Challenges in Adopting DevOps

使用DevOps面临的挑战

DevOps practices like Continuous Delivery are being followed by  
some digital banking startups and other disruptive online fintech  
platforms, leveraging cloud services to get up and running quickly  
without spending too much up front on technology, and to take  
advantage of elastic on-demand computing capacity as they grow.  
But what about global investment banks, or a central securities  
depository or a stock exchange—large enterprises that have massive  
investments in legacy technology?

一些数字银行初创企业和其他颠覆性的互联网金融平台正在应用持续交付等DevOps实践，利用云服务来快速启用和运行，而不需要很高的技术成本，并且利用弹性的按需计算能力满足技术发展需求。但全球投资银行、中央证券存管机构或证券交易所等等在传统技术方面有较高投入的大型金融机构企业——又该怎么办呢？

Is DevOps Ready for the Enterprise?

传统企业准备好实现DevOps了吗？

So far, enterprise success for DevOps has been mostly modest and  
predictable: Continuous Delivery in consumer-facing web apps or  
greenfield mobile projects; moving data storage and analytics and  
general office functions into the cloud; and Agile programs to intro‐  
duce automated testing and Continuous Integration, branded as  
DevOps to sound more hip.

到目前为止，传统企业成功实现DevOps大多是适度且可预测的:包括面向消费者的Web应用程序或绿地模式移动开发项目中的持续交付；将数据存储分析以及通用办公功能移入云中；以及引入自动化测试和持续集成的敏捷程序，这些称为DevOps听起来更时髦。

In her May 2014 *Wall Street Journal* article “DevOps is Great for  
Startups, but for Enterprises It Won’t Work—Yet”, Rachel ShannonSolomon outlines some of the major challenges that enterprises  
need to overcome in adopting DevOps:

雷切尔.香农.索罗门在她2014年5月发表在《华尔街日报》上的文章《DevOps非常适合初创企业，但对于传统企业来说却行不通》中概述了传统企业在应用DevOps时需要克服的主要挑战：  
1. Siloed structures and organizational inertia make the kinds of  
change that DevOps demands difficult and expensive.

1. 相对独立的组织结构和组织的惰性使DevOps执行起来更加困难，成本更高。  
2. Most of the popular DevOps toolkits are great if you have a web system based on a LAMP stack, or if you need to solve specific automation problems. But these tools aren’t always enough if you have thousands of systems on different architectures and legacy technology platforms, and want to standardize on common enterprise tools and practices.

2. 如果您有一个基于LAMP堆栈的Web系统，或者您需要解决特定的自动化问题，那么大多数流行的DevOps工具包都可以完美支持。但是，如果您想在不同的技术框架下和传统技术平台上构建数以千计的系统，并且希望在通用企业级工具和实践上实现标准化，那么这些工具并不总是足够的。

3. Building the financial ROI case for a technology-driven busi‐  
ness process transformation that needs to cross organizational  
silos doesn’t seem easy—although, as we’ll see by the end of this  
book, the ROI for DevOps should become clear to all of the  
stakeholders once they understand how DevOps works.

3.技术驱动业务流程转变需要跨组织决策，构建这样的财务ROI(投资回报率)案例看起来并不容易——尽管，正如我们将在本书末尾看到的，一旦所有的干系人理解了DevOps的工作原理，他们就会清晰地计算出DevOps的ROI（投资回报率）。

4. Many people believe that DevOps requires a cultural revolution.  
Large-scale cultural change is especially difficult to achieve in  
enterprises. Where does the revolution start? In development,  
or in operations, or in the business lines? Who will sponsor it?  
Who will be the winners—and the losers?

4.许多人认为DevOps需要企业文化变革。大规模的文化变革在企业中非常难以实现。变革从哪里开始？在开发、运维或业务部门？谁来支持变革？谁会是赢家，谁又会是输家？

These objections are valid, but they’re less convincing when you recognize

that DevOps organizations like Google and Amazon are

enterprises in their own right, and when you see the success that

some other organizations are beginning to have with DevOps at the

enterprise level. They’ve already proven that DevOps can succeed at

scale, if the management will and vision, and the engineering talent

and discipline, are there.

这些反对意见是有效的，但当您认识到像谷歌和亚马逊这样的DevOps组织本身就是传统企业时，而且其他一些组织开始在企业级使用DevOps也取得成功时，这些观点就不那么有说服力了。这些企业已经证明，只要具备明确的管理目标和远见，以及工程技术人才和配套的制度，DevOps就能大概率取得成功。

A shortage of engineering talent is a serious blocker for many

organizations trying to implement DevOps. But this isn’t as much of

a concern for the financial industry, which spends as much on IT

talent as Silicon Valley, and competes directly with Internet technology

companies for the best and the brightest. And adopting DevOps

creates a virtuous circle in hiring: giving engineering and delivery

teams more freedom and accountability, and a greater chance to

learn and succeed, attracts more and better talent.1

工程技术人才短缺是许多组织实施DevOps的严重障碍。但这并不是金融行业所担心的问题，他们在IT人才上的投入和硅谷一样多，并直接与互联网科技公司竞争最好和最聪明的人才。在招聘中采用DevOps创造了一个良性循环:给予技术和交付团队更多的自由和责任，以及更多的学习和成功的机会，吸引更多更好的人才。

So what is holding DevOps adoption back in the financial markets?

Let’s look at other challenges that financial firms have to overcome:

1. The high risks and costs of failure in financial systems

2. Chaining interdependencies between systems, making changes

difficult to test and expensive (and high risk) to roll out

3. The weight of legacy technology and legacy controls

4. Perceived regulatory compliance roadblocks

5. Security risks and threats, and the fear that DevOps will make IT less secure

Let’s look at each of these challenges in more detail

那么，到底是什么阻碍了DevOps在金融行业的应用呢？让我们看看金融机构必须克服的其他挑战:

1. 金融系统的高风险和失败成本。
2. 系统之间的相互依赖关系，使得变更难以测试，成本高、风险大。
3. 传统技术和（质量）控制的重要性
4. 要顾及监管合规的限制
5. 安全风险和威胁，担心DevOps会降低IT安全性

下面我们详细地讨论每一个挑战。