

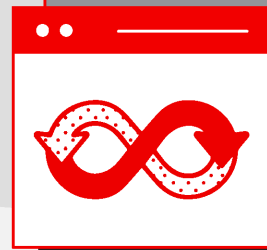


The Five Elements of DevSecOps Transformation



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Featuring:
Anne Dalton
*Senior Solutions Specialist,
Data Science and Edge
Computing, Red Hat*





Red Hat

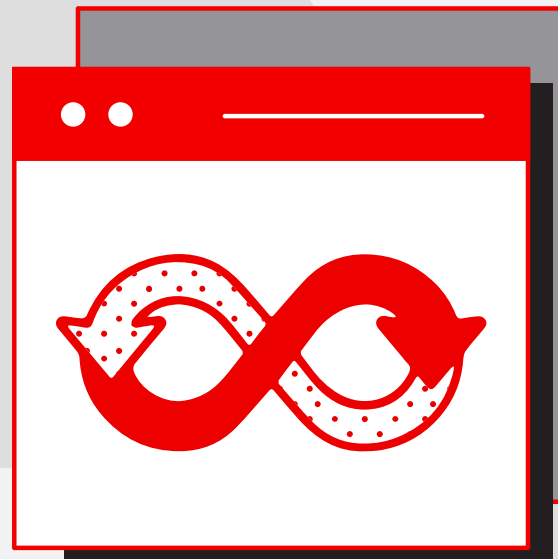
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The Five Elements of DevSecOps Transformation

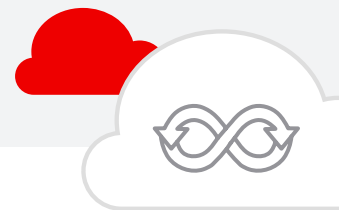
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In DevSecOps, people, process, and technology are the core components to building an organization that can efficiently and effectively deliver software to end users. Red Hat's Anne Dalton shares insights on simplifying the transformation process with 5 pro tips.



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What does “transformation” mean to you?

We ask our clients this question a lot, and it’s always interesting to see a similar response each time. Transformation can be a confusing, vague term. Whether it’s the developers developing the applications or the leadership that’s going through the transformation - across organizations and enterprises - we tend to get the same response, which is primarily that transformation is confusing. Without a doubt, it’s an overused term, and customers are often overwhelmed by the marketing that’s associated with transformation. Sometimes they’re not really sure what transformation is, but they know they need to change something.

She’s going to use the T-word...

So, yes, I am going to continue using the T-word, we’re going to break down transformation and explore what it means.

Digital Transformation

We talk a lot about digital transformation here at Red Hat. Usually, we’re talking about technology as the pillars of transformation or the mechanisms that we use in service to digital transformation so that we can unlock new lines of business. Often in the government, we phrase that differently and say new ways of “achieving the mission” through technology. When we think about these initiatives, like agile integration or hybrid cloud infrastructure, they are in service to the same idea of achieving the mission or unlocking that new line of business. We find, however, a lot of organizations have to change their behaviors or the way they work to really see these transformational benefits.

Transformation: noun – A thorough or dramatic change in form or appearance

If you look up transformation in the dictionary, it’s defined as a thorough or dramatic change in form or appearance. But transformation isn’t just automation, it’s not just containers and Kubernetes. Transformation is about adoption. This is really important because we know that organizations are transforming when they start adopting a new platform. And not just the platform but this new way of working, where they’re starting to go through behavioral change.

