



Bicep vs Terraform – la battaglia dell'IaC su Azure



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Session Code
7-C



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IT'S EASY WITH US

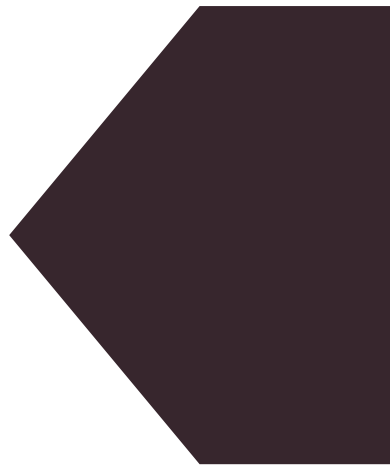
 **ECLOG**
SOFTWARE SOLUTIONS LOGISTICS


getlatestversion.it

 **iSolutions**
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What is IaC?

Infrastructure as Code (IaC)
is the management of
infrastructure in a **descriptive** model,
using the same versioning
approach DevOps team
uses for source code.

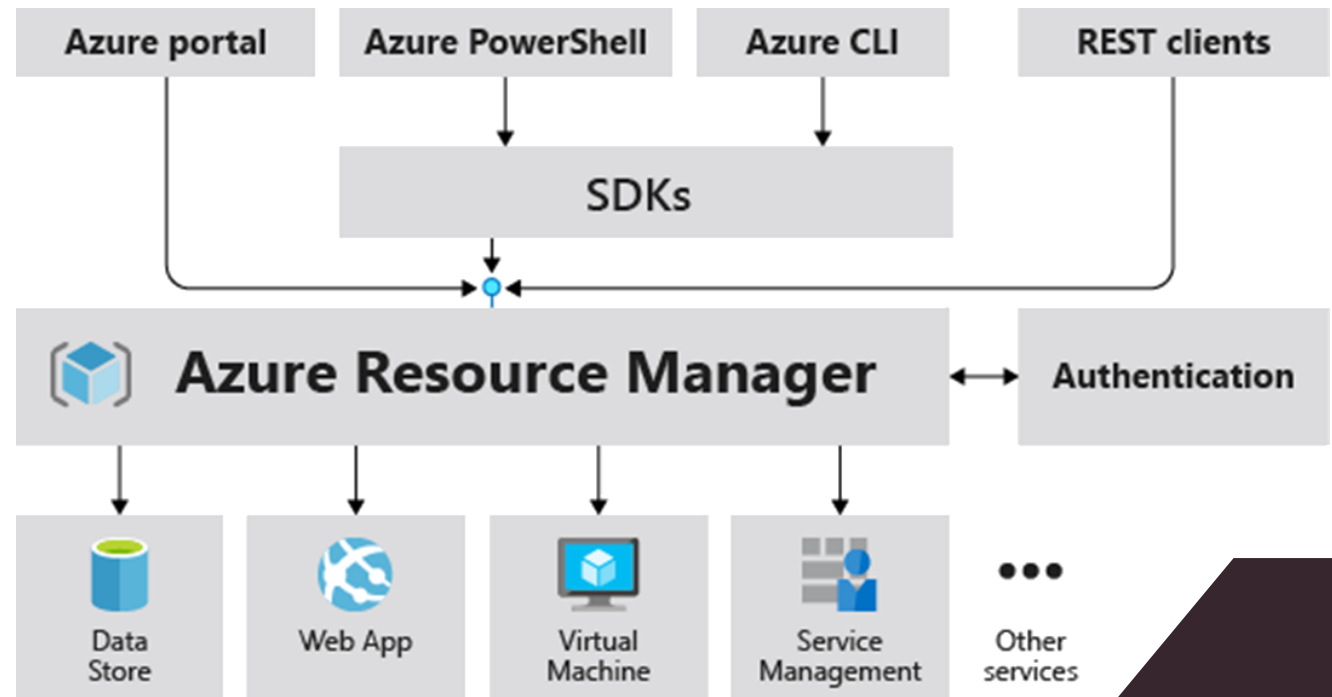


Azure Resource Manager

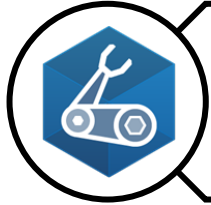
It is the deployment and management service for Azure

