Introduction to
Enterprise Cloud
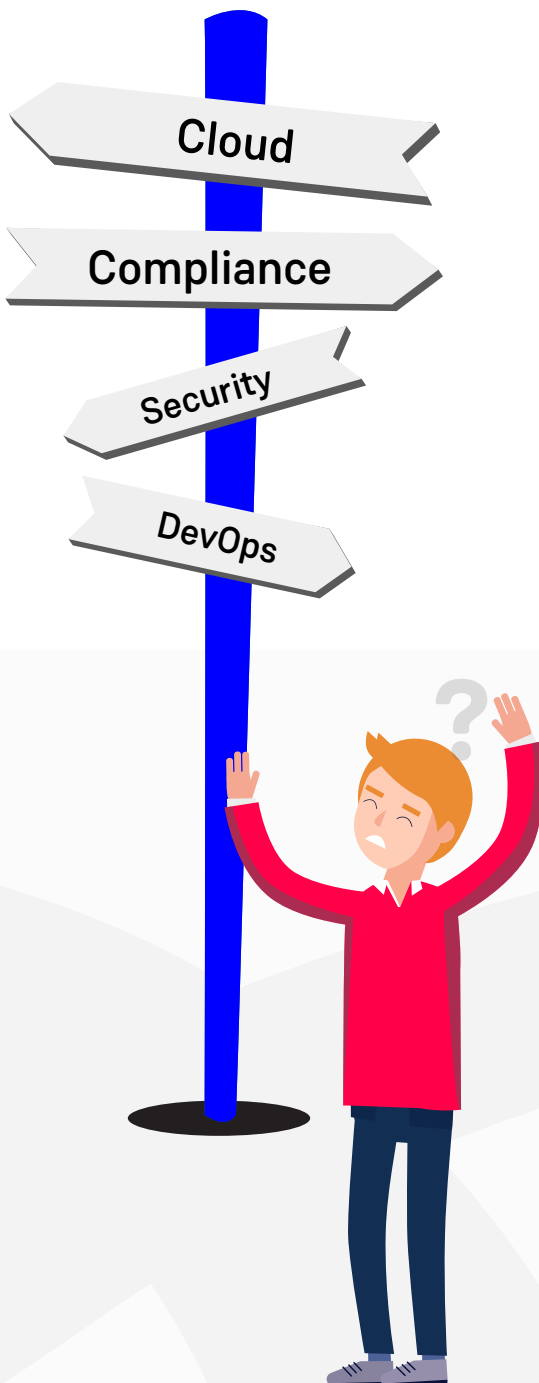# Operating Models

CONTINO

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Benjamin Wootton is the co-founder and CTO of Contino. He has worked with many enterprise organizations on DevOps transformation and operating model change, and has hands-on technical skills in cloud, automation, CI/CD and containers. Prior to co-founding Contino, Benjamin spent approximately 10 years working as a developer, team lead and technical architect within the investment banking industry.

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Key Takeaways

01   You will miss the benefits of the cloud unless you **evolve your operating model**

02   DevOps isn't about tools or culture - **it's actually a new operating model**

03   DevOps operating models are the **most effective way** of consuming the cloud

04   Best practice is only just emerging for the enterprise so **trusted advice is key**

05   The best way to get the requisite skills for DevOps is to properly **train and support your existing teams**

06   **Security and compliance is possible** at speed and scale with automation

07   **Leadership support is key** as part of this operating model evolution

08   Born-in-the-cloud competition is starting to bite traditional enterprises - **start now** and with urgency

Cloud

Compliance

Security

DevOps

?

Cloud Operating Model: What and Why?

After hearing the Gospel of Cloud, you've decided that you want to migrate to the magical wonderland that is the cloud.

How do you make sure that you gain everything that has been promised to you?

A pattern that we often see emerge when enterprises begin to adopt the cloud is that they put the same processes and practices in place as they would have done in a traditional data center scenario.

Effectively, they don't optimize their operating model for the cloud, and they therefore miss out on the speed, agility and cost benefits that the cloud promises. The risk is that disillusionment can then set in and the cloud migration or broad digital transformation slows.