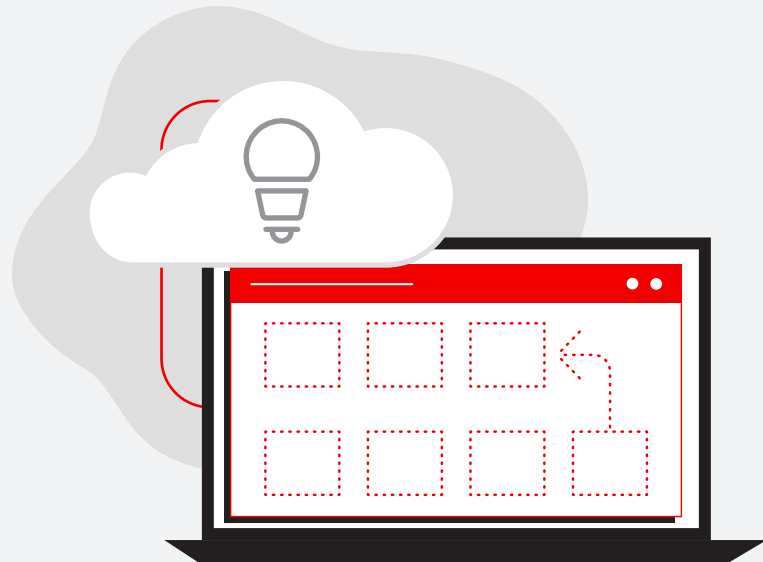




From Threat to Challenge

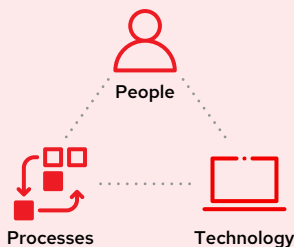
Sometimes when we're talking with a new customer, we notice that everything is a threat. They don't feel like they're equipped to meet the needs of the mission or to overcome adversity.

That's where we want to help you through the transformation process – to see it as a challenge where you are equipped to handle that adversity and ultimately feel successful in achieving the mission. We want to move at the speed of mission so that we can get those capabilities out to the end user faster.



The Platform is Socio-Technical

We tend to focus heavily on the technology itself that sometimes we forget it's a three-legged stool. You have your people, your process, and your technology. Oftentimes we get so wrapped up in talking about the technology and the process and trying to implement it, that we forget people are holding all of it together. Without the legs, the stool falls over. We need to invest just as much in the people who are the builders of this technology and who implement these processes.



Platform is the Foundation of a Modern Architecture

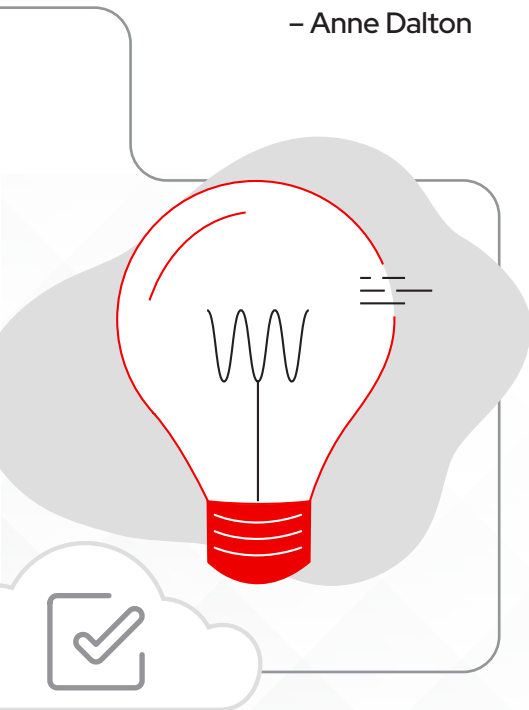
If you build a strong platform, the platform itself can drive behavioral change. You can start to view things a couple different ways. Behavior change drives the adoption of new, modern technology and practices, but it can also build a strong technical foundation that can enable better behavior change. It's a give-and-take on both of those. When we talk about platform as the foundation for modern architecture, we're talking about shared resources that can be reused across a hybrid cloud environment. This can be frictionless for self-served development and service consumption, so enterprise utility for these continuous delivery lifecycles is funded by value.

The platform also needs to be trusted and automated, and this includes the software and the data supply chain. So, a fully integrated CI/CD pipeline that can take it from requirement through development, security, testing, and deployment. We're also talking about compliance as code and the automated policy movement. It goes from this subjective process of checking boxes to this objective attestation that can be proved by the platform.

We are also talking about community. This is a place for shared use and efficiency, where growing artifacts can lead to accelerated composability and time-to-value. This is also a transparent place where the data is measurable and observable. It's easily visualized. For example, a transparent dashboard that reduces confusion and can promote alignment. The platform is also a negotiated agreement between operations development and the business. It provides shared operational boundaries of service and an agreed plan for handling operational risk. This is where that SRE model really starts to take hold.