It provides a management layer that enables you to create, update, and delete resources in your Azure account

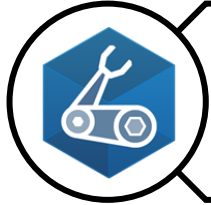
You can use management features, like access control, locks, and tags, to secure and organize your resources after deployment



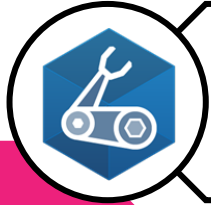
Two words about Bicep



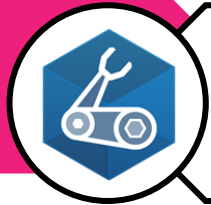
Bicep is a domain-specific language (DSL) that uses declarative syntax to deploy Azure resources.



You can use **Bicep** instead of JSON to develop your Azure Resource Manager templates (ARM templates)

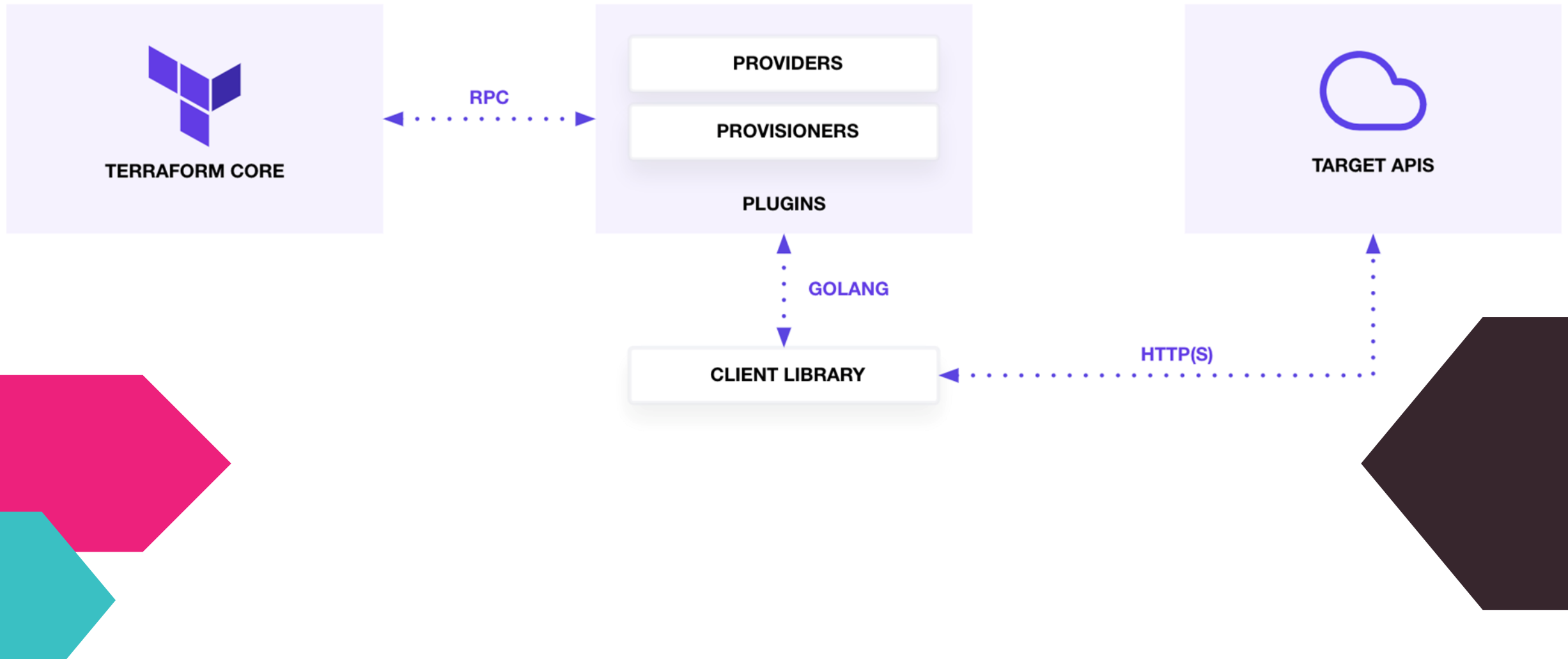


Bicep syntax reduces that complexity and improves the development experience.

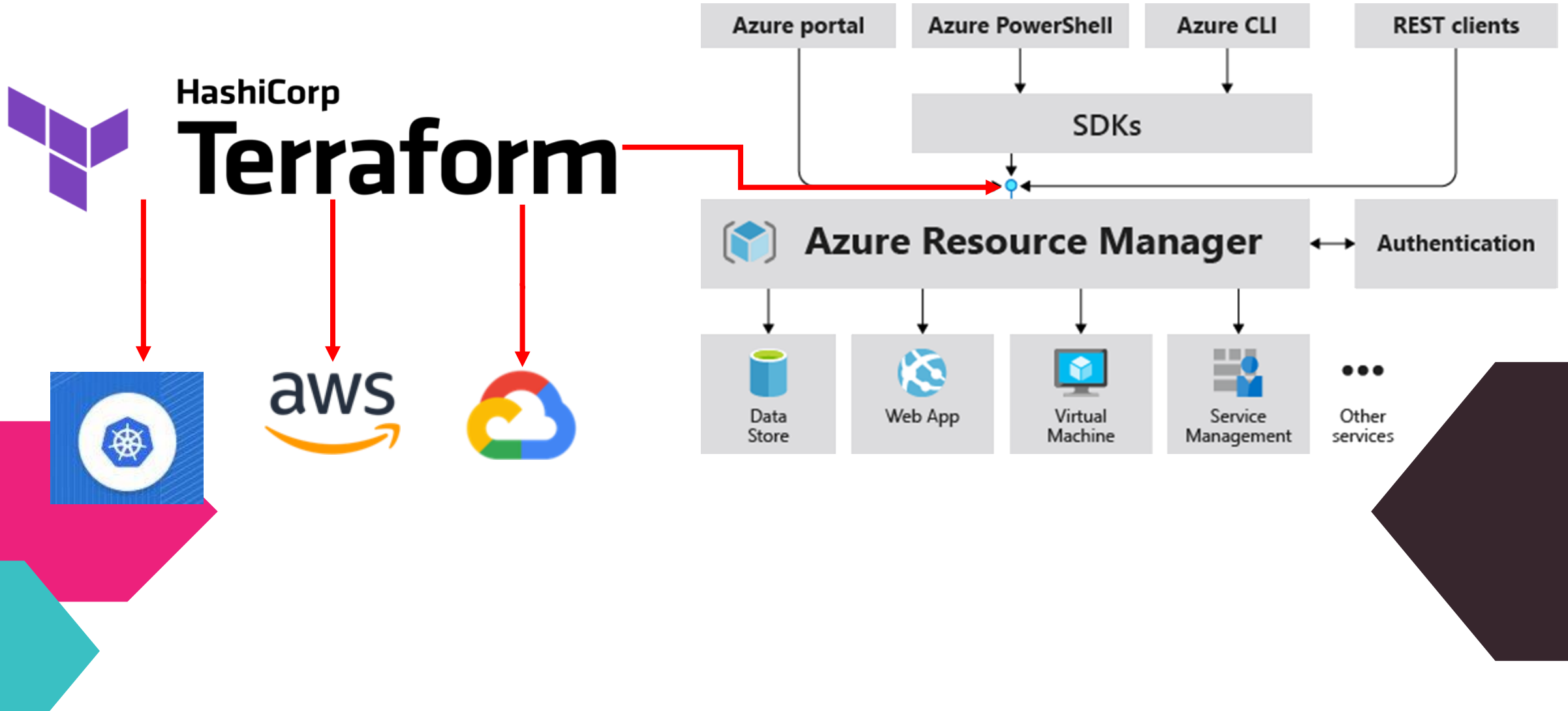


During deployment, **Bicep CLI** transpiles a Bicep file into ARM template JSON.

