Q&A

MomentumSI

What is DevOps?

Q: What is the DevOps movement?

DevOps is an umbrella concept that refers to the growing need for far better collaboration between software development and IT operations teams in businesses, particularly large enterprises. The improved collaboration is achieved by adopting lean and agile principles.

It sounds simple enough, but in reality, there are other concepts and methods behind DevOps that run deep and affect many levels of the business and it's bottom line. You can think of DevOps as representing the ideal state that would occur if companies were to adopt and implement all of these other concepts and processes that fall under it.

Q: Why now? What has happened or changed to cause people to focus on the need for DevOps now?

There has always been a disconnect between software development and IT operations teams, but for a long time no one had figured out what to do about it. But that's not the case anymore. Leading-edge companies like Facebook and Twitter have figured out how to solve the problem and the whole industry is seeing their results – exponential decreases in the cycle time it takes those companies to release new software features to their customers. Instead of 6 months between new features and 18 months between major upgrades, these companies have reduced those cycles to within weeks or even days by using methods like continuous integration, continuous testing and continuous delivery. That's phenomenal and IT executives and business operations teams at other companies are now asking, "Why can't we do that?"

Q: So what has been holding back other, more established, companies from figuring out what these leading-edge companies have done? Why didn't they figure it out sooner for themselves?

There are several reasons other companies, particularly large enterprises, continue to have slow cycle times:

- Historical bureaucracy accumulated over decades is one thing that has held back a lot of companies. Over time, they have developed overly complicated processes and systems that need to be re-evaluated.
- The silo affect is another cause. Most IT people have been taught discreet functions. When problems arise, a lot of finger-pointing takes place. And if an effort has been made to improve and speed up a process, it has been too limited. A particular department might get budget and resources to go fix a problem in a particular area – like development, or release, or test – but the problem hasn't been fully considered or tackled from a higher, overarching, cross-departmental viewpoint.

Q: What are the driving forces behind DevOps?

DevOps follows the key tenets of the agile software development movement and represents a fundamental shift in how large, distributed enterprise organizations develop and release software. It affects the people, processes and technology of your organization and requires adopting and implementing leading-edge paradigms – such as continuous integration, continuous testing and continuous delivery – in addition to proven best practices in the areas of build automation, configuration management, release management and deployment.

Q: How do all of these paradigms and best practices fit together?

There are several other processes and concepts that fall under the DevOps movement. To help you understand what DevOps encompasses, think of DevOps as a concept at the highest level – an umbrella concept. Under DevOps is another umbrella concept called Agile Methods and Infrastructure, and under that is a third umbrella concept called Continuous Configuration which is made up of several distinct, but related processes called Continuous Integration, Continuous Testing and Continuous Delivery.

Implementing any one of the lower-level processes will deliver profound benefits to that area of a business – including the employees, the customers and the business bottom line. But as the adoption grows laterally and upward within the business the benefits are even more profound and grow exponentially.

Q: Why should IT managers care about DevOps?

IT managers should care about DevOps because implementing it is going to make their daily jobs so much easier and hassle-free when it comes to developing and releasing software by making them more efficient and nimble.

From the perspective of individuals who are doing operational roles and hands-on-development, there is so much pain in their processes right now that take up too much time, cause lots of frustration and lower morale.

But really, the question should be, "Why should a company care about DevOps?" because to achieve true DevOps nirvana, it has to be adopted across every aspect of the enterprise IT organization because it resonates on every level – all of the enterprise-level disciplines, development disciplines, and support disciplines. And it requires culture change, unified processes and unified tooling in every aspect.

Q: So then: Why should a company care about DevOps?

We cannot underestimate how important DevOps is going to be for companies to stay competitive in the future. It's going to have a huge impact on companies' bottom lines. "Don't adopt it at your peril." It will vastly cut waste and inefficiencies out of business processes, and vastly improve the speed at which companies deliver new products and improvements to their customers.

Q: How do companies get started with implementing DevOps?

First, they need to recognize that they have a problem. A lot of companies don't even realize the problem exists. Once they recognize it, there are lots of areas and ways to start. There will likely be combinations of top-down and bottom-up approaches. The important thing is to get started, and the sooner the better because this is going to be a multi-year process for pretty much any company. Those who start sooner will gain the competitive edge – and for something this big that is a fundamental shift in the way companies will be doing business in the future, they can't afford to wait and be left behind.

Here are the steps we recommend:

- Learn about DevOps principles through self-education or by bringing in experts like us.
- Assess your organization and processes to determine which areas to address first in terms of what will deliver the highest value change.
- Determine the metrics that will be used to measure improvement and success; for example, the time it takes to develop code and the time it takes to release code.
- Decide what areas to focus on in the short- and long-terms.
- Start training and implementing. Track progress relentlessly and adjust when needed.
- Begin roll-outs, and as success is achieved in one area, tackle the next.

Change doesn't happen overnight, but once it starts, a ripple-affect occurs and great things can happen.

Q: How will a company know when it has achieved DevOps?

The key sign is reduction of cycle times and seeing them continuously reduce.

Q: Where in the process are most companies?

Many smaller companies are far along and doing well at DevOps. However, enterprise companies are just becoming aware of the problem.

Q: What type of investment will companies have to make to implement DevOps?

The investment needed is not really all that significant compared to what most companies have done so far.

Q: How can a company recognize that they are a poster child for the problems leading to the need for DevOps?

If a company is re-releasing their software, i.e. introducing new software features, only once or twice a year, then they have a problem.

Q: Are there certain industries that have stronger needs for implementing DevOps sooner rather than later?

Yes. Companies with customer-facing operations such as airlines, insurance companies, and banking institutions are heavily in need of implementing DevOps.

Corporate Headquarters:
12710 Research Blvd, Suite 120
Austin, TX 78759

Regional offices:
New York
San Francisco
Washington D.C.
Sydney

Contact Information:
512-236-1517 (Main)
888-886-8560 (Toll Free)
sales@momentumsi.com
www.momentumsi.com

About MomentumSI

MomentumSI is a leading boutique IT consultancy focused on enterprise transformation. We are known for helping large enterprises quickly and cost-efficiently adopt innovative, agile practices to align business needs with IT processes. We specialize in helping companies incorporate disruptive technologies, including Cloud Computing, DevOps, BPM and SOA.

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