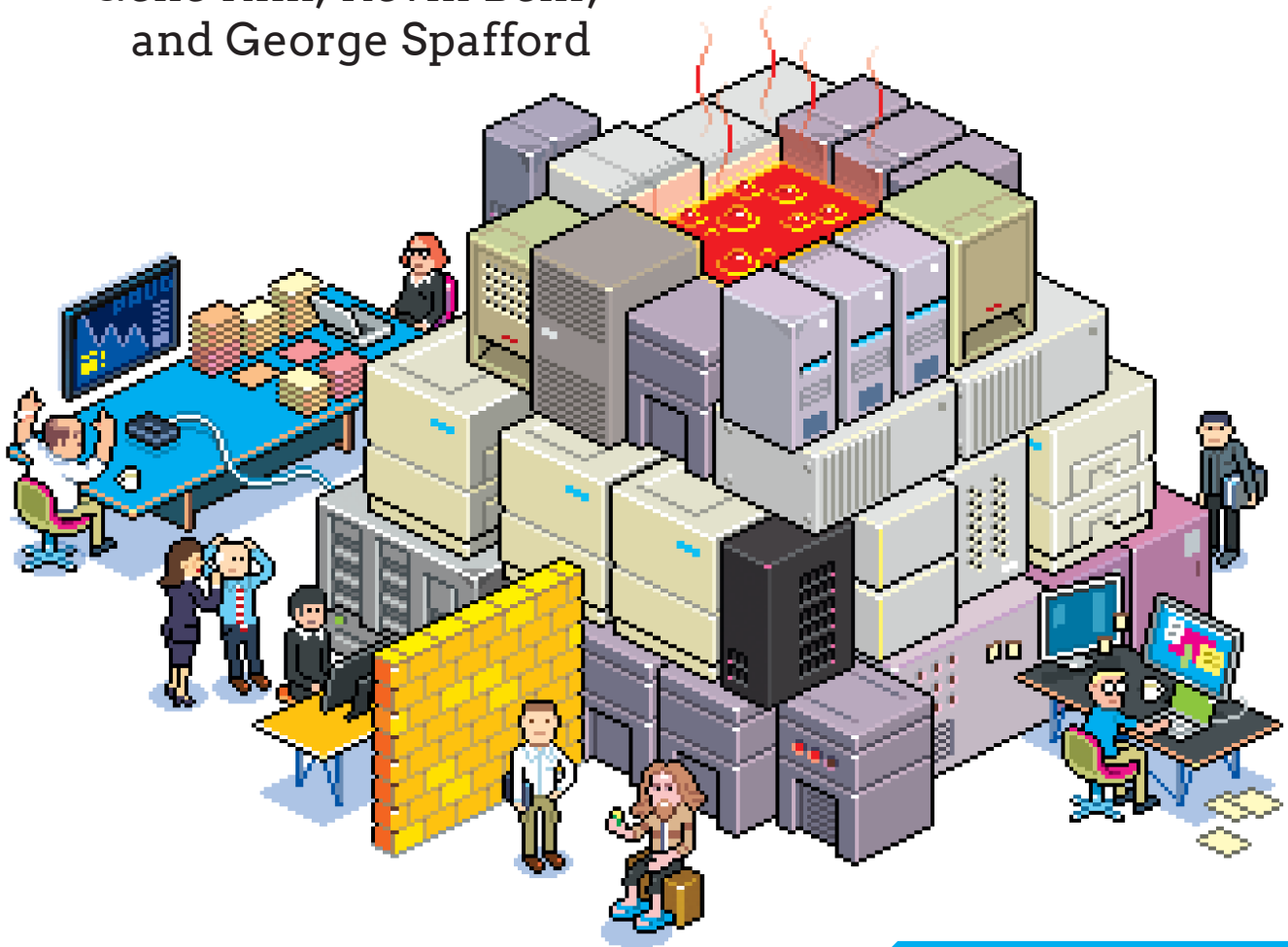


A Novel About IT,
DevOps, and Helping
Your Business Win

The Phoenix Project

Gene Kim, Kevin Behr,
and George Spafford



READER'S GUIDE

READER'S GUIDE

The Phoenix Project

A Novel About IT, DevOps,
and Helping Your Business Win

Gene Kim, Kevin Behr, and George Spafford

IT Revolution
Independent Publisher Since 2013
Portland, Oregon



25 NW 23rd Pl
Suite 6314
Portland, OR 97210

The Phoenix Project Reader's Guide Copyright © 2020 by IT Revolution.
The Phoenix Project © 2013 by Gene Kim, Kevin Behr, and George Spafford.

All rights reserved. For information about permission to reproduce selections from this guide,
write to: Permissions, IT Revolution Press, LLC, 25 NW 23rd Pl,
Suite 6314, Portland, OR 97210.

Cover and design by Devon Smith

The book *The Phoenix Project* is not included with this guide. Paperback, ebook,
and audio editions are available through most major retailers. For information
about special discounts for bulk book purchases, information on booking authors for an
event, or for additional downloads, please visit our website at www.ITRevolution.com.