To secure the benefits of the cloud, you need to evolve your organization and the processes by which you manage your infrastructure and applications.

These ways of working together represent your cloud operating model.

Let's Look at Examples: Automation and Compliance

Adopt the cloud in the right way.

The cloud is vastly more conducive to automation than a traditional data center. If you adopt the cloud in the right way – taking advantage of these automation possibilities – you benefit from accelerated time-to-market, reduced costs and improved security.

A simple example of leveraging this automation and APIs would be to turn off cloud servers overnight and auto-scale up and down with demand in order to minimize cost.
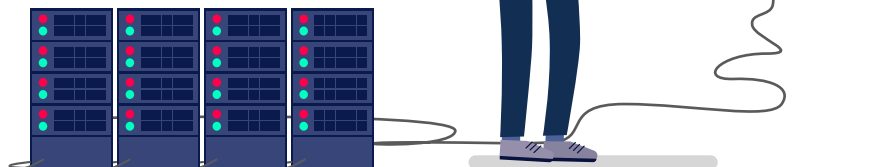
Compliance.

A second example and common theme for Contino is putting continuous compliance and security checks into place to ensure that internal controls are met. This is much easier in a cloud environment, but many companies still take quite traditional approaches to information security, which are less effective and kill their time-to-value benefits.

> Again, **if you don't modernize your operating model when you move to the cloud you're missing the opportunity:** it's not just an end in itself, it needs to be used appropriately.

How Does DevOps Fit Into This Operating Model?

At Contino, we believe that "DevOps" is the right operating model for the cloud.

This includes cross-functional teams provisioning their own infrastructure, high degrees of automation using templates, codified rules for security and controls, cloud-native architecture etc.

There is an endless debate about whether DevOps is tools- or culture-centric.

Nowadays, we actually define DevOps as a new operating model for enterprise IT – and one that's increasingly proven.

DevOps

The Cloud
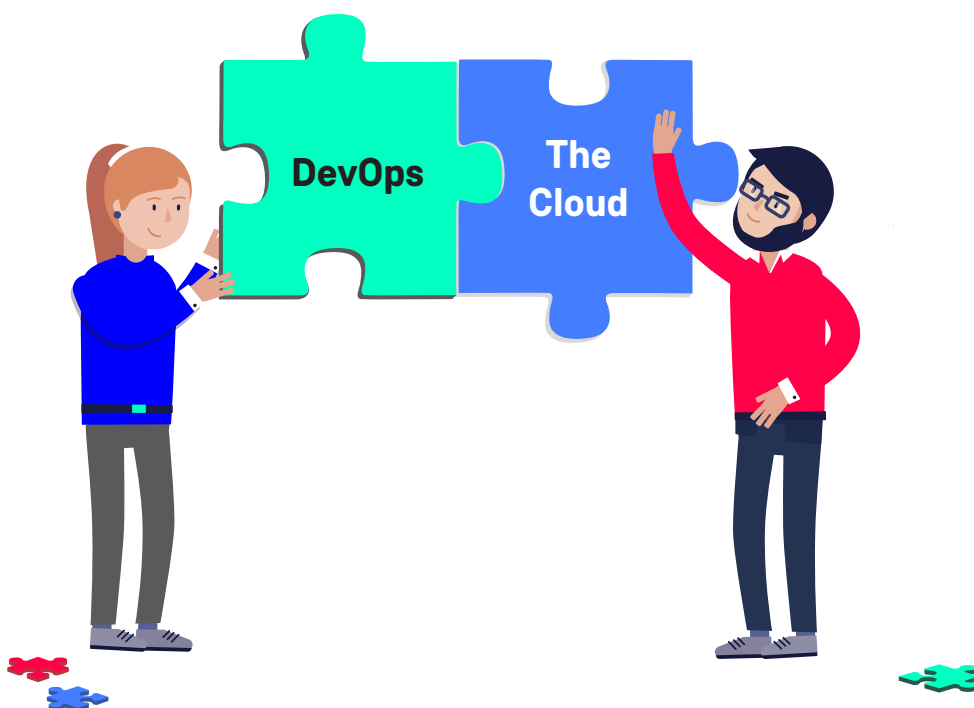
How to Develop a Cloud Operating Model

Enterprises are comprised in the most part of people who are used to working in traditional ways, so it's natural that they fall into the trap of replicating what they are used to.

