



DevOps UNCOVERED

Everyone is talking about it, but who is doing it?





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It seems like everyone has a different answer to the question, “**What is DevOps?**”. A quick online search reveals that DevOps is understood as — a culture, a movement and a practice. Needless to say, it’s challenging to understand what DevOps is without learning from people who are doing it.

Infuse decided to get the opinions of four industry leaders who are all involved with DevOps; three are from tier 1 consulting companies and one is from Jet2, which is embarking on the deployment of DevOps in their organisation. They represent a good cross-section of the industry and their varying views on DevOps illustrate how complex this nascent topic is. Our approach was to ask each of these industry leaders five questions and then summarise their responses in this whitepaper.

Let's meet them:



Chris Baynham-Hughes
is Head of DevOps for
Atos UK Ltd.



Jonathon Wright
is Head of Digital
Engineering for
Hitachi Consulting.



Kieran Cornwall
is the Head of Digital
for Sogeti UK



Paul Salmon
is the IT Director
for Jet2.

Here are the five questions

1

Everyone’s talking about DevOps, but what is the real uptake you’re seeing?

2

What issues are you trying to solve with DevOps?

3

How are you approaching DevOps implementation?

4

What challenges do you typically face?

5

How do you see DevOps growing over the next 2-3 years?

Question one:

Everyone's talking about DevOps, but what is the real uptake you're seeing?

Chris @ Atos: These days it's rare to see an RFP that doesn't either mention DevOps, or indicate that such an approach is expected.

DevOps has grown up around companies that have started with cloud native applications and little, if any, legacy. These companies have been totally disruptive in the market and they have achieved that by understanding that it is SOFTWARE and that their ability to re-mould it to fit their customer's needs is what has made them so successful. Nevertheless, it has taken a year or two of evolving the practices to get to where they are. Our clients tend to be more complex (large enterprise estates with all sorts of legacy) and thus it's daunting to make the change: will the existing teams be capable? Is the business ready? Will I lose control? Will it expose me?

Jonathon @ Hitachi: The Digital Assurance landscape is changing forever. The traditional CoreIT (Mode 1), which currently represents around 60% of our customer's landscape, is being challenged to reduce operating costs whilst keeping the lights on, as well as provide rock solid performance whilst being plagued with ShadowIT and 'Hybrid DevOps' solutions.

With organisations moving towards faster delivery times and agility by embracing FluidIT (Mode 2), which represents around 30% of our customer's landscape, there has been more focus on adopting Agile practices and more recently scaled agile approaches such as SAFE (v4), DaD and LeSS that support more 'DevOps by Design' adoption to align with current behaviours, processes and technology.

However, over the last five years, with the "lean start-up generation of unicorns" (born in the cloud), the AdaptiveIT (Mode 3) generation, which represents the final 10%, has been gaining momentum as they focus on disruptive business models that have native DevOps practices at various levels of 'DevOps' maturity (i.e. Ready, Capability or Enabled) to support continuous communication, collaboration, integration, automation, insight and measurement.

Kieran @ Sogeti: No one can really put a hard stamp on what 'DevOps' really is; there is no market standard. Some companies see it as a way to become more efficient by creating product teams and delivering iteratively. Others believe it's a cloud environment enabler or a way to get to market quicker.

It depends on the customer and the need. It can often start with, "what does DevOps mean to you?" because that's what's most important, helping your customer reach their goals. As consultants and individuals experienced in the DevOps arena it's our job to take that customer on the journey towards what they're trying to achieve.

Paul @ Jet2: As a business, we are a cloud-based organisation - utilising the underlying principles of DevOps has been the only way we could build a reactive, market leading/disruptive business. Our engineers and developers pretty much all work on the same floor, working on any feature that is required and we deliver changes multiple times a day. We have dev and test people, all technically skilled to deliver change continuously.

Question two:

What issues are you trying to solve with DevOps?