THE PHOENIX PROJECT READER'S GUIDE

Overview of *The Phoenix Project*

Synopsis

After a steep decline in the stock market and lagging sales growth, Parts Unlimited, an automotive parts manufacturer and retailer, needs a remarkable digital transformation to catch up with its competition. Bill Palmer is promoted from Director of Midrange Technology Operations to VP of IT Operations and is charged with helping the company regain its footing in the market. Parts Unlimited is plagued by inefficient work processes, siloed departments, and a dysfunctional leadership team. Their latest endeavor, the Phoenix Project, was promised to integrate its retailing and e-commerce channels. But the project is months overdue and frighteningly beyond its budget. Against Bill's wishes, the Phoenix deployment is rushed and causes a host of software, hardware, and security issues.

Bill struggles to correct Phoenix's course. Soon, Parts Unlimited's myriad issues become apparent: IT is siloed from the rest of the business and is treated as if it were outsourced. Departments and department heads rarely converse with each other and never discuss their goals or the business's goals. Solutions to issues are not documented. No one keeps track of the projects IT has been asked to do. Luckily for Bill, he has an unlikely ally: an eccentric potential board member named Erik. Erik teaches Bill about the four types of work, the Three Ways, bottlenecks and how to deal with them, successful change management processes, and communication skills, among other strategies he suggests will help Parts get back on track.

In the months after his promotion, Bill oversees miraculous changes at Parts. A new change management system, a kanban board, is put in place to protect software and prevent crashes. IT's best developer—and thus most limiting constraint—limits how much he works on projects, attempts to teach other developers his skills, and documents his processes. Ops and Dev work together on smaller, faster deployments that enable the business to better respond to market changes. Security is integrated into the production pipeline so products are tested before they're expected to go to market. Timelines are created and adhered to until they're not useful, at which point a new timeline is established. And perhaps most importantly, the leadership team becomes a cohesive whole: every lead knows what every team is working on, and everyone knows how their work achieves the business's goals.

Along the way, Bill and his team patch Phoenix and eventually start a derivative program that enables continuous development and quick customer feedback called Unicorn. The two programs are so successful that Parts Unlimited regains its footing in the market and crushes its competition.

By the end of the novel, Parts undergoes a complete digital and cultural transformation; IT and the business are a united front, and Bill is offered a fast-track to become Chief Operating Officer in three years.

CHAPTER-BY-CHAPTER BREAKDOWN

Part I: Principles

Chapter 1: Tuesday, September 2

Synopsis

Bill Palmer, the Director of Midrange Technology Operations at Parts Unlimited, is promoted to VP of IT Operations. The CIO and previous VP were fired for low performance. Parts' main competitor continues to innovate while Parts remains stagnant. Bill realizes that Parts Unlimited has some management problems: Firstly, IT is physically separated from the company, working in an entirely different building. Secondly, there seems to be a mismatch between what Marketing wants IT to provide and what IT can actually do: Marketing's goals fail to be met, and in fact there was no chance of ever meeting them. Thirdly, Bill works in a culture of fear. He and the rest of IT fear that one bad outage would put them out of their jobs. Bill is coerced into accepting the promotion. His first mission as VP of IT & Ops is to fix a huge payroll error that has the potential to seriously damage Parts' reputation and financial solvency.

Themes

1. IT problems threaten the entire business.

Discussion Questions

1. Is Parts an Agile/DevOps-oriented organization? Why or why not?
2. Are there any analogues between Parts and your organization?
3. Do you know anyone who, when offered a promotion, felt like Bill?

Chapter 2: Tuesday, September 2

Synopsis

Bill pays Finance a visit to discuss the payroll issue. Finance is certain the issue stems from a tech error. Finance has been using manual data entry for payroll instead of an automated system. Bill

returns to IT, which is in an old building that desperately needs updates, especially compared to the other buildings he's been in today. It turns out that IT is dealing with another, possibly related, problem: their storage area network, or SAN, has stopped serving data entirely. They were in the middle of a SAN firmware update when the payroll run failed. Bill questions whether the SAN and payroll issues are truly related.

Themes

1. Don't take the first answer; strive to find the most likely, truest answer.
2. Workspaces must be updated to encourage productivity in the digital era.

Discussion Questions

1. Identify four or more un-Agile behaviors exhibited by Parts and its employees mentioned or suggested in this chapter.
2. Has your organization ever experienced one or some of the problems Parts is experiencing? How did you fix it?
3. What would you do if you were in Bill's shoes?

Chapter 3: Tuesday, September 2

Synopsis

Bill, Patty, and Wes meet with Brent, a skilled and overworked developer. Brent reveals that yesterday, he helped perform a SAN firmware upgrade that was too recent for Parts' systems; the SAN firmware hadn't been updated for years. Additionally, there are other database outages. Brent also says he helped a developer for the timekeeping application with a question before the database failures, which Bill homes in on as the cause for the payroll error.

Bill speaks with John, the CISO, about the timekeeping application change. John is hostile: he believes Ops has been "dragging [its] feet on security issues" for a long time. He also states that there was a compliance audit finding that may have led to the termination of the previous CIO and VP. John says he's been "kept in the dark" about what's going on and that Steve has forgotten about InfoSec. It's revealed that John deployed a tokenization security product without telling anyone in IT or Ops. Bill determines that the product is the cause of the payroll failure.

And the cherry on top? There's no change management process. At least, no one uses it. Patty and Bill decide to investigate all the changes made over the past three days.

Themes

1. Departments must communicate regularly.
2. A change management process is essential.
3. Don't wait to upgrade your firmware; do it as soon as a new firmware update is available.

Discussion Questions

1. How could Bill and John repair the broken relationship between their two departments?
2. What's your change management process? What other change management processes have you used in the past? Why do you use your current one?