“What we’re referring to here is getting better capabilities to the end user faster, which means that not only does your technology have to change, but your behavior as well.”

– Anne Dalton



I also want to mention platform as a product. It’s an integrated, full-stack development team that’s fully monitoring and continually improving the product. So, yes, this is the place of transparency and visibility, a place where everyone can come and interact and have a shared understanding of what’s being built, why it’s being built, and where it fits into the process. This reduces some of the confusion that we often see.

Change is hard

Let’s acknowledge the fact: change is really hard. This is more than a simple cloud migration. What we’re referring to here is getting better capabilities to the end user faster, which means that not only does your technology have to change, but your behavior as well. And the platform itself, again, it’s a product that you have to build. That’s a huge adjustment.

The longer you delay the effort of making those changes or committing to being a more cross-functional, transparent organization, the changes will be tougher to implement and more dramatic. That’s why it’s so important to start now!

We can all relate to this with a really simple example: cleaning your room. If you were like me growing up, my room got pretty cluttered. I would put it off because it just seemed like so much work that I didn’t have time to do, until finally one day, it just had to be done. Oftentimes, it got worse before it got better because I had to decide what belongs where and group things in categories, so that, when I put them away again, it made more sense.

Digital transformation is the same in many ways. We’re breaking down these silos, breaking these processes, and implementing new ways of working that might be a little uncomfortable or feel a little unnatural for teams when starting.

Given how difficult change can be, it’s not surprising that more than 70% of attempted transformations will fail. They fail for several reasons. They might fail because there’s a failure to change behavior, or there’s an over-focus on implementing a technical solution. Maybe it’s as simple as we forget to invite the business or the product owners to participate, and we solely focus on the development or the architecture.

Resistance is futile

We see a lot of organizations who emulate the cleaning the room example.

“ Well, I’ll just put it off. I don’t have the right time, budget, or the resources. ”

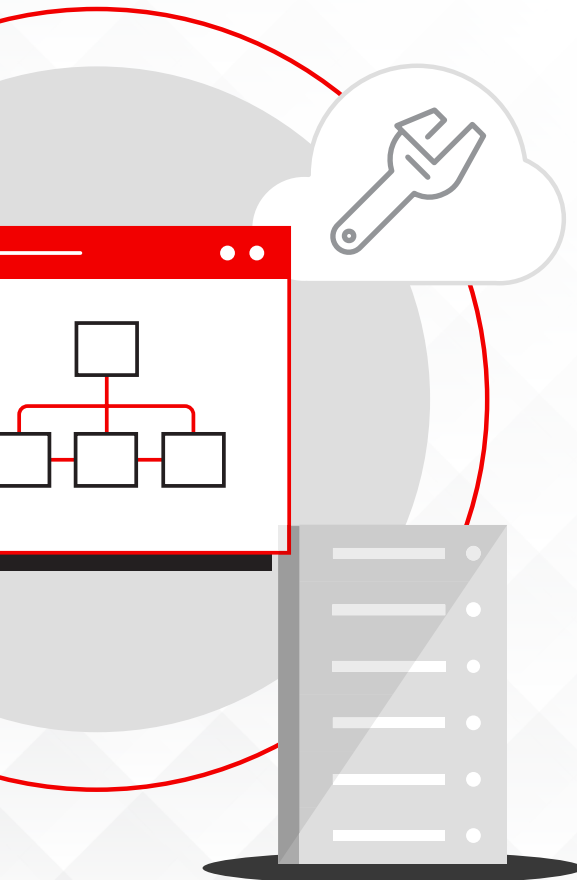
There are a million reasons why resisting change may seem like a better idea, but truly all that does is make it more difficult later.



The Five Failures

Why do 70% of transformations fail? Why is failure so common? There are five elements of failure.

These five elements are consistent and common across the board for transformation failure. Thankfully, every failure has a silver lining. Why not make it an opportunity?



1. Leadership

✗ Failure

Prevents transformation or change because they haven't seen results or they feel like it's not trustworthy of their abilities.

✓ Opportunity

Leaders who serve as executive sponsors.

2. Product

✗ Failure

Can build things that don't matter, or they wait a long time in a queue to get things built that eventually become outdated.

✓ Opportunity

Product teams who are listening to the end-user and taking that feedback.