Chris @ Atos: I'd say customers understand that the success of their company now, and in the future, is directly linked to their ability to evolve their software at the speed their customers demand. There are typically four areas of interest our customers desire:

1. Improving customer satisfaction:

- Focusing on delivering the features that add the most value to their customers

2. Faster time to market:

- Shortening lead time (the time from customer asks to customer gets)
- Increasing speed of feedback to developers and the frequency of deployments
- Improving collaboration between the business, Dev and Ops teams

3. Improved quality and availability:

- Reducing risks related to software release
- The Bi-modal IT challenge

4. Lower cost of delivery - removing wastage in the deployment pipeline:

- Eliminating differences and human errors in the Development, Test, Acceptance, Production (DTAP) environments
- Reducing bug triage time
- Eliminating the need for environment scheduling through on-demand provisioning
- Source controlled scripted environments – known state and configuration for all environments at any one time

Jonathon @ Hitachi: This step change in IT is typical; responding to business drivers expressed as:

- Business agility and enterprise mobility
- Improve efficiency and productivity
- Increased customer reach/base
- Improved quality and performance
- Faster time-to-market
- Digital (customer) engagement
- Removal of shadow IT
- Cost reduction
- Increased departmental collaboration
- Increased and deliver innovation
- Improved development and test productivity
- Reduced cycle time
- Reduced time for maintenance (MTTRS)

Fundamentally, the underlying driver is the same – the ability to compete in a world where grand masters are taken down by new players barely out of their infant years because the grandmasters were unable to respond to digital disruption.

Kieran @ Sogeti: It's very easy to overcomplicate, so in the vein of keeping things simple: it's a way of delivering cheaper, faster and with a higher degree of quality. Many businesses work around a project basis; projects spin up and disappear, leaving the common 'grey space' between who delivered the project and who looks after it. A culture change towards a product is a core strategic value at this stage, as generating product teams that maintain and deliver in a continuous integration environment is key to iteratively deliver value.

Continuous integration, essentially automating as much of your product as possible, is vital to help your company be dynamic and deliver the necessary change as and when needed. DevOps is now the core driver that incorporates the codification of environments, product and monitoring of your business products.

Paul @ Jet2: We started rapidly growing around the time when there was a huge transition of people moving away from traditional Travel Centre shops to online. We have seen continuous year on year growth in customers to our airlines and holidays sites. More recently, in the past few years we have seen increased pressure from our competitors and we need to compete in two key areas:

- Customer experience
- Being able to offer our customers features to enable them to bespoke their approach to identifying the right holiday for them. We do this through technologies that allow localised changes, fast and targeted searching.

With a DevOps approach we can rapidly push out new features to our websites and systems, we can try new approaches on a selective set of our customers and we can react quickly to our customers. We can lead the market but respond quickly if the results are not as expected, or evolve if results are better than expected.

Question three:

How are you approaching DevOps implementation?

Chris @ Atos: At Atos our DevOps model has four cornerstones. One can work on one of the cornerstones and ignore the rest to a degree, but will rapidly see diminishing returns on their investment. To maximise ROI an implementation must find their balance of the cornerstones. The four areas are split across culture and technology:

Culture

1. Make Agile

- Iterative way of working based on business priorities in short feedback cycles and improvements

2. Collaborate

- Empowered, cross-functional, stable and knowledgeable teams engaged directly with the business

Technology

3. Standardise

- Integrated solution stack and use of standardised and proven shared services

4. Automate

- Automation of repetitive manual tasks (build, deploy, test, release and monitor)

In short, we ensure a common understanding, find the key pain points, then empower and support the teams to start addressing it.

Right now, particularly in the UK, we're seeing lots of examples where organisations are trying to implement Continuous Integration/Continuous Delivery and calling it DevOps.

This is an important step on the maturity curve and a true enabler, but it is not DevOps as it isn't addressing the operational challenges (operate, monitor, solve) nor the human cultural side...

Jonathon @ Hitachi: Adopt a simplified definition that helps facilitate a common understanding, and bridges developers and operations with a common goal for improving release agility. Then establish the needed business outcome, and work back to IT metrics that will support them. Set expectations that initial objectives (and structures, processes, etc.) may fall short: 'Evolution over, Revolution'.

A value-centric assessment and delivery framework which provides clients with a staged roadmap to establish the required 'DevOps' capability to support their key objectives. An engagement model using coaching, augmentation or delivery of the required capabilities – to expedite the creation of the DevOps capabilities:

- Automate release times and ramp up velocity
- Infrastructure as code (topology-based model(s))
- Automate build to the hybrid cloud (micro-containerisation)
- Platform as code (automation (build) model(s) – Docker/Chef/Puppet/PS-DCS)
- Automate deploy to reduced failure rates, lead times between fixes and rates of recovery
- Pipeline as code (deployment model(s))
- Monitor and measure releases in the wild
- Predictive, prescriptive and live (business intelligence and insight model(s))
- Operational Insight (sense, analyse and adapt)
- Connected intelligence (lifecycle model(s))

Kieran @ Sogeti: It's about culture, capability and technology. There needs to be an iterative, agile and trusting culture in an organisation to support the need to empower teams to deliver. Ensuring that the right capability is in place in regards to skills, role types and methodologies to facilitate iterative delivery. Technology is often the focus but without the culture and capability in place technology can easily become a cash drain.