Chapter 4: Wednesday, September 3

Synopsis

Bill attends a meeting about Phoenix with Sarah, the SVP of Retail Operations, and Chris, VP of Application Development. Steve and Wes are also there. Chris's team has grown a lot over the past two years and has low cohesion. Sarah, concerned about the competition and Parts' decreasing market presence, orders the Phoenix Program deployed as soon as possible. Chris decides the program can go live in about a week, despite the fact that Phoenix has yet to be tested, and IT has no idea what hardware the program needs. The disconnect between IT Ops and Development stems from a near complete lack of communication and collaboration. Bill decides to hold an in-person meeting with Dev and Ops to work together on Phoenix.

Later that day, Bill goes to Patty's change management meeting to find it empty. The last time a change management process was enforced, it was so bulky that developers spent more time logging their changes than working. Bill decides to make change management meetings mandatory, but gets pushback from Wes. To make matters even worse, a recent security patch bricked over two hundred laptops at Parts, including Bill's. There aren't enough backup laptops. Bill has to work on an ancient, laggy device.

Themes

1. It's riskier to deploy a buggy, faulty program on time than it is to deploy a usable program late.
2. When departments don't communicate and collaborate on projects, projects become delayed and broken.
3. Managers need to be on the same page about practices and business goals.

Discussion Questions

1. Do you adhere to your organization's change management system? Why or why not?
2. Think back to a big deployment your organization did recently. Did the project stick to its initial timeline? Was there a rush period in the weeks leading up to the release? Did anyone ask for more time, and if so, was their request granted?

Chapter 5: Thursday, September 4

Synopsis

Internal audit results reveal nearly a thousand IT general control deficiencies related to Parts Unlimited's financial systems. Bill and IT Operations are given six working days to write a response letter and formulate a remediation plan. This seems an insurmountable task to Bill, who has already assigned everyone to help with the Phoenix rollout. Further, many of the security issues will require Brent's attention, and he's already overworked and behind on projects.

It's revealed that IT Operations is strapped for resources: they know they need to hire more people like Brent, but management never approves a budget increase. When Wes did hire people in the recent past, Brent ended up training them, only for half of them to leave and the other half to be much less productive than required. Complicating matters further is the fact that people keep adding projects to IT's "to-do list," but a physical list doesn't exist. There's no way to tell what IT's demands, priorities, work in process, and resource availability are. Bill asks Patty to log all of the projects IT Ops has on their "list" as well as all of their resources to get a feel for their workload.

Themes

1. A business doesn't have "sides." If you feel like a person isn't on your side, you have a communication breakdown to resolve.
2. Create an actual list of projects, priorities, demands, work in process, and resources.

Discussion Questions

1. In your opinion, what was the biggest contributing factor to the deficient IT general controls? Was it the outdated hardware, the lack of communication between teams, the reluctance for the teams to work together, the failed change management process, or something else?
2. How does your organization keep track of projects, work in process, resources, etc.? What would you change to make this system easier to use?

Chapter 6: Friday, September 5

Synopsis

Wes, Patty, and Bill discuss their projects and resources and discover that everyone struggles to get their project work done and to prioritize their commitments. IT is working on over a hundred projects with only a hundred and fifty people on board. Projects are forecasted to take months if not years. Wes recommends the department hire seven new people, but that won't solve the issues IT Ops faces.

Then, at the change management meeting, Bill decides to try using index cards to document proposed changes. The change meeting is frustrating: no one can agree on what a "change" is, then no one can agree on when a change should be implemented, then some changes are found to be unnecessary. The team eventually decides to try the index card system, and at the end of the day, 243 changes have been submitted. Because many if not all of them have to happen in the next week, it seems impossible to authorize all of them in time.

Themes

1. Hiring people will not immediately solve problems. In fact, it may create problems, since new hires require months of training and mentorship before they're fully productive.

Discussion Questions

1. How often do your team members talk with members of other teams about the changes they plan to implement? Do all of the team leads and managers know or have access to a list of the planned changes?
2. How does your organization define a "change"?

Chapter 7: Friday, September 5

Synopsis

Bill meets with Erik Reid, a potential board member. Erik immediately diagnoses IT Ops's problems, all of which stem from what Erik says is lack of clarity about what "work" actually is. Erik takes Bill to one of Parts Unlimited's manufacturing plants, MRP-8, and shows him how the plant got their work in process under control and was able to meet deadlines. Bill listens but laughs him off, saying that IT Ops isn't like running a factory. Erik argues that it is; in fact, he believes that the solutions that worked for Plant Operations can and will work for IT Operations, starting with getting rid of bottlenecks.

Themes

1. There are four types of work that IT Operations is responsible for.
2. Too much WIP leads to missed due dates, poor product quality, and shuffled priorities.
3. Any improvements made anywhere besides an organization's bottleneck are useless until the bottleneck is resolved.
4. IT Operations can learn a lot from Plant Operations.
5. The Three Ways:
 - a. The First Way "helps us understand how to create fast flow of work as it moves from development into IT Operations."
 - b. The Second Way "shows us how to shorten and amplify feedback loops, so we can fix quality at the source and avoid rework."
 - c. The Third Way "shows us how to create a culture that simultaneously fosters experimentation, learning from failure, and understanding that repetition and practice are the prerequisites to mastery."