There's no question of blame here, this is simply how IT has been delivered for a long time.

However...

... cloud has only relatively recently emerged as a proven strategy for the traditional, regulated enterprise. Everyone is just getting to grips with it, with limited tried-and-tested approaches to replicate, so a lot of organizations are struggling and reinventing the wheel.

We're admittedly a bit biased, but it's clear that this is an area where a trusted advisor can really help. Born-in-the-cloud service companies have seen many enterprises go on this journey and know where the pitfalls and the opportunities are. Our advice would be to work with a partner who has done this before to design your future state operating model.

That said...

We actually ask our clients to build experience in the cloud by delivering real projects before a formal target operating model exercise. Going straight to PowerPoint or Word without any experience in the cloud is a recipe for a broken operating model!

The Key Ingredients of a Cloud Operating Model

Contino has a framework for cloud operating models that covers the key considerations.

It is split firstly into infrastructure- and application-oriented parts.

Then we have concerns that cut across both of these such as people, processes, financial models etc. <u>There are around 35 key considerations that we aim to build out with our customers as part of their target state operating model.</u>

Let's take the example of a financial workstream.

In the old world, you would buy hardware under a CapEx model and write that down over time. With the cloud we shift into an OpEx model. Costs are variable based on consumption, which traditional budgeting methods are not set up for. So you need new processes and financial controls to be able to handle new problems: discovering if people are under- or over-spending, making sure that the right costs are charged back to the right projects and teams, etc.

Finances are therefore an immediate process that should be rethought before you end up with an angry call from your CFO!

People

Process

Technology
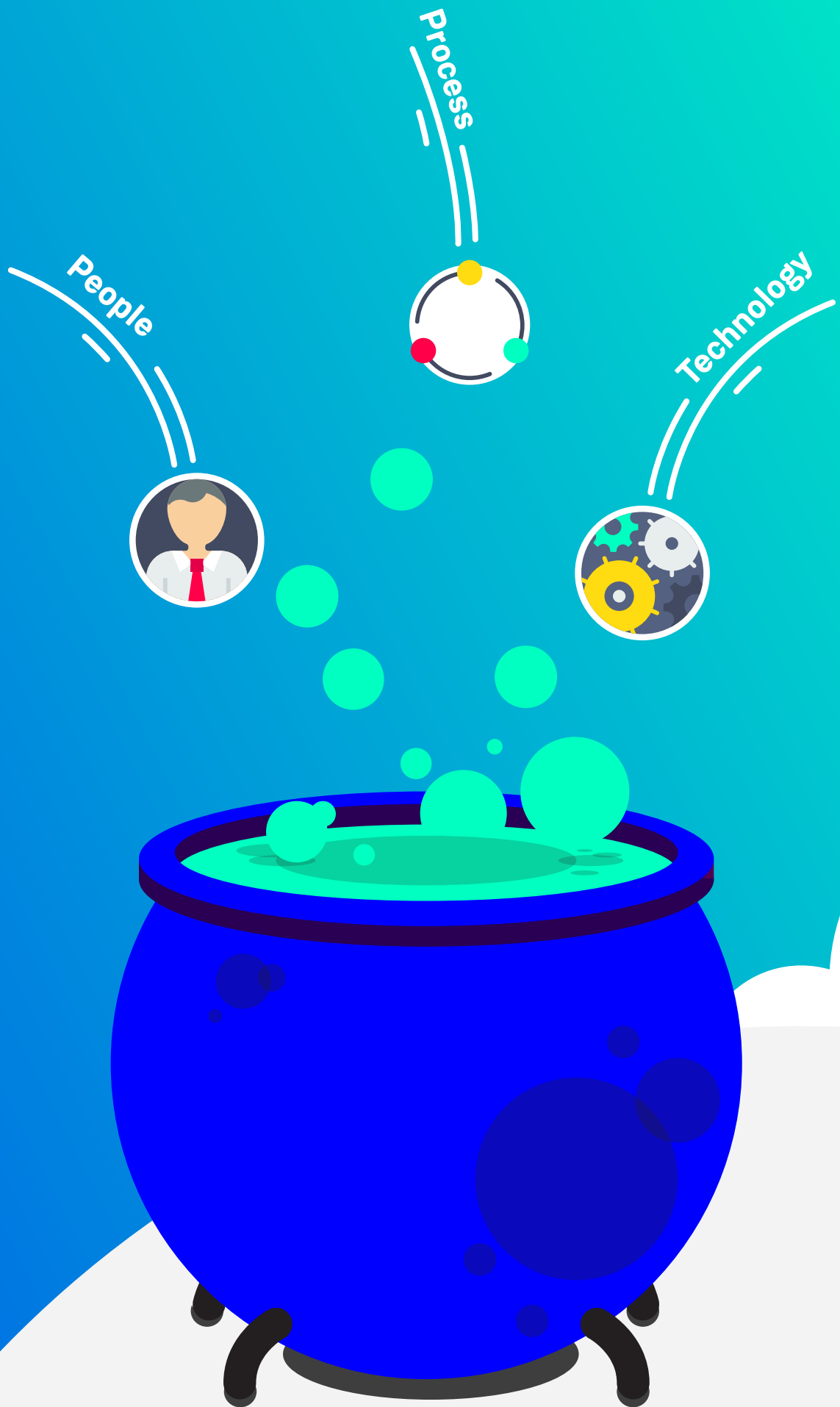
How Can Enterprises Implement the Operating Model?

