

# Expanding Pockets of Greatness



Spreading DevOps  
Horizontally in Your  
Organization

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Expanding Pockets of Greatness:  
Spreading DevOps Horizontally in Your Organization  
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# PREFACE

In April of this year, we at IT Revolution had the pleasure of hosting technology leaders and experts from across the DevOps Enterprise community at the DevOps Enterprise Forum event in Portland, Oregon. The Forum’s ongoing goal is to create written guidance to overcome the top obstacles facing the DevOps Enterprise community.

Each year at the Forum, the topics covered have included organizational culture and change management, architecture and technical practices, metrics, integrating and achieving information security and compliance objectives, creating business cases for automated testing, organizational design, and many more.

For the first two years, we organized the participants into large teams that worked on a small number of broad topics. However, this year, we shifted our approach in two ways—first, we invited a core group of past participants to propose topics they would like to work on and second, we asked them to narrow their topics so that they could have “nearly shippable” artifacts by the end of the second day. The result was more teams working on more problems with more written guidance.

After the Forum concluded, the groups spent the next eight weeks working together to complete and refine the work they started together. The results can be found in this year’s collection of Forum papers. I hope you will agree that the smaller teams and reduced scope of the guidance benefits both the teams as well as the reader.

IT Revolution is proud to share the outcomes of the hard work, dedication, and collaboration of the amazing group of people from the 2017 DevOps Enterprise Forum. Our hope is that you will gain valuable insight into DevOps as a practice.

—Gene Kim  
June 2017  
Portland, Oregon

# INTRODUCTION

Here you are: There are a few pockets of DevOps in your organization, but you are a long way from achieving a total DevOps transformation.

How do you build momentum and go from a few islands of DevOps goodness to a tipping point where the entire organization embraces common DevOps methods?

This paper is about the techniques others have used to build momentum to spread DevOps horizontally across an organization. The techniques fall in four categories: sharing, communicating, standardizing, and empowering new leaders.

You're not alone. DevOps is out there in your organization. We want to help you find it and scale it.

## *Purpose*

In this paper, we aim to provide guidance to leaders (change agents) who see DevOps activity in different teams, groups, or departments in their organization and are looking to build community and promote growth.

We want to help you connect the pockets of DevOps goodness that may already exist within your organization and harness them to drive change.

The strategies and tactics we describe rely on influence (rather than control) and “opt in” participation (rather than mandated adoption). It’s a “pull” approach to change rather than a “push.”

If you want to learn more about leading change with different groups within your organization, like executives, middle managers, and individual contributors, you should read the *Tactics for Leading Change* paper<sup>1</sup> from the 2016 DevOps Enterprise Forum.<sup>2</sup>

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<sup>1</sup> *Tactics for Leading Change* (Portland, OR: IT Revolution, 2016),  
<https://itrevolution.com/book/tactics-leading-change/>.

<sup>2</sup> DevOps Enterprise Forum website, [http://itrevolution.com/devops\\_enterprise\\_forum\\_guidance](http://itrevolution.com/devops_enterprise_forum_guidance).

## Audience

This document is for you if:

- You've had small DevOps successes; for example, a single team or project.
- You want to build and promote grassroots DevOps efforts within your organization.
- You have a title like Individual Contributor, Manager, or Lead (not CXO or VP).
- You lack a significant span of control because you're an individual contributor or middle manager (not an executive).
- You lack significant resources, like budget.
- You work in an organization that hasn't hit the DevOps tipping point yet.<sup>3</sup>
- You're aware of some like-minded people and groups within your organization, but you don't know who they all are.
- You feel isolated. You're telling yourself, "There has to be someone else doing this!" or "There has to be a better way." You don't want to duplicate efforts.
- You want to build a "coalition of the willing" because you've recognized you need this to drive bigger changes (e.g., get the organization to invest in the technology you know can help your team deliver or drive changes in culture needed to allow your team to be more self-empowered).

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<sup>3</sup> For additional reading on tipping points, check out *The Tipping Point* by Malcolm Gladwell, <https://www.amazon.com/dp/0316346624/>.

# STRATEGIES AND TACTICS

If you're reading this paper, then you have likely considered numerous ways to more broadly consolidate and engage the teams in your company. In this section, we will outline some strategies and tactics, focused on four core areas, to help provide structured guidance on where to start and where those efforts will evolve.

Don't try to do all these tactics at once. Pick a few, have some success, and build from there. Choose tactics that best align with your objectives and your company's culture. There are no "one size fits all" solutions, and you may have to apply multiple strategies to achieve the desired effects. DevOps is a journey and you must be mindful of how much you take on at once.

