

# HOW TO DECIDE ON A DEVOPS CLOUD PLATFORM

There are three major players in the cloud computing space: Amazon Web Services (AWS), Microsoft Azure, and Google Cloud Platform (GCP). Selecting the right DevOps platform is an important decision that can dramatically impact a business's efficiency, scalability, and P&L. At First Factory, we have worked with numerous business leaders and development teams to identify and leverage the cloud platform that makes the most sense for their business. Each platform has its pros and cons, and the decision on which to choose is not exclusively technical or expense-based. Let's take a look at some of the highlights of each to help make a more informed choice that aligns with your unique needs.

## AMAZON WEB SERVICES

### Powerhouse of Possibilities

Amazon Web Services (AWS) is undoubtedly the pioneer in cloud computing. Being the first to market and initially building AWS to serve their own needs, they have a robust set of services and a mature ecosystem. With a wide array of services spanning compute, storage, databases, and machine learning, AWS can be a single solutions provider for organizations with diverse needs. Its global infrastructure ensures low-latency access worldwide, which is a significant factor for multinational companies.

Working with AWS offers a ton of benefits, but the sheer number of services offered by AWS (over 200 at the time of this writing) can be overwhelming for new users and may require a steep learning curve. As a result, teams may struggle to take advantage of the full suite of AWS services efficiently, potentially leading to suboptimal resource utilization and missed opportunities for optimization. Pricing models vary across their many services, which may make it difficult to forecast costs.

AWS provides robust and tested security features, and its IAM allows granular control over user access. For many DevOps engineers, this is a key difference from the other cloud providers and a main reason for choosing Amazon's AWS. Keep in mind that configuring security features correctly and managing user permissions requires a solid understanding of their services, and misconfigurations by engineers who lack the skill and experience could expose sensitive data to security threats.

If your organization values a well-established ecosystem and requires a comprehensive suite of services on a global scale, AWS emerges as a top choice with powerful scaling options. It is the current dominant player in the market, has a vast number of engineers with experience using it, and powers some of the most popular sites and products we use in our daily lives. Organizations often benefit from accessing the AWS training resources and the broader AWS community—and from implementing best practices learned from these channels.

The reasons we see businesses make other choices are mostly related to tech (a Microsoft shop would prefer to use Microsoft's Azure), or they run businesses that compete with Amazon (warehouse distribution logistics, eCommerce, and trucking companies, to name a few). Some companies wish to keep Amazon from seeing their "secret sauce" and choose to find other providers that may not serve as competitors to their core business.

## MICROSOFT AZURE

### Bridging the Gap for Enterprises

Microsoft Azure, with its strong focus on hybrid cloud solutions, seamlessly integrates on-premises and cloud environments. For organizations deeply rooted in Microsoft technologies like .NET, Azure provides a natural extension, offering an integrated development environment (IDE) and extensive enterprise-focused services. Azure is a good option for businesses with complex infrastructure needs, particularly those within the .NET framework that are trying to bridge on-premise and cloud resources.

Azure VMs (virtual machines) are widely used for hosting applications, development and testing, and running virtualized workloads. Their VMs are highly flexible and come in a variety of sizes. Azure SQL Database provides a managed relational

database service with high availability and security. Azure App Service is simple, deploys quickly, and supports multiple programming languages and frameworks. It is growing in popularity for clients looking to build and host web applications. In hot demand at the moment is Azure Cognitive Services which provides APIs for adding AI capabilities such as vision, speech, and language comprehension to custom applications.

Like AWS, the many features offered by Microsoft Azure make it a powerful platform that serves many needs and is a growing threat to Amazon's dominance. Azure also requires a learning curve and regular attention to staying current with configurations and offerings. Just like AWS, pricing complexities exist due to the variety and utilization of services, and forecasting costs will require careful planning and a watchful eye. And very much like AWS, the security function and the Identity and Access Management (IAM) controls are strong if configured and maintained properly.

While Azure boasts a vast array of services, some may not be as mature as those offered by AWS and, historically, documentation quality has been a consideration. If your business thrives on Microsoft technologies, emphasizes hybrid solutions, and aligns with enterprise-scale operations, Azure emerges as a compelling choice.

