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5 Benefits of Using Azure Bicep

Friday, February 17, 2023

Azure Cloud is known for being a flexible, cost-effective, and [easy-to-use cloud platform](#) for businesses. In 2020, Microsoft improved the Azure Cloud experience even further by releasing a new tool called Azure Bicep.

If you use Azure in your organization — or if you're thinking about [migrating to the cloud](#) — here's what you need to know about the advantages of using Azure Bicep to deploy cloud infrastructure in Azure.

What is Azure Bicep?

Before we dig into the benefits of Azure Bicep, let's talk about exactly what it is. Bicep is an Azure-native language created by Microsoft for the purpose of deploying Infrastructure as Code (IaC).

A type of Infrastructure as Code

Once upon a time, system administrators had to manage IT infrastructure through cumbersome manual processes. IaC solutions like Azure Bicep let you manage and provision your infrastructure through code instead.

In addition to making provisioning easier, some benefits of Infrastructure as Code include:

- Increased efficiency through automation
- Lower human resources and hardware costs
- Consistency and error-reduction
- Version control
- Improved documentation

These benefits are why IaC is a key component of the Microsoft Cloud Adoption Framework for Azure, a set of best practices, documentation, and tools designed by Microsoft to help you achieve your cloud goals.

What about ARM?

If you're experienced with Azure cloud, you probably know all about Azure Resource Manager (ARM). ARM templates are JSON-based files that define your cloud deployment. Like Bicep, ARM is a form of Infrastructure as Code.

Azure Bicep doesn't replace ARM. Rather, it's a transparent abstraction that sits on top of ARM. When you deploy a Bicep file, the Bicep CLI converts it to an ARM template which then deploys your resources to Azure (much like your bicep makes your arm work...get it?)

That means that Azure Bicep can do everything that ARM can do — and there are some reasons that it's an even better tool than ARM.

Let's look at the benefits of using Azure Bicep to deploy cloud infrastructure.

5 Benefits of Azure Bicep

1. Azure Bicep is easy to learn and use

ARM templates can do a lot of neat things, but they tend to be long, complex, and downright messy. They're hard to create and hard to amend. Bicep files, on the other hand, have a much simpler syntax. In many cases, they're half as long as the equivalent ARM template.

Many Azure Bicep users especially enjoy the authoring experience that Bicep's Visual Studio Code extension provides. The VS Code extension offers features like snippets and tab completion, highlighting and colorization, and a hover function.

2. Azure Bicep supports modularity

Bicep lets you divide your code into small, easy-to-manage pieces called modules, each of which deploys a set of

 

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resources. This simplifies development by allowing you to reuse code across your projects. It's easy to add a module to a Bicep file whenever you want to deploy those specific resources.

3. Bicep dynamically detects dependencies

When you author an ARM template, you have to create any dependencies between resources yourself. Bicep, on the other hand, automatically detects implicit dependencies, saving you time and effort.

4. Bicep is a Microsoft language

As an Azure-specific tool, Bicep was of course created by Microsoft. That's important for a few reasons. First, Bicep integrates with existing Azure resources, like Azure Policy, template specs, and Blueprints.

Also, going forward, Bicep will always have day one support for new resources and API versions. Unlike many third-party tools, you won't have to wait for the tool to be updated to use a new Azure service.

5. It's free

With all the benefits above, you might expect to end up paying for a premium subscription to Bicep. But unlike some of its competitors, Azure Bicep is 100% free and open source.

Azure Bicep alternatives

Bicep isn't the only way to deploy your Azure cloud resources. You could stick with ARM templates or you could use a third-party tool like Terraform.

Azure Bicep vs. ARM

We've talked about some of the reasons that Bicep provides a better experience than ARM. But you may already be managing your cloud through ARM templates – maybe hundreds of them. Is it worth switching to Bicep?

Here's the good news: you don't have to redo your existing work. It's easy to decompile your ARM templates to Bicep. This lets you modify your old, complex ARM templates with the simpler Bicep syntax.

Azure Bicep vs. Terraform

The most popular alternative to Bicep is Terraform, an IaC tool written in Hashicorp Configuration Language (HCL).

Terraform is multi-platform, meaning you could use it with AWS or other cloud platforms as well as Microsoft Azure. Depending on your cloud infrastructure, that might be important. But for companies that use Azure exclusively, Bicep has some key advantages.

Being a third-party tool, Terraform won't necessarily have immediate support for new Azure resources like Bicep does. Furthermore, Bicep is free while Terraform requires a premium subscription to access several of its most important features. Terraform also requires state files to store configuration data, which can be difficult to maintain. Bicep does not require state files, as the data is all directly stored in Azure.

Optimize your Azure Cloud implementation

Bicep is a valuable new tool that brings simplicity and efficiency to your Azure Cloud operations. As a Microsoft Gold Partner that follows Microsoft's Cloud Adoption Framework for Azure, Emergent Software uses Bicep extensively.

Ready to optimize your Azure Cloud? [Talk to us today about our Azure consulting services.](#)

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