We've grouped the strategies and tactics into four categories:

1. **Share:** I provide opportunities to share knowledge and make success visible.
2. **Communicate:** I create common communication channels.
3. **Standardize:** I increase standardization and consistency of processes and tools.
4. **Empower:** I develop leadership capacity.

## *1. Share: Provide opportunities to share knowledge and make success visible.*

Making success visible has multiple goals. Of course you want to share knowledge so others can benefit. At the same time, sharing enables allies to find you, which can be important at the beginning of a transformation. Sharing opportunities are ways to advertise the benefits of DevOps without being pushy. Hypotheticals can be debated endlessly, but a case study that shows a tangible benefit gets attention and can turn naysayers into allies.

### *Tactics*

- **Show and Tells:** Open-invite meetings that happen on a regular basis (e.g., weekly, monthly, quarterly) where teams present about their DevOps experiences, demo new tools, teach a DevOps concept, or bring in the occasional external speaker.
  - ♦ Variations: *Ignite Talks*:<sup>4</sup> *Presentations* are 20 slides, 15 seconds each, auto-advance enabled.

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<sup>4</sup> Ignite Talks website, <http://www.ignitetalks.io/>.

- **Demo Days:** A space where each demo is given a booth or table. Attendees walk demo to demo. Individuals and teams have the opportunity to share their work.
- **Webinars:** Lectures or presentations on specific topics viewable online live, preferably recorded for later viewing.
- **Internal Open Source:** Create a culture of “innersource” (open source within the company). Make source code accessible by default, only lock down code that is high-value intellectual property (HIP). This open source culture enables people to share, copy, and learn, and reduces wasteful, “reinventing the wheel” work. This can also allow teams to avoid wait states by performing changes they need from another team and allowing that team to approve the changes (e.g., via a Git pull request).
- **Dojo (Training):** Also known as “Transformation Immersion Center,” teams attend to receive experiential learning about DevOps tools and techniques. By the end of the six weeks, the team has transformed their project to use the recommended DevOps principles and tools.<sup>5</sup>
  - ♦ Training intensives such as this empower people to be DevOps successes. It is also a vector by which best practices are communicated and new behaviors are role-modelled and practiced. The training should evolve over time as the organization’s needs and maturity changes.

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**Pro Tip:** When sharing and talking about success, think about what’s in it for your audience. Why should they care about what you’re sharing? Why should they spend their time participating? You’re not trying to “sell” them (that could be counter-productive), but putting things in terms that are meaningful to others will increase engagement. Success inspires further success.

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### *Examples and Case Studies*

**Jason Cox at Disney** created a speaker series to bring employees together and provide opportunities to learn outside perspectives about DevOps. He brings in an external speaker every month and schedules social time afterward to encourage mixing and networking. The talks are streamed live and recorded for the archive. The talks also have chat rooms to solicit and discuss questions from remote participants.

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<sup>5</sup> For more, read chapter 21 in *The DevOps Handbook* by Gene Kim, Patrick Debois, John Willis, and Jez Humble, <https://www.amazon.com/DevOps-Handbook-World-Class-Reliability-Organizations/dp/1942788002>.



**Ross Clanton and Heather Mickman at Target** started hosting internal DevOps Days,<sup>6</sup> among other grassroots-building efforts. They re-created the format as an internal tech conference with internal and external speakers. The event helped build community and drive learning. You can learn more about their efforts to build the grassroots at Target in their DevOps Enterprise Summit 2015 talk.<sup>7</sup>

**Nanda Kumar at Verizon** gamified DevOps to solve problems of how Verizon was building skills and capabilities and infusing the culture. Nanda and his team came up with what they called the DevOps Cup, an annual competition. It aligned all the skills and capabilities that the team should improve upon, which aligned with how teams wanted to improve themselves from a DevOps perspective. As teams demonstrated their improvements throughout the year, they earned points. They were even encouraged to “steal” ideas and patterns from other teams and adopt how they did things. Nanda saw the DevOps Cup have a major impact on how Verizon evolved over the last couple of years. You can follow Verizon’s DevOps Cup activities on Twitter with the #DevOpsVZ hashtag.

## *2. Communicate: Create common communication channels.*

Make it easy for people to find information they need, share knowledge they’ve discovered, and communicate with like-minded people. The focus should be on openness and easy access to as large an audience as possible. As much as you can, try to create common “go to” channels that focus, facilitate, and encourage collaboration versus having numerous, fragmented, disconnected efforts.