The Lighthouse Project.

When it comes to implementing a DevOps or cloud operating model, we advise our customers to begin with what we call a 'lighthouse project': a small proof-of-concept engagement such as delivering a new application on a new cloud platform under the new operating model.

It's very important to set up the lighthouse project in a way that means that they can be successfully repeated and scaled. Anyone can set up a side-project in a sandbox, but it's not going to be accepted as anything else other than a science project unless it can scale.

Finally, once the operating model and the business case has been proven with these lighthouse projects, we look to scale the model across the enterprise. This involves various tools such as a Center of Excellence, training, migration acceleration programs, etc. You would also instigate the formal target operating model exercise after this lighthouse project when you are armed with the many lessons learned.

The lighthouse project **is an opportunity to develop and prove the operating model and processes**, to remove risk, prove the business case, etc.

How the Cloud Impacts How You Develop Applications

Make sure you get the bang promised for your buck!

Modernizing how you build applications (and remediating existing applications) to become cloud-native is extremely powerful and will have a big impact on your operating model and outcomes. Without it, you again have a lost opportunity scenario.

The task is generally to move away from monoliths and towards microservices, while adopting cloud-native services (e.g. for your databases or APIs). In other areas, we will be using technologies such as serverless to move up the stack.

It's really when you modernize your approach to infrastructure (cloud) and to applications (cloud-native) together with the operating model that you really start to see results.

The whole is greater than the sum of its parts! This is why we incorporate application considerations into our cloud operating models.

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Acquiring the Right Transformation Skills

On the ground, finding the right skills is a challenge for everybody.

There are just not enough people available. Instead, you need to take your current teams on the transformation and reskilling journey with you.

We have found a coaching model to be the most successful, using mentors, pair programming and establishing Centers of Excellence to federate best practice.

To help with this, at Contino we actively deliver projects side-by-side with client teams to build their skills, capability and culture rather than delivering cloud platforms and migrations in a silo.

Getting **Support** from the Top

At the top, **it's crucial to gain the support of the management team** if you are advocating organization restructure and process change.

We have found that hard, outcome-focused metrics and a solid business case have the most impact here. You need to tell a solid story around how a cloud operating model accelerates time-to-value while reducing cost.

Get them out to conferences and talks and you'll find that other companies are very generous with their time when it comes to sharing what they are doing – enterprises as well as startups.

It is important to go the extra mile and to literally get leaders out of their office building to explore what peers in comparable industries are doing.

An example.