Discussion Questions

1. How does your enterprise define "work"?
2. What are your organization's bottlenecks?
3. Describe the job of your VP of IT Operations. How does it compare with Erik's description on page 91?

Chapter 8: Monday, September 8

Synopsis

Bill asks Steve for a budget increase to hire more developers, but Steve refuses. At the newly dubbed Change Coordination Room, Patty, Bill, and Wes try to figure out an elegant way to approve the 437 change requests submitted since Friday. Their goals are to "get the left and right hands to know what the other is doing, give [the team] some situational awareness during outages, and give audit some evidence that [they're] addressing change control." Bill suggests focusing on the riskiest changes. These, Bill mandates, must be authorized by the Change Administration Board. Low-risk changes, or standard changes that are done frequently and successfully, are pre-approved; they still need to be submitted, but the CAB doesn't need to schedule them. Finally, the medium-risk changes require that the submitter consults and gets approval from people potentially affected by the change. Then the change can be reviewed and approved for scheduling. Patty

tells Bill that this system will need to be automated in order to free up resources: she and two other employees are spending all of their time reviewing changes, which is a resource drain Parts can't abide for long.

Themes

1. Things get worse before they get better.
2. Change management is essential. It might take a while to set up, but the alternative—not having a change management system—is far worse.

Discussion Questions

1. What does your enterprise do when a workgroup expresses a need for more people or a bigger budget?
2. Does your organization have a scale for measuring the risk associated with proposed changes? How do you deal with risky changes vs. low-risk changes?

Chapter 9: Tuesday, September 9

Synopsis

Parts Unlimited experiences a Sev 1 failure after a change was implemented. Patty calls an emergency meeting involving a number of developers. None of them admit causing the change. But at the last second, Brent manages to fix the problem. Bill tries to impress upon everyone that changes must be documented, and no unapproved action can be taken in a Sev 1 incident.

At a later CAB meeting, Patty encourages people to schedule their changes for earlier in the week rather than later. The scheduled Phoenix deployment is three days away, and Patty wants to spread out the changes so they don't all happen on Friday and leave room for Phoenix triage.

Themes

1. In addition to *business projects* and *IT projects*, changes are a category of work.

Discussion Questions

1. Has there ever been a time when your organization had to alter its work schedule to accommodate another project? Have you ever had to change your work schedule because of another project?
2. Is Bill being a good manager in this chapter?

Chapter 10: Thursday, September 11

Synopsis

QA continues to find twice as many broken features in Phoenix as are getting fixed. It turns out that Brent has five outstanding Phoenix-related tasks that he has to finish before deployment. Bill investigates why Brent hasn't completed his tasks yet. Brent is taking calls left and right, troubleshooting issues over the phone and working to solve issues himself. Wes later says Brent hasn't been able to take a day off without a pager in three years. Every time an IT person has a problem, they contact Brent. Bill insists Brent start turning people down and focus solely on Phoenix. He ropes Wes in, saying that processes are meant to protect people, and that Brent needs to be protected. One problem, though, is that Brent doesn't document anything he does, so his solutions are impossible to replicate or use to teach others. Bill, Patty, and Wes come up with a process that prevents Brent from working on non-Phoenix-related problems and shifts his focus away from making changes to teaching other developers how to do what he does.

Themes

1. A manager's goal is, at times, to simply observe and seek to understand.
2. One way to avoid bottlenecks is to promote a culture of learning: create an environment where the people with the most experience and best outcomes teach those who have less experience or less success.

Discussion Questions

1. How does your organization document solutions to incidents? Think back to a relatively severe outage or systems failure your company experienced. Would your team be able to resolve the issue faster than the first time?
2. Are there systems in place to discourage people in positions of power from requesting work directly from developers? What happens when, say, the CIO goes to a developer and requests a change?
3. How does your organization foster a culture of learning?
4. How does your organization treat the most skilled employees? What is their work-life balance?

Chapter 11: Thursday, September 11

Synopsis

All is not well in the CCR. Sixty percent of changes scheduled for the past week didn't get implemented for a variety of reasons, from the necessary people being unavailable (including Brent) to SAN maintenance interfering with the change. Bill realizes that if this pattern continues, IT Operations will soon have a mountain of changes carried from one week to the next, waiting (most of them for Brent) to be implemented. It's important to note that the change management process didn't cause this backlog; it was always there, hidden. For the first time, the team is aware of how much scheduled work isn't getting done.

Themes

1. Just because a process reveals a faulty system does not mean the process itself is to blame.

Discussion Questions

1. How does your enterprise record dependencies? What happens when a dependency can't be met?
2. How does your enterprise handle delayed changes?

Chapter 12: Friday, September 12

Synopsis

It's the Phoenix deployment date, and everything is going wrong. Phoenix is failing critical tests. There is no version control. Phoenix does not work in a test environment. Parts Unlimited doesn't have enough servers to use Phoenix. Bill raises the alarm and tries to convince Sarah that delaying Phoenix will be much less damaging than deploying a broken product, but she doesn't listen to him and insists Phoenix be released as scheduled.

After hours of trying to fix Phoenix, the software shuts down POS systems in all of Parts' stores, causing them to operate in total manual fallback mode. Customers are angry. Phoenix is randomly losing transactions or double charging customers. Worse still, Phoenix starts leaking customer credit card information. Social media is taking notice, and not in a good way.