### *Tactics*

- **Wiki or SharePoint:** A repository for crowd-sourced documents (tutorials, instructions, FAQs, progress reports, code examples, etc.). This type of repository reduces duplicated effort across groups and promotes collaboration.
- **Chat Rooms:** A real-time chat that enables ad hoc support and communication. These can eventually evolve to also include bots and extended functionality, generally referred to as ChatOps.
- **Email Lists:** Email may be a better culture fit for some organizations. A web-based archive can be very useful during retrospectives.

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<sup>6</sup> DevOps Days website, <https://www.devopsdays.org/>.

<sup>7</sup> Heather Mickman and Ross Clanton, “DOES15 - Heather Mickman & Ross Clanton - (Re)building an Engineering Culture: DevOps at Target,” YouTube video, 33:39, from DevOps Enterprise Summit 2015, posted by DevOps Enterprise Summit, November 5, 2015, <https://www.youtube.com/watch?v=7s-VbB1fG5o>.

- **Newsletters/Mass Education:** Corporate newsletters are generally ignored, but Google had success educating engineers about new testing methodologies by posting one technique per week in bathroom stalls.<sup>8</sup> Put information where people are likely to see it and consume it easily.

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**Pro Tip:** Use good marketing in your communications. You know DevOps is great, but not everybody else does. They need a “story” or narrative that helps them understand more of what this movement is all about. DevOps marketing requires three things: a good story with a beginning, middle, and end (e.g., “The old way was painful. We made a bunch of changes. Now releases are fast and error free and features are shipped faster.”); good visuals (e.g., graphics, logos, slides, posters, stickers); and numbers that back up the story (e.g., measurements, KPIs, proof). Take a look at Puppet Labs’ *2016 State of DevOps Report*<sup>9</sup> for an example of good DevOps marketing.

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#### *Examples and Case Studies*

**Rosalind Radcliffe at IBM** supports an online community that includes wikis, blogs, file storage, and forums using IBM software,<sup>10</sup> as well as channels (i.e., chat rooms) in Slack. The online presence is augmented by offline activities, such as monthly teleconferences where teams highlight their accomplishments and quarterly awards (money) for teams that demonstrate best practices or transformations.

### *3. Standardize: Increase standardization and consistency of processes and tools.*

Standardization can be a dirty word when talking about innovation. However, there are times when the lack of any standards can impede innovation or result in inefficiency across an organization. It is important to identify areas where standardization can be applied while also respecting individual flexibility when required. Driving the appropriate level of consistency can lead to improvements in the delivery pipeline needed to drive desired business outcomes, such as shorter lead times and more frequent deployments. This also provides the opportunity for increased knowledge sharing as discussed in the previous section.

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<sup>8</sup> Gene Kim, Patrick Debois, John Willis, and Jez Humble, *The DevOps Handbook: How to Create World-Class Agility, Reliability, and Security in Technology Organizations* (Portland, OR: IT Revolution, 2016), 125.

<sup>9</sup> *2016 State of DevOps Report* (Portland, OR: Puppet Labs and IT Revolution, 2016), <https://puppet.com/resources/whitepaper/2016-state-of-devops-report>.

<sup>10</sup> IBM Communities website, <https://www.ibm.com/communities/>.

## Tactics

- **Standardize:** Deliver common services (e.g., CI/CD, analytics, self-service portal(s), code repository) that can be easily used by all groups. This reduces the friction of adopting standardized tools and processes.
- **Scorecard:** Create a DevOps scorecard of simple visual indicators (e.g., Harvey Balls<sup>11</sup>) for practices and tool adoption to provide recognition and drive productive competition.
- **Experimentation:** Experiment with different tools. Utilize successful results and the application of systems thinking to drive development of business cases which merit enterprise investment. See the Nationwide Model Line Experiments<sup>12</sup> for an example of this.
- **Common Language:** Designate an approved dictionary across groups. This helps ensure communication is not lost between groups due to different definitions for common words.
- **Adopt Rogue Apps:** Rather than looking at shadow IT as a bad thing, use it as an indicator of demand or an unfulfilled need. Productionize the app and offer support so that all can benefit and have that need met.