Take Spotify, for example. They are a great example of a company that is being very open and transparent, proudly talking about how they operate effectively at scale. Or companies such as Facebook, Netflix and Etsy who open source a lot of their cloud native technologies. Enterprises can use and replicate all of this as part of their cloud operating model evolution.

A new world is emerging and leaders risk repeating others' mistakes (rather than learning from them) if they don't seek out these resources.

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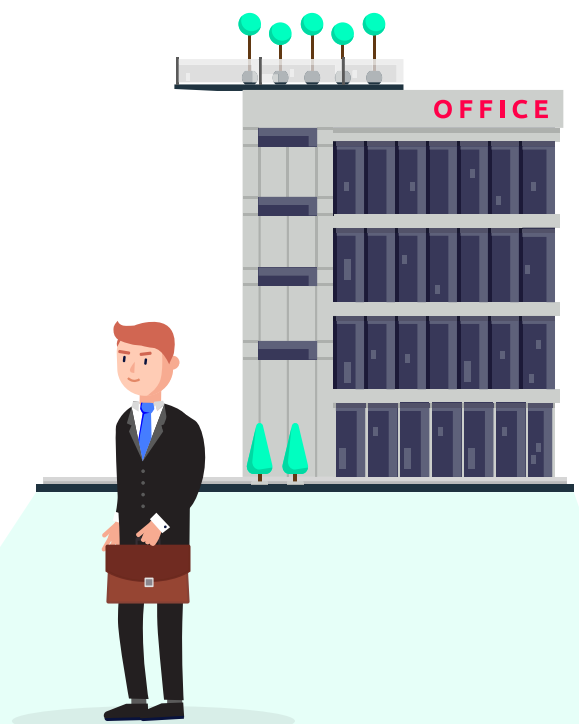
Thinking About Security and Compliance

How do you go fast, but stay secure?

The paradox for enterprises is that, yes, they need an operating model that lets them move quickly and innovate, but they also must remain secure, compliant, auditable, etc.
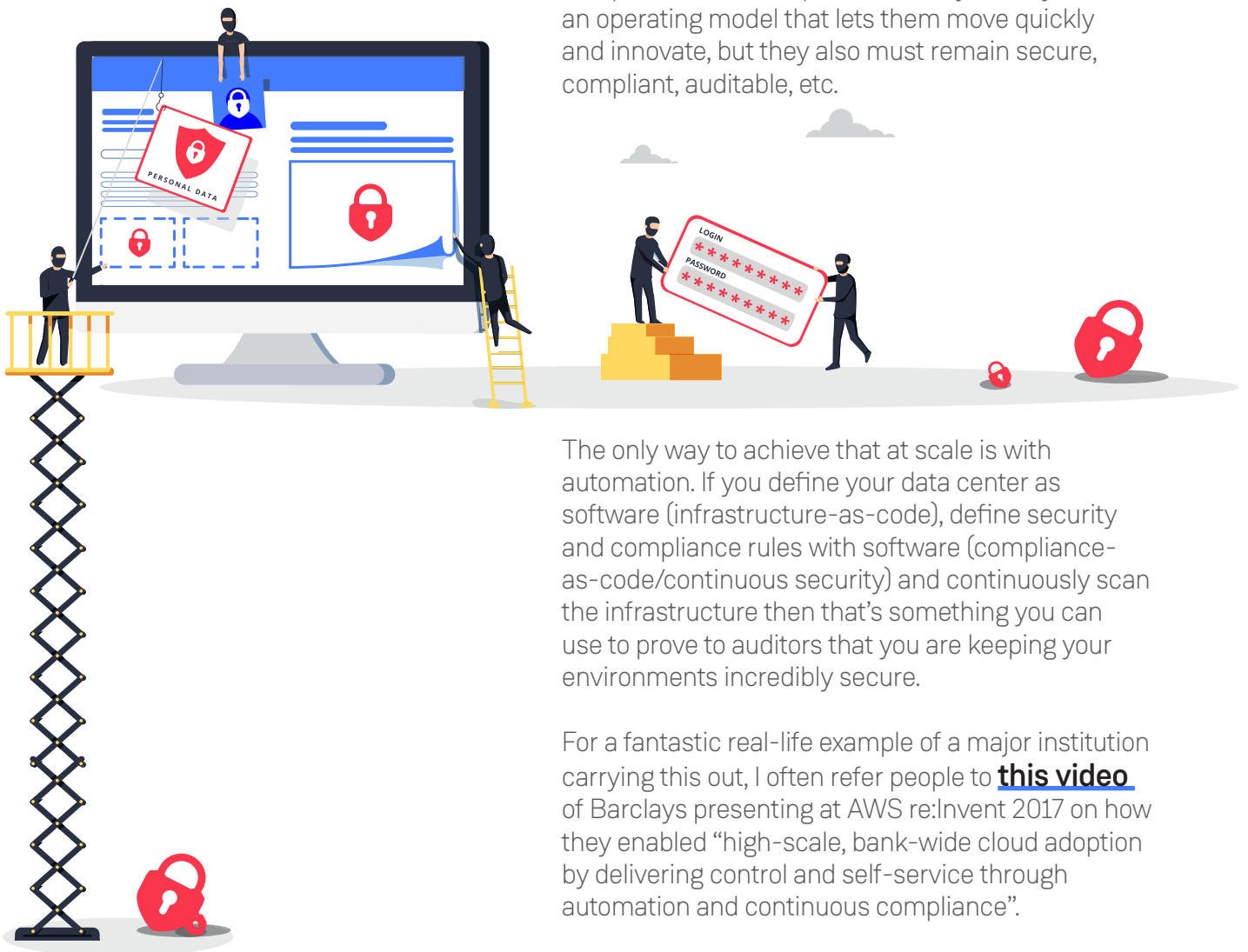
The only way to achieve that at scale is with automation. If you define your data center as software (infrastructure-as-code), define security and compliance rules with software (compliance-as-code/continuous security) and continuously scan the infrastructure then that's something you can use to prove to auditors that you are keeping your environments incredibly secure.

