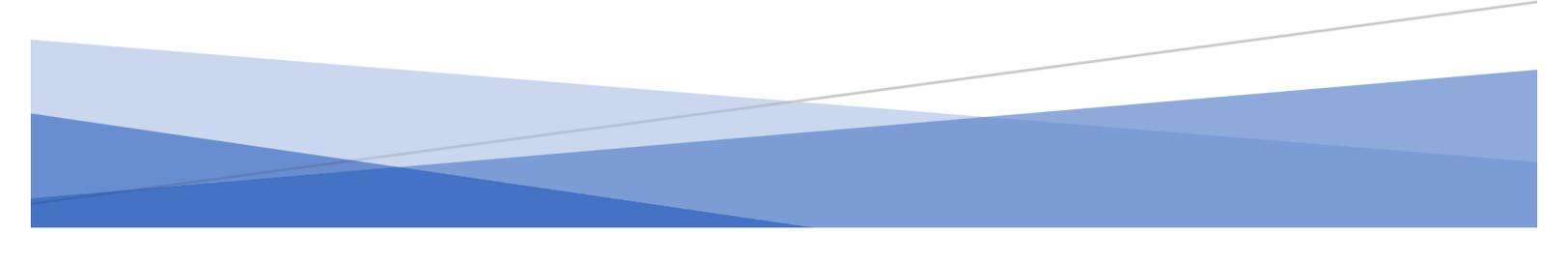


Navigating Your Total DevOps Journey

Perspectives by Marc Hornbeek and Katina Gundersen

TRACE3



DevOps transformations are called journeys for good reason. These journeys are often long, challenging and filled with twists and turns. The destination might change, perhaps more than once. Each traveler on the journey, every enterprise, brings their own distinct starting points, goals, constraints and personalities. And while each DevOps journey is ultimately unique, in some ways successful DevOps journeys have common traits. All DevOps journeys hold the potential to propel an enterprise to industry leadership. All DevOps journeys run the risk of failures, dead-ends, false starts and unfulfilled goals. And all DevOps journeys can be successful, with the right approach. Trace3 has developed an approach to DevOps transformations to ensure your DevOps journey is a success. We call it *Total DevOps*.

Total DevOps approaches DevOps transformations holistically, integrating the full breadth of your DevOps value chain as well as the many stakeholders across your organization that must be engaged to ensure broad, enduring success. Many organizations approach DevOps on such a limited scale that they miss the comprehensive solution needed to achieve the business benefits that DevOps offers. Only with a holistic approach can you elevate your capabilities beyond your tech stack.

DevOps Journeys – The Big Picture

The most quoted references for “big-picture” guidance for DevOps journeys, “The Phoenix Project”¹, and “The DevOps Handbook”², explain how successful DevOps transformations follow big-picture roadmaps in accordance with “The Three Ways” which can be referred to briefly as:

- (1) Flow / Throughput
- (2) Feedback
- (3) Continuous Improvement

“The Three Ways” are built on the “lean” strategies and tactics which transformed the manufacturing industry and are well-described in the foundational book, “The Goal”³. Getting The First Way right is essential or The Second Way and The Third Way will not be effective. This perspectives paper describes the *Total DevOps* approach to The First Way.

Figure 1 illustrates how *Total DevOps* defines The First Way, Flow / Throughput, of a successful DevOps journey.

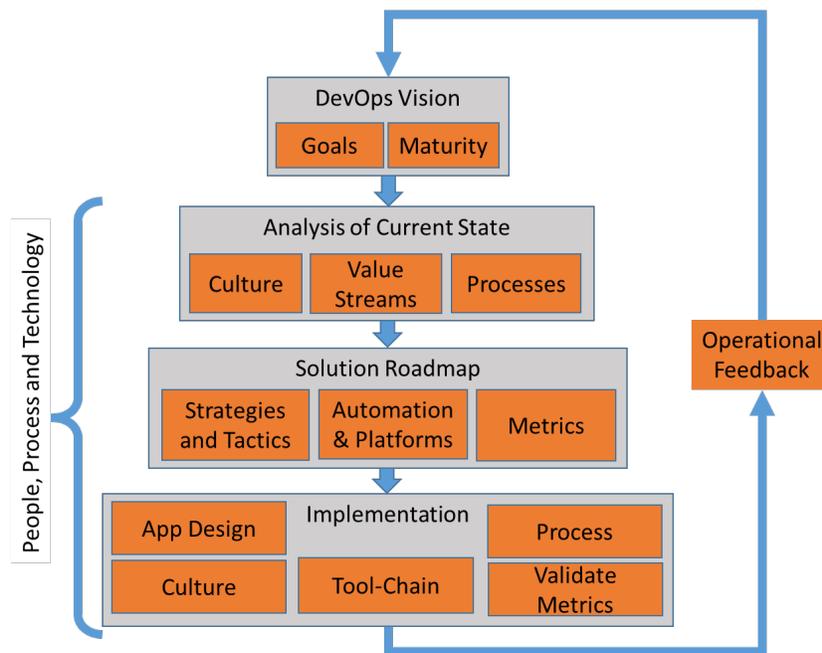


Figure 1: *Total DevOps and The First Way*

Each step in Figure 1 is described in detail, below.

DevOps Vision

- **Identify the DevOps Leadership & Core Team.** DevOps practices, such as accelerating delivery rates to improve quality and security, seem counter-intuitive and often challenge conventional wisdom. Your Leadership & Core Team members should be open to change, early adopters and innovator-types. Laggards who are stuck in the “old ways” or prima donnas that insist “my way is the only way” should be avoided, at least for this team. Over the long-term, your laggards cannot be ignored and must be brought into the fold, of course.
- **Together as a team, set your true north and determine your big picture business goals for your DevOps journey.** Where are you now? Where to you want to be? By when? And what are your measures of success? Be sure to set goals at the enterprise level. “Small picture,” focused or local process goals and optimizations may be counter-productive to your big picture business goals.