Themes

1. Do not set a project timeline without knowing how long it will take to test the project.

Discussion Questions

1. In your opinion, did any single mistake doom Phoenix? If so, which one?

Chapter 13: Monday, September 15

Synopsis

The Phoenix crisis is a public fiasco. POS systems are still down. The Finance team is working on processing the orders and tracking which ones were charged erroneously, but John realizes that some store employees have been writing down credit card security codes on their receipts, which they fax to Finance. John knows they have to destroy this information—it's illegal for a vendor to transmit or store this information—but Bill wants Finance to continue processing the orders. John then realizes that external auditors are coming to Parts for a meeting; if they saw the credit card info, it would make the Phoenix disaster even worse.

John manages the auditor situation, but reminds Bill that his response to the internal audit is due. Bill says he and his team are at capacity; there's no way they can work on it. So John offers to put two people from his team onto the audit response.

Themes

1. People adapt and have many different skills. Just because an employee is not on your team doesn't mean they can't help you.

Discussion Questions

1. Has your team been truly at capacity before? How did you handle it? How did people in your company respond to this?
2. Are there departments, teams, or people at your company that you never work with or don't enjoy working with? Why? What could be done to make working with them easier?

Chapter 14: Tuesday, September 16

Synopsis

Stores have working cash registers again, but the problems only continue. Steve conducts individual meetings with every department head involved with Phoenix. Parts' image is so thrashed that Steve makes plans to outsource all of IT within three months. Bill is faced with an ultimatum: fundamentally change how IT and the business interact for the better, or lose his job.

Bill and Chris talk about Phoenix and their ultimatum over drinks. It's the first time they've talked casually and openly about Phoenix. Chris says Development is lagging farther behind than ever; deployments are taking days, not minutes, and Project Management wants features planned three years out. No one outside of Development knows the strain it's under—similar to Operations. Chris and Bill resolve to meet more often and establish a channel of open communication between them in an effort to avoid another Phoenix-like disaster.

Themes

1. Create relationships with other people in your company, especially if you hand off work to them or vice versa.
2. Open communication enables everyone to have a better understanding of the problem at hand—and of the company's capacity, goals, and needs.

Discussion Questions

1. How often do you meet with people on other teams?
2. How do you know what other teams are doing? Is there room for improvement?

Chapter 15: Wednesday, September 16

Synopsis

Bill's team is still underwater with Phoenix detail. Patty's change management system helped two groups avoid a disaster: they noticed the potential collision on the change wall and resolved the issue before it began by choosing which group would input their changes first. But, the change management system reveals yet another problem: Phoenix required so much work and so many resources that none of the scheduled changes for the week so far had been implemented. All 600 changes need to be rescheduled. Bill realizes that the fourth type of work Erik was talking about is the fourth category of work, unplanned work: it's the most destructive type of work, because it interferes with planned work. Bill and Erik discuss the types of work as well as the Three Ways. Erik teaches Bill about constraints (or bottlenecks) and how to eliminate them.

Themes

1. Your constraints should always be working on the highest priority for the company.
2. Unplanned work destroys your ability to do planned work. You can't ever get rid of unplanned work entirely, but you can make sure that it's handled efficiently.

3. Being able to take needless work out of the system is more important than being able to put more work into the system.

Discussion Questions

1. How does your company handle unplanned work?
2. What is your team's constraint? Your company's?

Chapter 16: Thursday, September 18

Synopsis

A new problem arises: no customers have been invoiced for three days. Bill, John, and Patty each play a part in helping diagnose the problem and start fixing it, but Steve thinks Bill is working too slowly. They disagree on how to handle the situation and Bill resigns from Parts.

Themes

1. Lack of understanding and compassion from a manager decreases employee motivation and productivity.

Discussion Questions

1. Have you ever quit a job? How did you know it was time to leave?

Part 2

Chapter 17: Monday, September 22

Synopsis

In the few days since Bill resigned, more failures have occurred at Parts. Patty and Wes followed Steve's instructions, putting all hands on deck to fix the invoice problem, and failed to coordinate everyone. Now the entire inventory management system is down and nobody knows how to fix it. Steve calls Bill and says Erik showed him how horribly he's been managing Parts, and asks Bill to come back. Steve promises to listen to Bill when he sounds the alarm and seems to believe that IT and the business can get along.

Themes

1. True organizational change can only occur when everyone at the company, from software engineers to the CEO, believes both that the change should occur and that the change is attainable.

Discussion Questions

1. Describe your relationship with your company's CEO. Do they listen to you and trust you? Do you listen to and trust them?

Chapter 18: Tuesday, September 23

Synopsis

Bill comes back to work. Steve holds a meeting with all the important players in IT, in which he apologizes for steering the company in the wrong direction and not listening to Bill and Chris. Steve then starts a vulnerability exercise, hoping that by being vulnerable with each other, his IT leadership team will learn to trust one another and will work together more effectively.

Themes

1. IT is critical to every company initiative.
2. The leadership team must trust each other to effect change in their organization.

Discussion Questions

1. How do you feel when you're working on a team versus when you work alone? Have you ever felt part of a truly great team?
2. Do you trust your coworkers? Do they trust you?
3. Have you ever been vulnerable in front of a team member? Has anyone ever been vulnerable in front of you?

Chapter 19: Tuesday, September 23

Synopsis

The vulnerability exercise continues. Being vulnerable and opening up about his struggles in life seems to be the hardest thing Bill has done in a very long time.

