[Accelerating] App Development

HOW CLOUDOPS ENABLES GREAT PRODUCT DEVELOPMENT

DEFIANCE DIGITAL

Table of Contents

Introduction

When you're a growing business with a compelling, competitive product and incredible talent, things can get exciting – and hairy. There's a lot to do, from the product side of the house to the back end, including the dual jobs of creating the business (e.g., developing innovative products and policies and procedures) and keeping the lights on (e.g., managing IT operations like cloud infrastructure and operating the back office). While businesses would ideally allocate tasks to where they add the most value, sometimes, with smaller teams and constrained resources, technology roles can overlap. It's essential to clarify those roles to get strong products to market successfully.

Areas that sometimes overlap in a growing company are application development (AppDev) and IT operations. While product teams do well when they understand the basics of their IT infrastructure, including cloud management, AppDev is not DevOps! If creative-minded employees are expected to put in time and energy to manage the business's cloud environments, they stretch themselves too thin and the products suffer. Instead, companies should give DevOps and cloud management to those with the expertise and bandwidth to handle it. One option is to leverage Managed Service Providers (MSPs) to implement CloudOps, a set of services and tools that streamline DevOps and cloud management, allowing your AppDev and product teams to stick to what they do best.

This whitepaper is for tech and business leaders looking to optimize their cloud management and application development processes. It explores the proper division of responsibility across AppDev and DevOps and how strong CloudOps enables digital creators to focus on innovative design and development and ultimately deliver excellent products.

Building [Great Products] for the Cloud

AppDev is not DevOps.

While AppDev and DevOps are closely related, they are distinct roles with different responsibilities. The role of AppDev is crucial in creating and maintaining applications that run on the cloud. They are responsible for writing code, developing features, and ensuring the application's functionality. On the DevOps side, the focus is on the operational aspects of managing the cloud infrastructure, including tasks like deployment, monitoring, patch management, and application scaling. In the realm of product development and management, the main functions of each role look like this:

AppDev Role

- Designing & Developing Features
- Writing Code
- Testing
- Product Design Collaboration
- Version Control

DevOps Role

- Infrastructure
- Continuous Integration & Deployment (CI/CD)
- Monitoring & Logging
- Security
- Scalability & Performance

These activities require markedly different skill sets and complete focus to manage and execute each correctly. For example, when hiring an app dev person, you're looking for someone with a deep understanding of programming languages, software development lifecycle, and possibly specific frameworks or technologies. Their daily priorities are coding, debugging, testing, and collaborating with other team members.

When hiring for DevOps, you are looking for individuals with expertise in automation, CI/CD, containerization (e.g., Docker), cloud platforms (e.g., AWS, Azure, Google Cloud), and IaC tools like Terraform or CloudFormation. They must be ready to regularly attend to infrastructure provisioning, configuration management, monitoring, and incident response.

When AppDev teams take on the responsibility of managing DevOps, the results can be mixed. While a developer may deeply understand the application, AppDev staff often lack the time or expertise to manage the infrastructure efficiently. Even with a decent amount of knowledge, what AppDev teams definitely cannot do is implement and maintain a strong CloudOps program requiring time, attention, and fully dedicated experts.

What is CloudOps?

Excellent product development is only as strong as the infrastructure on which the products are built, and one of the surest ways to gain and maintain a robust IT infrastructure is by leveraging CloudOps. The CloudOps process entails provisioning, monitoring, scaling, and optimizing cloud infrastructure to ensure the performance, availability, and security of applications and data hosted in the cloud. CloudOps teams are responsible for implementing best practices, automation, and tools to manage cloud environments efficiently and meet the needs of users and applications. Some of the main activities include:

Provisioning: Setting up and configuring cloud resources such as virtual machines, storage, and networking to support applications.

Monitoring: Continuously monitoring the performance, health, and availability of cloud services and applications to detect and resolve issues proactively.

Scaling: Automatically adjusting the capacity of cloud resources to handle changes in workload and traffic, ensuring optimal performance and cost efficiency.

Optimizing: Fine-tuning cloud infrastructure and applications to improve performance, reduce costs, and enhance security.

Implementing best practices: Following industry standards and guidelines to ensure cloud operations' security, reliability, and efficiency.

Automation: Following industry standards and guidelines to ensure cloud operations' security, reliability, and efficiency.

Incident response: Respond promptly to and resolve outages, security breaches, and performance issues.

Backup and recovery: Implementing backup and recovery strategies to protect data and applications from loss or corruption.