The “State of DevOps Report”⁴ is the gold standard for tracking DevOps goals, industry performance against those goals and comparisons among different levels of DevOps performance. End-to-end pipeline lead time, release throughput, release quality, security, satisfaction and productivity are some examples of DevOps goal areas.

It is important to define your goals in clear, measurable terms. Further, you must prioritize your goals for your DevOps journey. Trying to accomplish everything in one leap is generally impractical and inconsistent with a continuous improvement mindset.

Analysis of Current State

- **Map the end-to-end (E2E) value streams specific to your chosen DevOps goals.** “The DevOps Handbook²” provides useful examples of how to define end-to-end (E2E) value streams.
- **Identify bottlenecks for each value stream that will most affect each goal.** This step is critical but frequently overlooked. During this step, gaps between current state and desired state are made clear. Major barriers to success, such as cultural roadblocks (E.g. “We always do it this way”), existing deficiencies in processes and technology (E.g. “We always use this tool”) are surfaced during this step.
- **Dig deeper into the processes and further explore bottlenecks and gaps.** Use the goals, combined with knowledge of the bottlenecks and gaps from the prior analysis to determine what processes should be evaluated further. For example, if your priority goal is to reduce end-to-end lead time, and there are bottlenecks and gaps related to lead time, then you must concentrate on deeply understanding how the relevant bottlenecks and gaps affect lead time to define specific improvement opportunities.

Solution Roadmap

Define solution strategies and tactics that align with goals and address improvement opportunities identified during Analysis of Current State. *Total DevOps* takes a comprehensive perspective of people, process and technology to define strategies and tactics. The *Total DevOps* solution considers a collaborative, fail fast without fault culture, design practices specific to DevOps, Continuous Integration (CI), Continuous Testing (CT), Continuous Delivery & Deployment (CD), Elastic on-demand infrastructures, Continuous Monitoring and DevSecOps. Specific tactics are designed to remove bottlenecks, re-balance end-to-end flows and improve feedback mechanisms. Solution preferences specific to the enterprise are considered when there are multiple choices for solution components.

- **Develop an overall DevOps roadmap, which includes considerations for people readiness, process improvement, and technology-specific implementation plans.** Your roadmap needs to direct the content and order of execution. Whatever your enterprise’s preferred implementation approach, a roadmap and well-thought-out implementation plan are a must. Each of these implementation plans should incorporate change management or adoption enablement techniques.

- **Determine how the existing technical debt will be addressed.** Usually this involves giving priority to the backlog of technical debt that will most support the goal and lower priority to backlog that is not going to advance the specific goals.
- **Design Metrics including Key Performance Indicators (KPI) and Service Level Agreements (SLA)** to tune, track, and validate the success of the solution. The key here is ensuring the KPIs and SLAs align with true north and goals. Additionally, capturing a baseline, even if it's not very scientific, is critical to recognizing progress. In many cases, investment in metric visibility is a prerequisite to many components of your roadmap.

Implementation

- **Now it's time to implement!** If the above outlined steps have been completed, it all comes down to implementation of the changes to people, process and technology in accordance with the solution defined in the roadmap and implementation plans. Typically, implementation of the solution will proceed in ideally agile, iterations. These iterations may include detailed design, proof of concept trials, implementation for one viable application environment and team and then deployment to all target application environments and teams using a well-thought-out sequence and strategy for on-boarding.
- Monitoring and KPIs and SLA measurement tools specified by the solution should be implemented as well out of the gate. Doing this after the fact often lends itself to scenarios where enterprise is uncertain around the value realization and progress that is being made towards their goals.

And Then What?

You've successfully navigated *Total DevOps* through The First Way! Congratulations!

While it is beyond the scope of this paper to describe in detail, looking forward to the The Second Way, Feedback, you must monitor the performance of all application environments, using the KPIs and SLAs, to judge system performance. Using what you learn from feedback to fuel Continuous Improvement takes you through The Third Way, where the virtuous cycle can begin again.

Conclusion

As you can see, and likely already knew, DevOps transformations are called journeys for good reason. The enterprise landscape is littered with failed, or at least disappointing, DevOps transformations. With the *Total DevOps* holistic approach to The First Way, your DevOps journey can begin on a strong footing and be positioned for success.

References

1. *The Phoenix Project* by Gene Kim, Kevin Behr, George Spafford | January 2013
2. *The DevOps Handbook* by Gene Kim, Patrick Debois, Jez Humble, John Willis | October 2016
3. *The Goal* by Eliyahu M. Goldratt | 1984
4. *State of DevOps Report* by Puppet Labs, IT Revolution, DORA | June 2017
5. *Engineering DevOps to Meet Business Goals* by Marc Hornbeek | December 2016

About the Trace3 DevOps Consulting Practice

The Trace3 DevOps Consulting Practice is a comprehensive *Total DevOps* solution provider, “Transforming Your Capabilities, Beyond Your Tech Stack”. Trace3 provides end-to-end consulting services across people, process and technology to help organizations on their DevOps journey from start to finish and everything in between. We right-size engagements with a tech-agnostic approach and enable our clients with DevOps practices they can own and evolve.

About Trace3

As a Transformative IT Authority, Trace3 is the premier provider of IT solutions. We integrate IT products and services with insightful consultation to provide total transformation for both executives and organizations. Our elite engineers implement tomorrow’s systems and hardware to solve today’s most pressing IT problems, standing shoulder-to-shoulder with our clients to protect and serve their interests.

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