After everyone reveals a vulnerable part of themselves, Steve gets back to business: he suggests that the leaders are “probably not good at making internal commitments to one another here within IT.” Chris says that his team “hit the date” with Phoenix, which leads Bill to conclude that the group’s definition of a “completed project” is seriously flawed. The group identifies a need for a better definition of success, as well as a huge issue with how Development hands off projects to Ops and schedules work.

Bill suggests John should also be at the meeting. After he arrives, the group discusses how projects are accepted—namely, that there’s no official process for determining what the demand of the project will be before it starts. The group learns about technical debt and the importance of saying “no” to projects. The group decides that no work will flow from Dev to Ops except Phoenix work. Ops will focus entirely on Phoenix until it’s fixed.

Themes

1. The IT leadership team includes everyone whose job affects or depends on IT, including Security.
2. Technical debt compounds and grows over time. Without addressing its technical debt, a company will be unable to complete any planned work.
3. It’s okay to say “no” to a project, especially if the project would put other work at risk.

Discussion Questions

1. What do handoffs look like between departments/teams at your organization?
2. Does your organization have siloed Dev and Ops departments? How does this affect workflow?
3. How does your organization decide whether to accept a project?

Chapter 20: Friday, September 26

Synopsis

A few days later, it’s clear the project freeze has increased productivity and reduced priority conflicts and bad multitasking. Phoenix is showing signs of recovery. But some project managers, including Sarah, are frustrated that their projects are on hold. Bill, Patty, and Wes realize they need a method of releasing work and determining what gets worked on first. Bill meets up with Erik and understands that Brent plays a key role in determining which work is safe to pursue after the project freeze: since he’s their main constraint, the projects that don’t require him to

function are safe to release. But no one knows they need Brent until they're already working on the project. Bill discovers he needs a way of knowing which work requires Brent. He also learns that many of John's projects will tie up important resources and make it more difficult for IT to do work, which makes them bad uses of time.

Themes

1. Understanding the flow of work through your organization is essential to agility.
2. Improving daily work is even more important than doing daily work.
3. Make wait times visible.

Discussion Questions

1. Have you ever gone to an employee and asked them to prioritize your work? Has anyone asked you to prioritize their work? What happened? How did this affect other projects?
2. How does work flow in your organization?
3. How can you encourage a genuine culture of improvement?

Chapter 21: Friday, September 26

Synopsis

The auditors review the findings and determine that two potential material weaknesses can be resolved relatively painlessly. They'll test the new IT controls to make sure they work. The audit has been resolved, for now. John, however, is unhappy with the results of the meeting. He feels that he's the only one at Parts who cares about the security of their systems and data. He wanted the auditors to drive home the importance of proper security practices, but all Parts got was a slap on the wrist. Erik sees it differently: the business is fine without John's security measures, which means the measures are not only useless, they're also adding extra work to IT and weighing the business down.

Themes

1. Security practices that add work to IT are substantially less valuable than practices that take work out of IT. You "win" at data security when you protect the organization without putting meaningless work into the IT system.

Discussion Questions

1. How closely do your employees follow your organization's security practices? How could this be improved?

Chapter 22: Monday, September 29

Synopsis

John hasn't shown up for work since Friday. Patty, Wes, and Bill talk about how to use manufacturing practices in IT to establish a better, faster workflow. Patty creates a kanban board for her change management system, in which each proposed change is written on a color-coded index card. Cards are moved to different columns—"ready," "doing," and "done"—based on the progress done on the change. Any activities developers work on must go on the kanban board. Changes that aren't on the board won't get done. Patty uses this system to generate a laptop replacement queue and predict when laptop replacements will be available to people (like Bill, who is still using his fossil of a machine). Patty also suggests adopting two-week improvement cycles in her group to keep the business moving toward its own goals.

The trio also discusses what to do when the project freeze lifts. They decide to focus on business projects first, followed by projects that increase Brent's throughput. Two days later, Bill's new laptop arrives—two days ahead of Patty's schedule.

Themes

1. Kanban boards enable developers to more effectively choose which projects to work on.
2. Improving something anywhere not at the constraint is an illusion.

Discussion Questions

1. Have you used a kanban board? What was your experience?
2. If you had any problems with kanban boards, how might these problems be fixed?
3. What can you personally do to improve workflow through your organization's constraint/s?

Chapter 23: Tuesday, October 7

Synopsis

Brent has fallen behind on a Phoenix-related task. Brent's seemingly simple task is actually a small project, comprising multiple tasks spanning multiple people, each of whom have their own

urgent work to do. Bill remembers what Erik told him about how a resource's wait time depends on how busy the resource is. Everyone working on Phoenix is so busy that wait times are already long. A compounding factor is that the handoffs occur between Development and Operations, which is far more complex than a handoff between two Ops employees.

Themes

1. Wait times depend on resource utilization: the wait time is the “percentage of time busy” divided by “percentage of time idle.” In other words, as a resource gets busier and busier, the wait time for that resource becomes longer and longer.
2. Everyone needs idle time. Otherwise, work in process will get stuck in the system, waiting for people to be free.

Discussion Questions

1. Think back to a time when you were extremely busy. How long did it take you to do seemingly simple tasks? How much time elapsed from the moment you knew the task had to be done to when the task was finished, on average?
2. How much idle time do you have?
3. How is your recurring work documented and standardized?