Effective CloudOps is essential for product development because the efficiency with which your cloud environment is managed directly shapes the development, deployment, and maintenance of your digital, cloud-based products and services. When done well, CloudOps accelerates development cycles by enabling modern product management approaches, optimizing resource and cost utilization, and helping developers create compliant products with robust security measures. Successful CloudOps also improves collaboration across product and other technology teams and helps them build and launch more scalable products because groups are communicative and connected.

Below, we dive deeper into how CloudOps helps product teams.

⚡ Rapid Deployment & Iteration

A top goal of any product team is to get new apps and features to market and in customers' hands as quickly as possible. This goal is also inherent in Agile methodologies, and adopting CloudOps to enable quick delivery is a no-brainer. CloudOps automates resource provision, meaning product teams can deploy applications and updates rapidly. Great CloudOps uses best practices to enable continuous integration and delivery (CI/CD), a framework that supports iterative development and faster release cycles–and often with better quality through automated testing integrated into the CI/CD. These shorter development cycles all mean product owners can iterate on features, experiment with designs, and respond swiftly to market changes. When a product team can focus on only the product and not be concerned with audit trails, software provisioning, hardware sizing, and a host of other boring–but necessary–minutiae, the benefits to the end consumer of those products are numerous and manifest.

↗↙ Resource Scaling & Performance

When creatives have a "sky's the limit" mentality, innovation tends to happen more frequently and effectively. Cloud environments provide scalability options, allowing resources to be scaled up or down based on demand and ensuring that applications can handle varying workloads efficiently. For product owners and creatives, this means designing and implementing scalable solutions without being constrained by on-premises infrastructure limitations. It clears the way for broader ideation and more compelling products that can be released quickly and easily.

☁ Cost Efficiency & Budget Management

It's not uncommon for a business's product, IT, and finance teams to be slightly, if not dramatically, out of sync. All three groups share the same goal of growing the business but have different methods for getting there and often operate in their silos. CloudOps involves optimizing resource usage and monitoring costs, helping companies control their expenses in the cloud. Cost management tools provide insights into spending patterns and help identify areas for optimization. In all, CloudOps brings visibility to the impact of an organization's technology decisions on spending, making collaborating on and managing costs much more straightforward. Product owners and creatives can make informed decisions about resource allocation, ensuring cost-efficient development and operation of digital products.

Collaboration and Communication

CloudOps practices often involve tools that enable and emphasize collaboration and communication among cross-functional teams and create better alignment between product vision, design, and technical implementation. This allows product owners to engage actively in the entire operations process and ensures that their products are designed with considerations spanning various areas of the organization, ultimately leading to better outcomes for the business.

Security and Compliance

Security, risk, fraud, hackers, and compliance are all concerns that can stifle creativity. However, they must be addressed, especially when developing digital products hosted on cloud-based platforms that handle external and often sensitive data. Moreover, issues like outages, cyber security intrusions, and non-compliance are more likely to pull product staff away from their core projects to help other technology teams put out fires. Security considerations are paramount. CloudOps teams are instrumental in implementing and upholding security measures and ensuring compliance with industry regulations and standards. A secure and compliant cloud environment benefits product owners and creatives by minimizing the risk of data breaches and legal complications, allowing them to concentrate on creating innovative features without compromising security.

———

In all, a strong CloudOps capability can be as critical to the success of a product team as even the design or development tools that the team uses. When new features can be deployed and tested instantaneously in a repeatable, fully auditable, compliant cloud environment, the product team can drive innovation to create a sustainable competitive advantage. Remember, while Cloudops is critical for your AppDev team's success, your AppDev team should not be running it. Instead, designated DevOps professionals can leverage CloudOps to elevate your business.

Managed CloudOps

Despite the benefits of having designated DevOps teams managing your cloud environment, it's easier said than done for many companies. The reality is that it's simply not strategic for every company to employ a designated DevOps team (which is why the burden often falls only on other tech-adjacent members like AppDev). Whether because of their size, limited resources, or even their industry and tech needs, some companies greatly benefit from outsourcing this process to CloudOps providers and MSPs.

So, what do these MSPs do? Mainly, they do the heavy lifting while you focus on the strategic sides of your business. They understand how to run best-in-class CloudOps while enabling your product development process and creative teams.

The main activities of MSPs are:

- **Infrastructure as Code (IaC) and Architectural Optimization:** MSPs advise and execute on these pillars of CloudOps, helping businesses build efficient and scalable cloud infrastructure.