For a fantastic real-life example of a major institution carrying this out, I often refer people to **this video** of Barclays presenting at AWS re:Invent 2017 on how they enabled "high-scale, bank-wide cloud adoption by delivering control and self-service through automation and continuous compliance".

The Key Drivers for DevOps and Cloud Adoption

Disruption is real.

We have been seeing disruption in FinTech for quite a while now and my read is that it's really starting to bite. TransferWise says it moves more than $2 billion (£1.4 billion) globally every month, saving people approximately $80 million per month compared to using their bank. Monzo has over half a million customers and is growing rapidly. Similar trends are underway in Europe (with challenger bank N26) and in the US (take mobile banking app Moven). These organizations have a huge headstart over traditional banks that are just starting to get their head around cloud and DevOps.

It's critical that traditional enterprises start today because it takes a long time to turn around the oil tanker: to acquire the skills, modernize the architecture and change the processes!

One of my hobbies is reading the annual reports of big companies (I know I need to get out more) and it's painfully obvious that the more digitally engaged companies have a brighter future. You can see more and more revenue being generated by online and mobile and better use of customer data for personalization. Less savvy companies are reporting headwinds in terms of increased competition from startups and globalization, lowering margins and impacting revenues.

Even though we have been talking about 'disruption' for years, it's beginning to impact the bottom line in a very visible way.
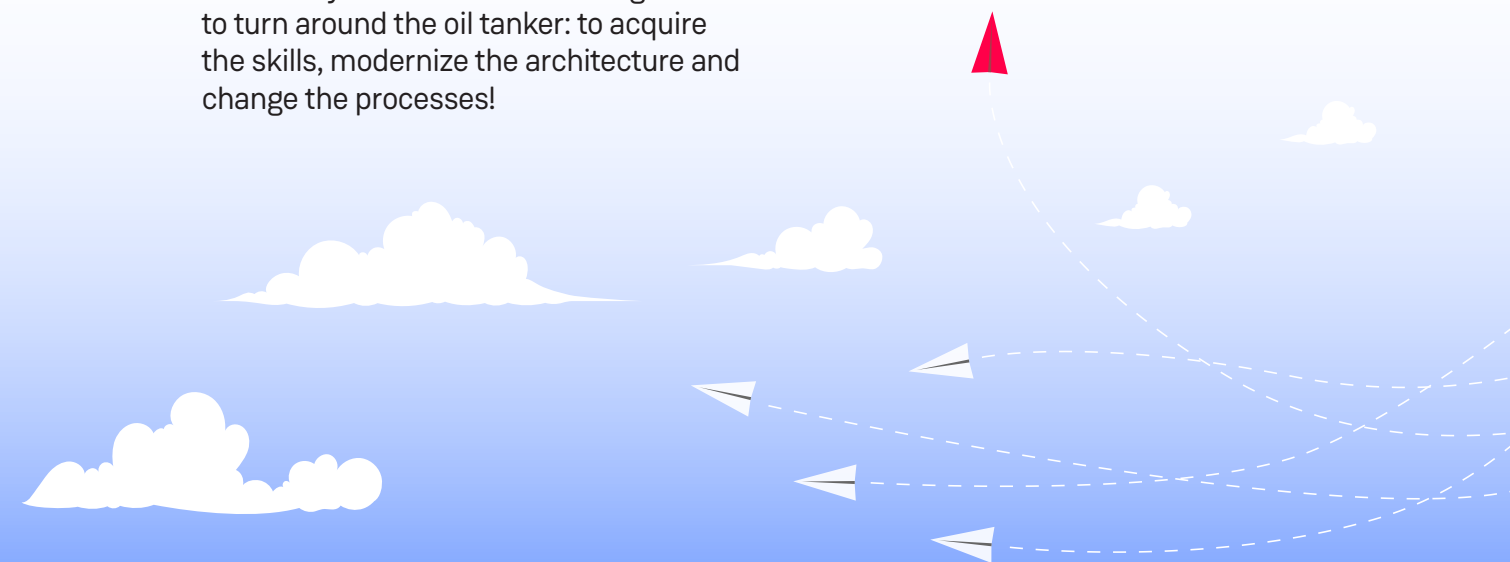
Almost Everyone Is in the Cloud (In Some Way)

It's a fascinating time to be working in enterprise IT.

Cloud is disrupting infrastructure, while cloud-native approaches such as microservices and containers are disrupting applications.