3. Development

✗ Failure

Builds the wrong things, either due to poor quality, long wait times, or building for the sake of building when we may not have the right vision yet.

✓ Opportunity

Development is moving away from waterfall and into a more Agile development cycle based on those Agile principles.

4. Architecture

✗ Failure

Not using modern design patterns or providing inaccurate solutions for the newer, shinier things, but it's not sized correctly, or it's the wrong solution entirely.

✓ Opportunity

Architecture is making the right decision, the easy thing to use.

5. Operations

✗ Failure

Can experience higher outages or poor delivery and long recovery cycles.

✓ Opportunity

Operations is able to keep systems running and automating as much as possible.

Exploring the Five Elements

1. Leadership



Leadership makes the rules of the game that everyone else plays.

They're the ones that are responsible for setting the culture or the environment of an organization. They're responsible for keeping the organization moving forward. When we look at leadership, we tend to think about an old command and control structure. When you get into a high-performing environment, however, leadership is able to decentralize that decision making process so those who are doing the hands-on work have the ability to make a decision without having to go through all of those "yes, no" idea gates. Decentralized leadership gives teams autonomy to make decisions in a timely manner.

2. Product



Product connects the tactics to the vision of leadership.

This is all about driving hypotheses and data-driven decisions; it helps build an experimental environment. Again, the whole concept is to move away from waterfall and towards Agile so that they can work hand-in-hand with the development team. Product is the least defined and maybe the most important element. At the end of the day, the product is what the end user interacts with and touches. Product drives capability and performance, so it makes sense that it should get a fair amount of attention.

3. Development



Development focuses on Agile principles.

The key to success in development is working software. Equally important, communication and collaboration generate a constant pace or a constant feedback loop early in the software delivery lifecycle, all the way through shipping the software. Development receives the most attention, and it makes sense. We also have to remember that development is only as good as the vision that's communicated.

4. Architecture



The ability to communicate and collaborate with the product and operations team is all tied together through architecture.

When we say "architecture," I think a lot of people immediately jump to the enterprise architect role. That's not exactly what we mean when we refer to architecture as an element. If it were a role, it'd be more like a platform architecture, not an enterprise. Understanding the trade-offs are the key to architecture. What's the trade-off that allows us to keep the variability low so there's consistency? Again, it's all about making the easy thing the obvious thing and the right thing so that the developers have an understanding and can easily use or map to architecture.

5. Operations



Operations is all about embracing risk and eliminating toil.

You want resilience over robustness. Operational excellence is establishing a foundation of resilience from reliable components. We're leveling-up operations to work more on engineering tasks like automation or building an event-driven architecture so that an application can be self-healing. The developers can't move very fast unless operations has an environment that can consume the applications and give the feedback that's necessary. It can catch those alerts or self-heal so that the focus moves away from constantly fighting fires.



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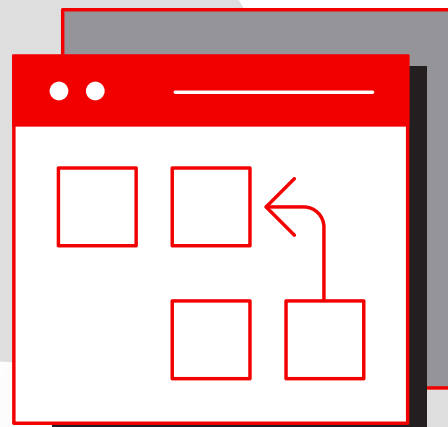
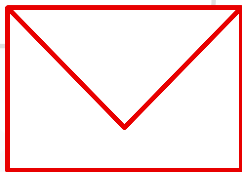
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In conclusion

What does all of this mean for you? How can you take these concepts back to your organization and start from where you are and get to somewhere that's higher performing?

Change is really, really hard, but inevitable. These five elements encourage gradual progression. We all start somewhere, and not every organization starts transformation in the same place. Meet your customer or yourself where you are and figure out how to move just a little bit further in the right direction. Every time you take one step, you'll discover the next.

The five elements assessment can help you understand where you are, bring transparency to where you want to go, and help you set better, more achievable goals. It's the foundation for setting a plan, and the foundation for just getting started.





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