- **Automation:** MSPs automate the tedious and redundant, but critical tasks of cloud infrastructure management, such as setting up CI/CD pipelines and automating backups, enabling environments to scale.

- **DevOps and Efficiency:** MSPs help seamlessly blend development with operations via optimization, blind spot monitoring, and product selection to support fast, streamlined deployments.

- **Housekeeping:** MSPs handle the often overlooked, dull, and neglected tasks like upgrades, patches, VPN integrations, configuration management, and general cloud infrastructure maintenance.

- **Safeguarding:** MSPs help prevent data loss by implementing and managing retention policies.

- ◎ **Measuring and Monitoring:** Besides providing standard uptime and availability metrics, top MSPs will establish clients' specific performance KPIs.

- ◎ **Financial Oversight:** MSPs proactively manage and predict complex cost structures to help with cost control.

- ◎ **Service Provider Manager:** Acting as your "doorman" to your cloud provider (e.g., AWS), they can manage access, security, auditing, and Single Sign-On (SSO).

Next we'll cover some of the main benefits working with an MSP can bring to your AppDev process.

🖥 Scalability and Flexibility

Because MSPs often serve businesses lacking in-house resources, they bridge knowledge and execution gaps in cloud management. They enable companies to grow without needing constant personnel expansion by serving as dedicated resources and subject matter experts. They also assist businesses in scaling their infrastructure based on demand and adapting to changing requirements. This ensures that digital products can effectively handle growth and changing workloads.

Cost Optimization

MSPs help businesses gain better visibility and control over their cloud-related expenses, ensuring that products are developed and maintained within budget constraints. For example, MSPs leverage their experience and expertise to uncover and manage hidden and unforeseen client costs. They also streamline critical financial processes with cloud service providers, such as billing, invoicing, and contract negotiations. MSPs ensure it is cost-effective by optimizing a business's cloud infrastructure setup. They continually analyze the cloud environment and recommend and implement improvements to resource allocation, scaling, and usage.

Security and Compliance

Top-tier MSPs excel in conducting thorough risk assessments, providing round-the-clock security monitoring, and assisting in vulnerability management. MSPs go the extra mile by conducting security audits, setting up data backup and disaster recovery systems, and offering security training. They also manage security infrastructure and develop customized security policies tailored to the organization's needs. By leveraging their expertise and resources, MSPs help organizations reduce risks, detect and mitigate threats, and ensure critical data confidentiality, integrity, and availability.

Expertise

Cloud MSPs deeply understand cloud platforms, services, and trends. When you partner with a Cloud MSP, you gain access to their knowledge and experience. They provide invaluable support to product owners and creatives throughout the application design process, ensuring that resources are used efficiently. By offering strategic advice, MSPs empower product owners and creatives to make informed decisions about the technical aspects of their products, ultimately leading to more successful outcomes.

[Conclusion]

The dynamic tech landscape demands a clear understanding of roles and a strategic approach to cloud management. By recognizing the unique contributions of AppDev and DevOps and embracing the efficiency of CloudOps, businesses can streamline operations and drive innovation. MSPs serve as valuable partners, offering expertise and support to navigate the complexities of cloud infrastructure. With the right tools and strategies, businesses can confidently chart a course toward digital success, focusing on what they do best: creating exceptional products and experiences.

About [Defiance]

Founded in 2020 out of Defiance Ventures, Defiance Digital is an AWS managed services provider offering pay-as-you-grow cloud services and consulting for small and medium businesses. We focus on delivering personalized support and exceptional results through direct access to elite cloud engineers who embrace our 'customers as co-workers' ethos. Our mission is to maximize cloud benefits while minimizing complexity and costs, allowing our clients to focus on their core business.

Our team of cloud experts offers end-to-end support, from strategy to execution, providing our clients with reliable, secure, and scalable solutions tailored to their unique needs. We foster strong relationships with AWS, Datadog, Lacework, Clumio, and other strategic partners to provide the best-of-breed security, observability, automation, and public cloud solutions. We operate with transparency, thoughtfulness, proactivity, and agility and constantly evolve to remain valuable partners for our scaling customers.

We'll Take It From Here

Managed Cloud

Managed Security

Managed Observability

WEBSITE

DEFIANCEDIGITAL.COM

EMAIL

SALES@DEFIANCEDIGITAL.COM

ADDRESS

201 S COLLEGE ST - 1590, CHARLOTTE, NC 28202