Chapter 24: Saturday, October 11

Synopsis

John, drunk and distraught, contacts Bill after nearly two weeks of not showing up to work. Bill meets him at a saloon. Having consumed way too much alcohol, John reveals his intention to leave town. The two have a difficult discussion about how John's attempts at creating security protocols hindered IT's ability to work on projects and help strengthen the business. John seems to have an existential crisis about his role in Parts. A couple days later, John resolves to change his relationship with the other executives at the company. John sets up a meeting with Dick, the person he has the least in common with, and asks Bill to be there with him.

Themes

1. Sometimes, what you think is important work actually hurts the business. Take care to ensure your projects add value instead of adding busywork.

Discussion Questions

1. Do you emotionally support your team members? Do you have emotional support in your organization?

Chapter 25: Tuesday, October 14

Synopsis

Bill and John meet with Dick to discuss Dick's role at Parts. Dick's job involves a lot more project management and operations-based tasks than a CFO normally takes on. Dick shares with Bill and John his goals and objectives for Finance, as well as his interpretations of the company's goals. Bill notices a problem: he's never seen these lists of objectives, and he can't be certain that IT is working toward these objectives. He and John decide to investigate the value chains of Dick's objectives, or how IT serves the objectives and who's in charge of the objectives.

Themes

1. Take time to understand what everyone's role is on your team.
2. Planning is different from executing and achieving goals.
3. A team can hit all of their objectives, and the company can still fail.

Discussion Questions

1. What is your role at your organization? How has it evolved over time?
2. What differentiates a good day from a bad day for you?
3. What are your goals, objectives, and measurements for this year? How do they rely on other teams or departments?
4. What are the company's objectives? How do your objectives—and the objectives of other teams—serve the company's?

Chapter 26: Friday, October 17

Synopsis

Patty and Bill meet with several different people across different departments who are in charge of meeting Dick's objectives. It becomes clear that IT is way more essential to the business's success than anyone thought. Sales depends on IT to process orders and know what items are out of

stock or fast sellers. Marketing needs IT to organize and report data in a reliable, searchable manner. And the program that was supposed to achieve these things—Phoenix—is still unusable. IT has been working on Phoenix in entirely the wrong fashion—and Phoenix, Bill thinks, should not have been approved in the first place.

Themes

1. The business's success is inextricably linked with IT's success.
2. Aim for a quick time to market, fast failures, and short cycle times of integrating customer feedback into your production cycle.

Discussion Questions

1. How do you collect and integrate customer feedback?

Chapter 27: Tuesday, October 21

Synopsis

Patty, Wes, Chris, John, and Bill gather to discuss IT's role in the company. Bill draws a chart with the following columns: performance measure (from Dick's list), area of IT reliance, business risk due to IT, and IT controls relied upon. The group can now visualize how IT adds value to the company in the context of Dick's list of objectives. Dick is initially unimpressed, but eventually he understands that he left out IT completely from the levels of management he set up to address each of his objectives.

At a later meeting between John, Patty, Wes, and Bill, John reveals five proposals that will result in doing substantially less audit work: reduce the scope of the SOX-404 compliance program, investigate production vulnerabilities, create ongoing documentation for changes, reduce the size of the PCI compliance program, and pay down the technical debt on Phoenix.

Themes

1. The operational risks posed by IT are not IT risks. They're business risks, and need to be managed as such.

Discussion Questions

1. How do you personally serve the company's objectives?

Chapter 28: Monday, October 27

Synopsis

Things are looking up for IT—and for Parts Unlimited. More work is getting done than ever before. Old tickets are eliminated. Maintenance problems are resolved before they affect the business. Everyone in IT is much happier than they were a few months ago. That's not to say there aren't still issues: Sarah has been going around the project freeze by using outside vendors and online services to work on her projects, opening up customer data to potential security threats.

Then, the next Phoenix deployment—the first one since September 12—goes wrong. The team is once again facing a potentially disastrous complication with Phoenix, possibly leaving the stores without POS systems. It turns out that one of Brent's changes wasn't documented—and it was one of Sarah's projects.

Themes

1. A great team performs best when they practice. Practice creates habits, and habits create mastery.
2. When you enable faster flow, the people working on projects are happier, which in turn creates a faster flow, and so on, in a recursive cycle.
3. Timelines can and should be adjusted as new information is acquired.

Discussion Questions

1. How many projects do you work on at once? How many projects are active throughout your organization?
2. How do you deal with employees who break important company rules?

Chapter 29: Monday, November 3

Synopsis

Steve chastises Sarah for going around IT procedures. Steve, Erik, Bill, Wes, Patty, Chris, and John discuss how to deploy Phoenix releases without crashing the whole software. Erik suggests moving to faster deployments instead of a release every month or every other month.

Themes

1. Everyone in an organization must follow established work methods and best practices.
2. Work should always flow forward, never backward.
3. Faster, smaller, more frequent deployments are safer than large, drawn-out deployments.

Discussion Questions

1. Have you ever ignored a rule at your company to get work done faster? Did you succeed?
How might you have opened your organization up to security threats by doing so?
2. Under what circumstances does work flow backward in your team?

Chapter 30: Monday, November 3

Synopsis

Erik takes Bill back to MRP-8 to discuss how the plant decreased throughput time. By combining several work centers, eliminating error-prone steps and setup time, and automating the work cycle, the plant cut order lead times from a month to less than a week. Erik challenges Bill to conduct ten deployments per day. To do that, he suggests automating the deployment process, consolidating work centers, and implementing strict version control practices.