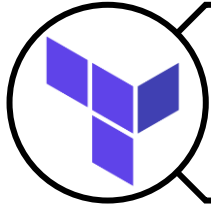
Twenty-Two words about Terraform



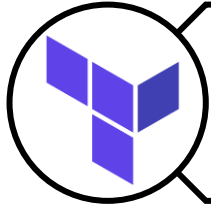
Terraform AzureRM



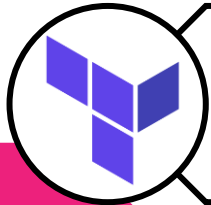
Twenty-Two words about Terraform



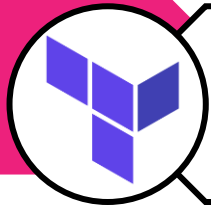
Terraform is a generic resource management tool



Terraform templates are written using yaml standard (so indent well your template)



Terraform uses az cli for authentication against ARM API



During the "deployment" terraform deploys *.tf files available merging them together

Day 0 support



The time needed for a new service to be manageable with the tool.



- Same day-0 support as ARM Template
- Supported by Microsoft directly



- Some days later but... (wait for 4 slides)
- Hashicorp as maintainer

Tools



The availability of extensions or modules for development tools.

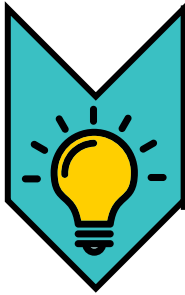


- Bicep CLI (AZ BICEP *)
- Extensions for VS Code and VS
- Bicep Playground (web site) to play with



- Extensions for VS Code
- Terraform CLI

Multicloud / on-prem capabilities



The capability of the tool to manage multiple cloud providers and/or on-prem environment.



- Bicep is a DSL for Azure
- No multicloud, no on-prem



- Absolutely multi-cloud
- Manage on-prem resources via providers

State management



Management strategy of the current state of an environment.



- No needs state management to execute “What-If” phase (...now)
- Incremental as default, complete if you want (as for ARM Templates)



- Requires state management.
- State Management must be part of your CI/CD strategy

Extensibility



Extensibility of the tool with custom modules or providers.



- You can run commands or scripts inside VM with Bicep (as ARM Templates)
- Deployment script to run Powershell scripts



- Local provisioner allows you to run az cli
- You can write your own provider

Maturity and stability



Number of versions (or time of existence) of the tool and variability between successive versions.

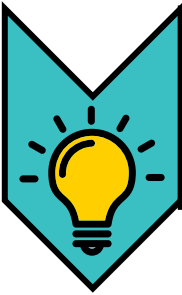


- Current version 0.* (but it isn't a preview)
- Same stability as ARM Template



- Terraform version { 1.3.2 }
- AzureRM provider { 3.27.0 }

Modularity



Ability to split your template into reusable modules.