It's such a huge lever that almost every large company in the world is starting to dip their toes into.

The cloud operating model – the people and process side – is a critical part of this journey. It's undoubtedly hard, but get it right and the outcomes will be massive for your business.

Contino's cloud migration and adoption services helps enterprise organizations to avoid the pitfalls of moving to the cloud and accelerate their journey to cloud innovation.

We can help you with:

- Cloud readiness assessment
- Developing a cloud strategy and operating model
- Application migration
- Upskilling and coaching
- Cloud-native application development and remediation

Get in touch to find out how we can help you

Read Customer Stories

What We Do

Contino works with regulated enterprise clients to build and grow the capabilities necessary to deliver high quality, secure and compliant software change at speed and scale.

CLOUD PLATFORM BUILD & MIGRATION

We provide safe, repeatable, scalable and cost-effective 'enterprise grade' build and migrations to cloud platforms.

ENTERPRISE DEVOPS TRANSFORMATION

Contino helps regulated customers leverage game-changing approaches to software delivery and IT operations at speed and scale.

DEVSECOPS & CONTINUOUS SECURITY

Contino helps our clients improve and modernize their approach to IT security, shifting application and platform security concerns earlier in the development lifecycle.
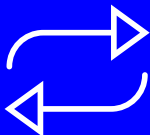
CLOUD NATIVE SOFTWARE DEVELOPMENT

Contino helps companies move to cloud-native architecture and software development practices in order to accelerate time to market and organizational agility.

DATA PLATFORMS & ANALYTICS

Contino builds big data and analytics platforms for organizations by leveraging cloud across pillars of risk, scale, agility and reliability

200+ People

5 Global Offices

100+ Engagements

$30m USD Funding

Our Clients

Ministry of Justice · Allianz · vodafone · BARCLAYS · adidas · HSBC · LIFION by ADP

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