## **GOOGLE CLOUD PLATFORM**

### **Unleashing Data Analytics and Containerization**

Google Cloud Platform (GCP) stands out with its focus on data analytics and containerization. GCP's BigQuery, a high-performance analytics tool, has gained much attention for how it handles vast datasets. BigQuery is a fully-managed, serverless data warehouse that enables lightning-fast SQL queries. Google's infrastructure is large and powerful, and GCP benefits heavily from this. Real-time analysis on large datasets is possible, and customers are improving decision-making, optimizing processes, and driving business success with this service.

Cloud Dataprep is another impressive feature, preparing raw data for analysis by cleaning, enriching, and transforming it using a visual interface. It relies on machine learning to automate data preparation tasks, saving time and ensuring data quality. Cloud Dataprep is a great tool for collaboration between data engineers, analysts, and data scientists. Google has not slowed its pace when pursuing AI and machine learning, and the Cloud AI Platform that is part of GCP provides a comprehensive set of tools for building, training, and deploying machine learning models. Clients have used these features to implement image recognition, natural language processing, and recommendation systems.

Google has also placed an emphasis on containerization and Kubernetes. Google Cloud Run is a great service for containerization that, to date, does not have an equivalent and includes downsizing instances to zero. The GCP pricing transparency stands out as a notable advantage, offering businesses a clear and predictable cost structure.

Google Cloud Platform has a smaller market share than industry leaders like AWS and Azure. For many, this is surprising and may cause doubts when considering GCP—as the smaller market share reflects fewer features, fewer third-party integrations, and a smaller community of experienced developers.

If your business relies heavily on data analytics and is relieved by transparent pricing, GCP emerges as a strong contender.

## **GENERAL CONSIDERATIONS**

### **Making the Right Decision**

Beyond the strengths and weaknesses of each platform, several other aspects should be considered:

#### **Migration and Lock-in:**

Evaluate the ease of migration to and from each platform, considering the potential for vendor lock-in. The platform you chose should be able to adapt to your evolving business needs.

#### **Compliance and Security:**

Security should be paramount to a decision. Assess the compliance certifications of the providers and review their security features in detail, preferably with your full-time or fractional CISO. If your company has specific regulatory compliance needs, evaluate those with each provider before committing to a platform.

### Support and SLAs:

Support may be needed, especially early on. Understand the provider's capabilities and their Service Level Agreements (SLAs). These are especially important if assistance is needed during unplanned outages and downtime.

### Market Share:

According to recent statistics, AWS commands a substantial market share of approximately 34%, securing its position by having one of the most extensive global services available. Microsoft's Azure captures a noteworthy 21%, and their customer base continues to expand. Google Cloud lags behind with a 10% market share, nearly three times smaller than AWS. Maintaining a high market share underscores the strategic importance of being a competitive cloud provider that fosters credibility, attracts users, and enables ongoing innovation and investment.

Selecting the right DevOps platform involves a nuanced understanding of your specific requirements and priorities. Consulting with technical experts at First Factory and considering pilot projects can provide valuable insights into how each platform aligns with your business needs. Ultimately, whether you opt for the comprehensive ecosystem of AWS, the hybrid capabilities of Azure, or the data-centric approach of GCP, a thoughtful decision can propel your business toward greater efficiency and innovation.

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First Factory is a Nearshore Software Development partner with twenty-plus years of experience helping companies maximize their digital products' performance, user adoption, and financial goals. Through relationships with hundreds of clients across numerous industries, the First Factory team of over 220 maintains expertise across all major technologies and supplies a full suite of software development services, including engineering, quality assurance, project management, and UX/UI design.

With a lifetime eNPS of 80, First Factory is an employer of choice in the Costa Rican development community and has made the Inc 5000 list of fastest-growing private companies in the US four years in a row. Deeply ingrained in the company culture is the commitment to quality, honesty, and integrity, which are core to long-term relationships with clients.



**If you have a product development need, consider the nearshore development team at First Factory for design, development, project management, and product ideation.**

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