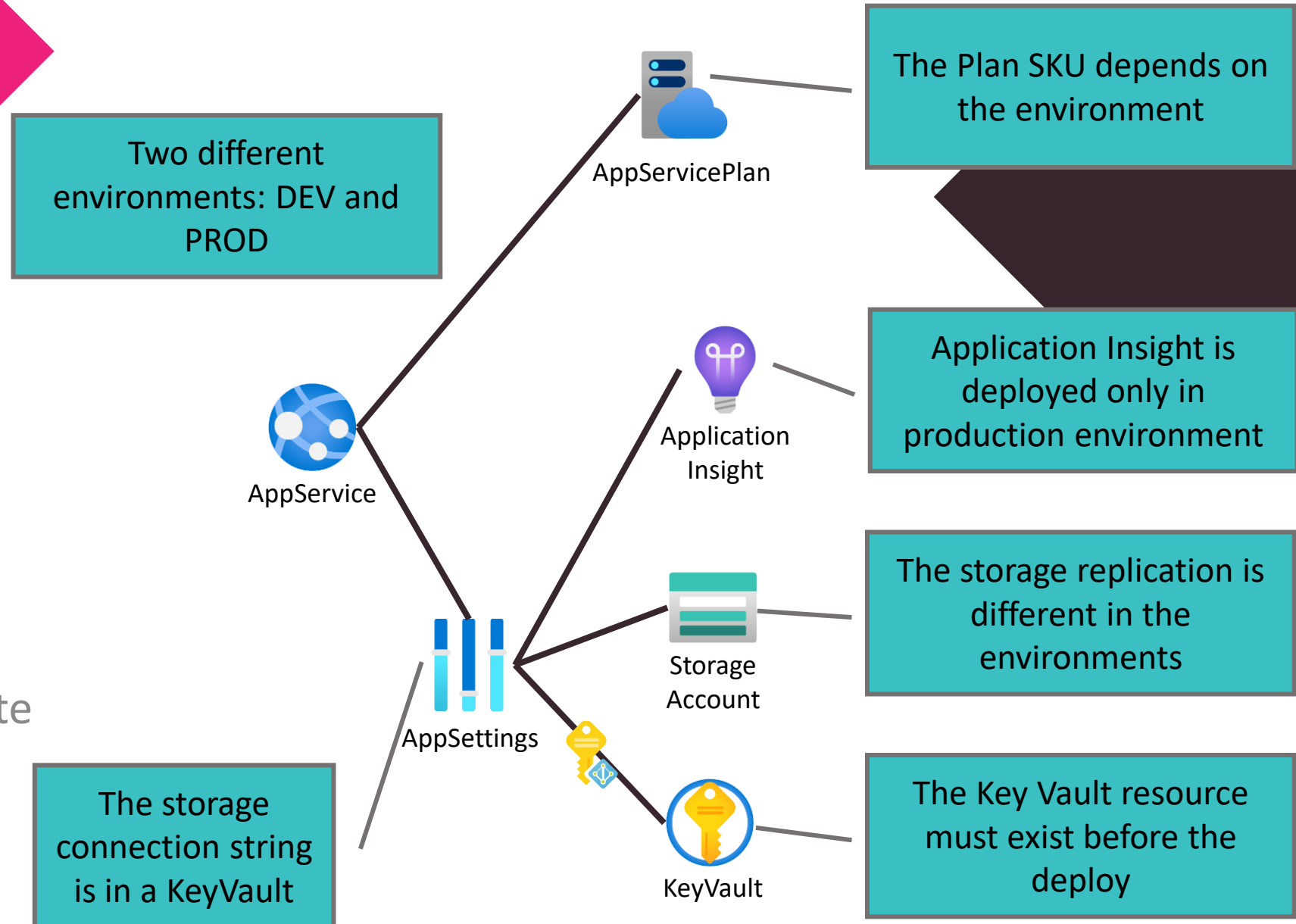
- You can use bicep modules in separated files
- Bicep modules hosted by ACR (Azure Container Registry)



- Everything is a module in terraform

Demo

Deploy a simple web site



Who wins the battle?

