a group of folks on the infrastructure side that traditionally are trying to keep changes from happening because they are motivated towards stability and actually having production systems work.

As an IT leader you've got to think about how you're going to integrate those two cultures and make it advantageous for both groups culturally to be incented to do a series of rapid changes of the size and of the scope that won't impact your production systems. This is very different than the traditional model of a build, a big test cycle, a release, and a rollback if necessary. This is about a lot of incremental changes that you need to consider: changes in incentives, changes in the culture, and changes in architecture. But you can also get started with a smaller group and you also need to start moving down this path because your business units need this sort of capability regardless of the enterprise you're in.



Rajesh Wunnava

RAJESH WUNNAVA: One of the things we're experimenting with is to bring what we call AppDev, especially tactical AppDev, plus Infrastructure Ops into the same organization. It serves some degree of cultural collaboration because if you're on the app side, you will find it from the infrastructure team that a server is down; and that's all. I mean, an engineer is going to come, but already, you know, the server is remote,

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or on site, it's going to take three hours, this is in our SLA. Very seldom do they say: Well this is down so this is costing our business 'X' amount of dollars per hour. And so if you get them onto the same team and enable that they are working more closely together, they'll see that they are responsible for customer services as opposed to application services or infrastructure services.

DevOps Surprises

TEP: An EVP of Technology we talked to had a big "ah-ha" moment when he realized that, in DevOps, Project Management is becoming a real partner of the software engineering team and is moving into a much more collaborative role. Have there been any nice surprises or unexpected learnings as you've moved into this new kind of culture?

TOM: We have a lot of technical people, and if IT cannot respond quickly enough we get Shadow IT. So one surprise is that DevOps has actually helped us take advantage of Shadow IT, in two ways.

One is where you just let the Shadow IT develop and operate because it's smaller to start. Then, if it makes sense, you move what they're doing into an enterprise-wide application or into production, and ultimately to the Operations Team. So all of a sudden you almost have—for free—a new capability that's been proven and it works.

The other way is where an idea comes up from Shadow IT and IT invests a few engineers in their environment and they develop it together, hand-in-hand, with the Operations side. And then they operate it for a little bit and hand it over. So they spend less money on IT and get more out of it.

LEE: As we were contemplating the organization, we consciously decided that

we needed to make DevOps a success. We looked at what was a very successful PMO and realized that if we continued to grow its capabilities we'd get better at projects, but we wouldn't necessarily be delivering business value faster. So we actually transitioned from a PMO to a virtual PMO, if you will.... [We created a] Center of Excellence in the Office of the CIO and moved the project managers into the various development teams. So they are still expected to follow the processes and controls, but we felt that swinging the pendulum back and giving them a little bit more flexibility would actually enable the teams to move faster. We're taking a little risk on the control side and we're going to have to monitor it very carefully. But for the time being, distributing the PMO and giving the teams more flexibility in following the guidelines and standards has actually enabled us to accelerate.

PETE: One pleasant surprise so far is how well the business areas have perceived the DevOps approach and look at it as a way to be able to deliver smaller incremental pieces more quickly. In the waterfall approach, it has always been about trying to "load up the boat" in Phase 1 of the project because we don't know if a decision happened, or what can happen. But with the new approach it's been much more accepted that we're going to get this smaller piece much sooner and the next piece next—and you can just keep iterating right through. So it's not just the standard project that is going to end at Phase 1 and may get knocked off by something else in Phase 2.

TOM: One of the remarkable things for us is the self-help culture DevOps is creating. People who have been here a while expect to call the help desk and everything will work. But the newer generation coming in are more self-help people, so we can talk about the concept of operations in this new arrangement and agree on what needs to have an immediate response and what doesn't. And a lot more self-help is springing up because of the DevOps people. They want people to help themselves. So we're getting this Level Zero help desk,

if you will, growing much, much faster and much better because of DevOps.

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Measuring DevOps Success

TEP: Two final questions: What

kinds of results are you seeing since you've begun to move to a DevOps culture? And how are you trying to measure success?

LEE: For us, the number one measure is speed from the time the agile team starts a project until it's in production. We want to be ahead of the business so that if the business isn't ready, we let them decide how fast they want it to move.

TOM: I agree completely with that. Another success measure is that they see it costs less overall because we don't take heavy ideas and develop them all the way because of the prototyping idea, and we get more profit. So reducing overall costs of development. The other thing we really want to measure is customer satisfaction. If it doesn't go up we'll figure out what we did wrong.

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MERV: We're basically the same but we have two things to drive us. One is excellence, which comes before speed, and the other is using the Net Promoter Score concept. So we're getting everything measured that we can by that type of net-promoter scoring methodology from our stakeholders on how well we do things. Whether it's speed, excellence, or getting things out in a certain timeframe, we use short surveys—real quick, you know, no more than a minute—[we put] these things out and measure how well we're doing.

TOM: When you do those short surveys, what kind of response rate do you get?

MERV: I know if we keep it short, within a minute or two, we're getting response rates of probably 70 to 80 percent, which we consider to really be pretty good. But if we give something out that takes ten minutes or more, it goes down drastically, well below 50 percent; probably more in the 20 to 25 percent range. People don't have the time.

TOM: One other question I have is around A/B testing. Is anybody yet doing this in their enterprise?

LEE: We did it a lot at Capital One when I was there. It's just starting here. We've got a new version of our website coming online soon and that will have extensive capability to do [A/B testing]. One piece of serendipity is that I walked past one of my development organizations today and they had [A/B testing] up on the white board, so I would say we're in the very early stages, but we will be implementing it later this year on a much broader basis.



Pete Buonora

PETE: Especially with more innovative projects, we're definitely starting to implement some split testing and we are looking to put some of that into the process. I have been trying to inject some of the concepts from the Lean Start Up and that's one of the core concepts—along with the feedback loop and putting it in front of the customer and getting a direct feedback before you can move on to the next step and thinking about whether to “pivot or persevere.” So we use some concepts that are slowly working their way into the enterprise through an organic fashion.

TOM: That's great. All the things you mentioned are great ideas.

MERV: We are not doing this that formally, but it is something that after this conversation I will be looking into, that's for sure. We use something similar, but it's in our agile group and eBusiness group and that's it.

TEP: Thanks, everyone! Great conversation. And glad to hear DevOps is going so well for everyone.

ABOUT THIS PROJECT

The Enterprisers Project is an open-sourced dialogue about the future of the CIO. Our goal is to bring together business-minded IT leaders to discuss the evolving role of CIOs as they drive business strategy and inspire enterprise-wide innovation. Hear more from our Enterprisers Editorial Board, and explore articles, resources and conversations, at www.EnterprisersProject.com

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