Themes

1. Until code is in production, it does not generate value.
2. Version control is necessary to fast flow.
3. Automation is your friend; it enables fast flow.

Discussion Questions

1. What step of your deployment process takes the most time? Come up with at least three ways you could speed up this process.
2. How often does your organization deploy software? How would the business be affected by deploying twice as often? Ten times as often? A hundred times?
3. What does your deployment pipeline (value stream) look like?

Chapter 31: Monday, November 3

Synopsis

A new group, the SWAT team, is assembled: Bill, Patty, Chris, Wes, William (Chris's QA director), and Brent. The group discusses how to deploy ten times per day. They draw out the IT deployment pipeline and identify the main issues contributing to difficult releases: low work environment availability and poor version control. By the end of the meeting, requirements have been changed, plans to remove backward-flowing work are in place, and the team is energized and ready to hit their goal.

Themes

1. "Deployment" doesn't just mean a huge feature release. It means any performance enhancement, bug fix, and anything that would be done during an emergency change.

Discussion Questions

1. How does your organization visualize and keep track of all the steps a project has to go through from code commitment to deployment?

Chapter 32: Monday, November 10

Synopsis

The SWAT team's project to streamline deployments gets a name: Project Unicorn. They start with a decoupled code base and a completely new database. Build procedures and automated mechanisms are created to enable simultaneous Dev, QA, and Production environments. All the developers are using the exact same OS, library versions, databases, and settings for perhaps the first time in Parts Unlimited history. Things are moving swimmingly...until Sarah and Dick send Brent on a secret mission to create a plan to split up the company. Bill makes an appeal to Steve to get Brent back on Project Unicorn.

Themes

1. Decoupled tools and projects enable fast decision making and change implementation.

Discussion Questions

1. How often do you interact with developers?
2. How do other teams in your organization function? What practices would you want to borrow from them to get better results in your own team?

Chapter 33: Tuesday, November 11

Synopsis

Brent is back on Unicorn, but Sarah is furious. Meanwhile, the Unicorn team toys with the idea of using cloud servers instead of physical ones, since IT can't afford to buy more hardware and the current setup is taking fifty times longer to produce reports than the team expected. They go for it as an experiment, and a week later, the results are in: cloud servers are a huge boon to Unicorn, so much so that the team wants to use the cloud for all of Parts' production systems.

A few days later, Marketing tests a Unicorn promotion campaign with one percent of their customers and sees excellent conversion rates. Marketing wants to send Unicorn promotions to all of their customers on Black Friday, just four days away.

Themes

1. Open-mindedness is essential during a digital transformation. Always be eager to try new things.

Discussion Questions

1. How much time elapses between identifying a security issue and submitting a fix at your organization?
2. Does your organization use cloud servers? Why or why not?

Chapter 34: Friday, November 28

Synopsis

Parts is in trouble again—but this time, it's because the Unicorn email promotion was too successful. People bought so many items and visited their website so often that the e-commerce systems were down intermittently. Additionally, almost all of the promoted items are now completely sold out at stores. Unlike the Phoenix deployment, however, this issue is stabilized by Monday, thanks to Project Unicorn. Steve is quick to compliment Unicorn for its work. Sarah, on the other hand, throws another project at IT, one that would involve rewriting an outsourced application that nobody likes to use. Bill proposes un-outsourcing the application and bringing the resources back into the company, regaining complete control of the application and enabling Parts to build to order instead of building to inventory. There are risks and huge costs associated with the project—and to nobody's surprise, Sarah is the loudest (and this time, only) detractor—but Steve approves the plan.

Themes

1. Smaller, faster deployments means you can respond to the market quickly.

Discussion Questions

1. How would you rate your organization's ability to respond to market trends?
2. Who physically deploys code at your organization? A developer? A QA tester? Someone else? How does this affect your deployment speed?
3. Are your employees/team members proactive? Are you?

Chapter 35: Friday, January 9

Synopsis

Over a month has passed since the last meeting with Sarah. IT has adopted two-week improvement cycles. Phoenix, Unicorn, and a new project called Narwhal have brought Parts Unlimited unprecedented profits. Steve is so impressed by Bill's performance that he offers him a two-year plan to become COO of Parts Unlimited. "In order for Parts Unlimited to survive," Steve says, "the business and IT can't make decisions exclusive of each other." He thinks Bill has outgrown his position as VP of IT and can bring more value to the company as COO. Bill says he has to think about it, but he knows he'll accept.

Themes

1. Stress test your production environments to make sure they hold up against malicious attacks.
2. IT isn't merely a department. It's a core competency. Everyone in an organization should have at least some familiarity or skill with technology.

Discussion Questions

1. How does your company test its products for security?
2. What's the environment of your office parties?

About the Authors

[Gene Kim](#) is a multi-award winning CTO, researcher, and author. He is the founder of Tripwire and served as CTO for thirteen years. His books include *The Phoenix Project*, *The DevOps Handbook*, *The Visible Ops Handbook*, and *Visible Ops Security*.

Co-founder and president of the IT Process Institute, [Kevin Behr](#) serves as Chief Science Officer of Praxis Flow, an enterprise service design and orchestration consultancy. He has over 29 years of experience in business management, technology and thought leadership as a Chief Information Officer, Chief Technology Officer, and Chief Operations Officer.

[George Spafford](#) is an industry analyst who helps IT organizations to better define goals, necessary conditions, and how to attain them.