In regards to technology, where possible there should be principles on what technology should be adopted that align to the company's long-term technical strategy. These are guiding principles and teams should still be allowed to define the best toolsets to do their jobs whether that be proprietary or open source.

Paul @ Jet2: We are on a continuous journey of implementing and improving our:

- Development practices
- Testing
- Virtualisation of infrastructure
- Automation of full lifecycle
- Continually learning from what we are doing and implementing change

From our experience, we do not consider ourselves as a DevOps organisation, rather that we are on a continuous journey of delivering change as quickly as possible. We were already on the journey of implementing DevOps before the term "DevOps" was well known. We are continuing the journey and we do not consider ourselves "there".

Question four

What challenges do you typically face?

Chris @ Atos: Just this week I've fielded two very different requests, one was: "We'd like to embed DevOps practices and culture into our teams" the other was "I want a DevOps person". The latter request is quite common in the UK and recruitment agencies have sprung up to sell just that but it is based upon a flawed model. To be effective, we need to move away from a body shop model in favour of stable knowledgeable teams (collaborate).

Jonathon @ Hitachi: It is vital that enterprises support and nurture progressive working approaches to create business-relevant technological answers to both enterprise and customer-centric challenges. Most have implemented Agile or lean practices and principles, tailored to their own operational contexts. However, traditional Agile and DevOps approaches are no longer enough to do this on their own. These practices are excellent for fostering collaboration between teams, but they are often implemented in silos, which limit the value that could otherwise be realised.

Kieran @ Sogeti: Understanding what the customer means by DevOps is one of the largest issues on an initial engagement. At times there is a disparate view between the business and engineering teams. Some companies view it from a platform engineering view in that we need someone to help automate and manage our environment deployments. Other companies may be asking for a fully enabled product team to be deployed. However, it all comes down to the culture and the driving need for change.

Paul @ Jet2: The key issue is contention: we do not have spare resources, with demand changing day on day, with changes needed immediately. The implementation of DevOps technology approaches can take second place to delivery of new features. The work is a continuous improvement cycle, we do not have time to take the time out to evolve our practices and tools. Hence the journey will take a number of years.

Question five

How do you see DevOps growing over the next 2-3 years?

Chris @ Atos: We're already seeing disruptors taking huge chunks of market share in sectors previously dominated by large corporates. Over the next two to three years I think it will become more and more surprising to find organisations that are not on the journey. I think that DevOps will be complemented by other movements (e.g. Anti Fragile) aimed at the same problem; i.e., how do we make better software?

Jonathon @ Hitachi:

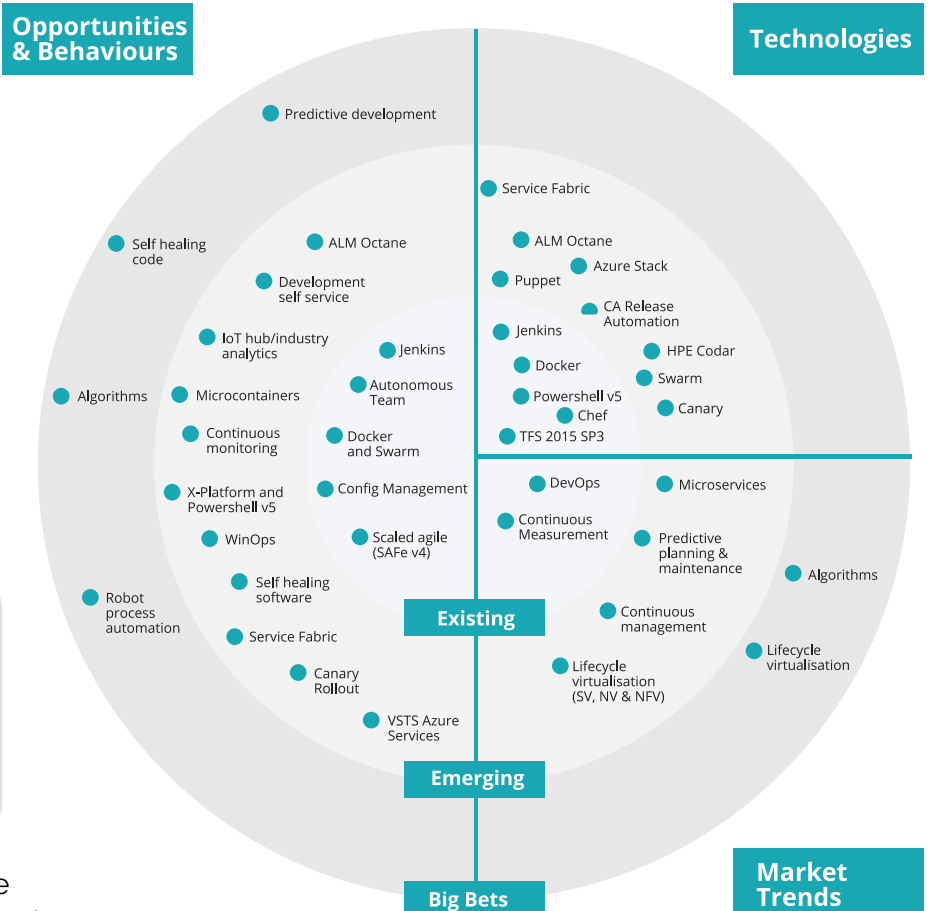
Our 'point of view' radar for DevOps presents three things:

- **Technologies** – these are technologies which will be relevant to DevOps
- **Market Trends** – what we anticipate happening in the market
- **Opportunities** – areas that take advantage of the market trends and technologies

The 'point of view' radar presents this data at three ranges:

- **Existing** – important now and for the next 18-36 months
- **Emerging** – will become important in the next 18 months
- **Big Bets** – will become important further in the future

Kieran @Sogeti: DevOps will be the core target for many industries and business units for many years to come, let alone the next three. The impact of cloud services, API microservices and pay as you use 'plug and play' service architecture will see products hit the market faster than ever. Quality and automation of processes will be the key driver for the modern web driven world.



Conclusion

DevOps is clearly an activity that large organisations are considering and responding to. Some are actually “doing it”, and are rewarded. However, clear expectations are needed. The promise of an instant, out-of-the-box DevOps implementation is simply unrealistic.

Chris @ Atos: The key message is to just get started – it's not a judgemental process, it's one that says; “OK, this is where we are, these are the biggest pain points, these are the causes, this is how we are going to solve them, let's get started”. The DevOps journey is a long road with regular payback, but it's vital early on that there is full understanding and exec buy-in if the cultural transformation is to be a success.

The sooner organisations switch onto this the better placed they will be to respond to their customers and drive greater results, there is an expectation that all the promises of DevOps can be achieved in six months and that it is something that gets “done” to the company. The truth is it's a long road to tackle the cultural change within any organisation and the sooner one starts the journey the sooner they will see the benefits.

Jonathon @ Hitachi: On a basic level, DevOps is the integration of development and operations teams as a collaborative entity to develop, test and operate new IT solutions. Gartner describes DevOps as concept that represents “a change in IT culture”. Certainly, it allows these teams to move faster together to deliver isolated projects but, as we have already discussed, this approach can only go so far while it remains cut off from the strategic heartbeat of the organisation. A DevOps approach, within the context of digital engineering, provides a direct interface and value stream layer with the wider company as scaled Agile practices.

Kieran @ Sogeti: For a long-time we have been a software driven world and more and more discontinuous products are being delivered almost weekly. The big questions sit around how will companies deal with this autonomous future? Driverless cars will disrupt the insurance industry, drones the delivery industry, advanced robotics in healthcare and many, many more.

The question is will your company be ready? If the DevOps journey is the road to meet this dynamic change companies will need to move quickly to capture market share.

Paul @ Jet2: DevOps style of working was the ONLY way for Jet2 to meet the requirements of our customers, within the context of our customers evolving rapidly as well. Our company vision is to inspire the market and lead with innovation and as such we have to be able to build new and exciting products that need to be able to react to the feedback from customers.

Final note by Infuse: We plan to issue a second white paper to look at some of the questions raised here and solutions that people have tried.

About Infuse

Infuse Consulting (Infuse) is a UK software testing company that provides modern software testing, consulting and test environment management. We specialise in test automation, performance engineering, DevOps and continuous integration.

To learn more about Infuse, please visit

To learn more about Infuse's DevOps and Continuous Integration Consulting service, please visit

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