Bicep

Use only Azure

You already have ARM
Templates

Need full integration with
Azure (e.g. Azure Policy
remediation)

Microsoft support and day-0
availability

Terraform

Cloud agnostic

Rich community support with
wide adoption

Enforce IaC approach
(transform a limit in a
feature)

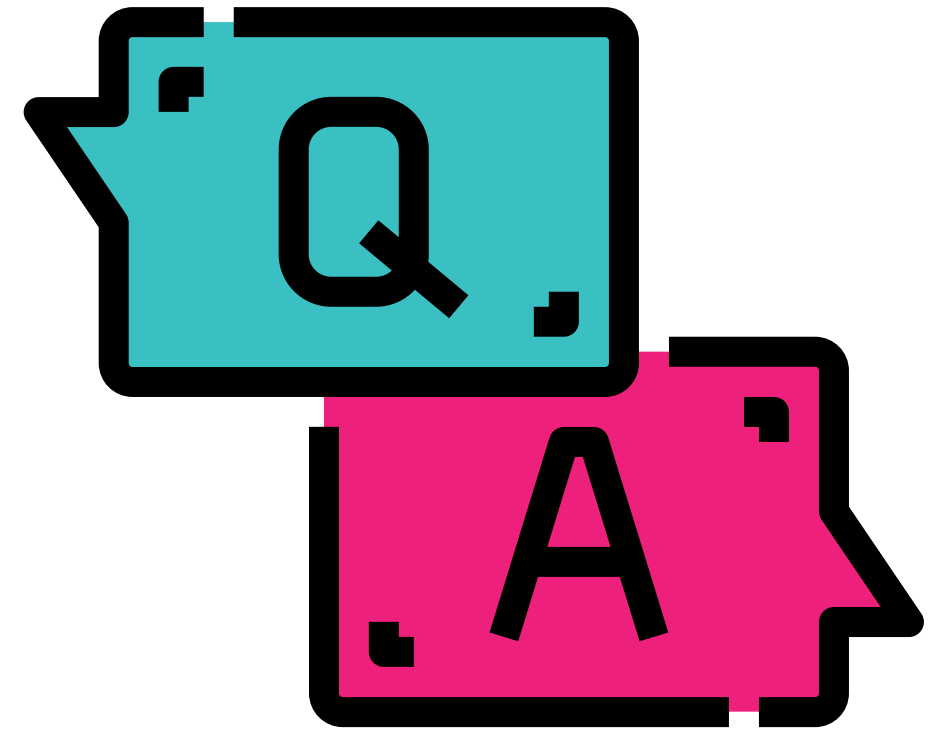
Supports deployment of arm
templates

+1200 github collaborators



KEEP
CALM
AND
USE YOUR
TOOL

Thank you for your attention!!!



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<https://bit.ly/emagarin>



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Grazie!!!



References - Bicep



Bicep documentation

<https://docs.microsoft.com/en-us/azure/azure-resource-manager/bicep/>

Bicep Learning Paths

<https://docs.microsoft.com/en-us/azure/azure-resource-manager/bicep/learn-bicep>

Bicep Playground

<https://bicepdemo.z22.web.core.windows.net/>

Azure DevOps YouTube Channels – Project Bicep

<https://www.youtube.com/watch?v=wkQlyenVfxc>

Azure Deployments & Governance YouTube channel

https://www.youtube.com/watch?v=l85qv_1N2_A

Understanding and Using Bicep – John Savill

<https://www.youtube.com/watch?v=yvb6NVx61Y>

Bicep GitHub repo

<https://github.com/Azure/bicep>

Demo GitHub repo

<https://github.com/Nezumi-Quasar/bicep-vs-terraform>

References - Terraform



AzureRM Terraform Provider

<https://registry.terraform.io/providers/hashicorp/azurerm/latest/docs>

Terraform Documentation

<https://developer.hashicorp.com/terraform/docs>

Aztfy GitHub repo

<https://github.com/Azure/aztfy>

Demo GitHub repo

<https://github.com/Nezumi-Quasar/bicep-vs-terraform>

Azure Deployments & Governance YouTube channel

<https://www.youtube.com/watch?v=JKVkbisp3cM>

Terraform Azure Get Started Tutorials

<https://developer.hashicorp.com/terraform/tutorials/azure-get-started>