## Examples and Case Studies

**Jason Victor at Merck** discovered one unusually productive team was secretly using an unsanctioned issue and task management suite. Rather than shut it down, Jason and his team took the time to understand what need was being met by the suite. Eventually, the suite was adopted and moved into production. Other teams could opt in, and soon many teams were benefitting from its use. You can see more of Merck's efforts to standardize their toolchain through experimentation in the 2016 LISA Conference talk by Jason Victor and Peter Lega.<sup>13</sup>

**Mike Bland at Google** created a culture of automated testing by applying the principle "make the right thing the easy thing." He used numerous influence-based activities over several years to create awareness, educate others, generate support, and build community. You can learn more about Mike's experience in his "Rainbow of Death" talk from DevOpsDays Baltimore in 2017<sup>14</sup> or Surge in 2016.<sup>15</sup>

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<sup>11</sup> Wikipedia, "Harvey Balls," [https://en.wikipedia.org/wiki/Harvey\\_Balls](https://en.wikipedia.org/wiki/Harvey_Balls).

<sup>12</sup> "DOES16 San Francisco - Carmen DeArdo, Cindy Payne, & Jim Grafmeyer - Episode 3: The Quest for Accelerated Delivery," Slideshare, posted by Gene Kim, November 21, 2016, <https://www.slideshare.net/ITRevolution/carmen-deardo-cindy-payne-jim-grafmeyer>.

<sup>13</sup> Jason Victor and Peter Lega, "Traditionally Waterfall Environment," LISA Conference 2016, <https://www.usenix.org/conference/lisa16/conference-program/presentation/victor>.

<sup>14</sup> Mike Bland, *Rainbow of Death*, March 8, 2017, <https://mike-bland.com/the-rainbow-of-death>.

<sup>15</sup> "Surge 2016 - Mike Bland - The Convergence of Wills" YouTube video, 1:00:40, from Surge 2016, posted by OmniTi, October 21, 2016, <https://www.youtube.com/watch?v=D5ld7NJPXkl&feature=youtu.be>.

## 4. Empower: Develop leadership capacity.

Leadership presents itself in various ways. As you navigate the tactics outlined in this document you should quickly recognize key individuals whose efforts stand out from their peers. These individuals may regularly lead execution on one of the tactics, or they may be seen by their peers as a leader and subject matter expert on a process or technology. You want to identify these individuals and provide opportunities for them to increase their impact as your organization matures. Everybody wins—you, the leader, and your organization.

### Tactics

1. **Identify Leaders:** Identify people who are showing leadership. Be mindful of the individuals who are making significant impacts. They will often be mentioned as subject matter experts on a process or technology. Make their contributions known widely.
2. **Mentor Leaders:** Find ways to mentor and invest in these leaders' growth. Provide guidance, or facilitate a mentoring program, that will allow these individuals more opportunity to improve their leadership skills.
3. **Influence Across Groups:** Find ways for people to influence across groups. Make introductions between organizations. Bringing in the best people will help advocate for the broader efforts.
4. **Role Creation:** Create roles for people that better enables them to influence. Successfully expanding horizontally will mean that more people will be in need of the knowledge and leadership they possess. Consider creating formal roles where their title and tasks grow their area of expertise throughout the company.

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**Pro Tip:** Maintain an open mind when presented with new ideas, especially from those who you view as other potential leaders. It is easy to dismiss ideas that feel counterintuitive. Giving these individuals freedom to experiment will expedite finding what works and doesn't work for your organization. Treat failure as a learning opportunity and make it clear it's okay to fail and move on. You're also trying to build a coalition of the willing, so incorporating ideas from others increases their buy in.

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### Examples and Case Studies

**Mik Kersten at Tasktop** allowed team members to clearly understand their role in delivering customer value by diagramming how their work flowed through the value stream. Team members could clearly see where bottlenecks existed and how they were impacting other teams' ability to deliver. By creating a shared context, teams could work together to improve

flow and speed to market. Mik's effort had another benefit, in that it identified budding leaders within the teams—individuals who were making the most contributions and tackling the hardest problems.<sup>16</sup>

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<sup>16</sup> Learn more about what Mik did in his interview with DevOps.com, <https://devops.com/devops-chat-mik-kersten-tasktop-on-value-stream-visualization/>.

# CONCLUSION

DevOps transformations are difficult, but they regularly demonstrate their value. There is an old African proverb, “If you want to go quickly, go alone. If you want to go far, go together.” We hope these tactics help you find allies so that you can go far together. Working together will better prepare you and your allies to face challenges and adversities. You’ll make progress through slow, steady, persistent effort. Small successes will lead to bigger successes and eventually your organization will reach its DevOps tipping point. Success won’t be far away.

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