



Microsoft Ignite The Tour

Learn. Explore. Connect.

Berlin, Germany

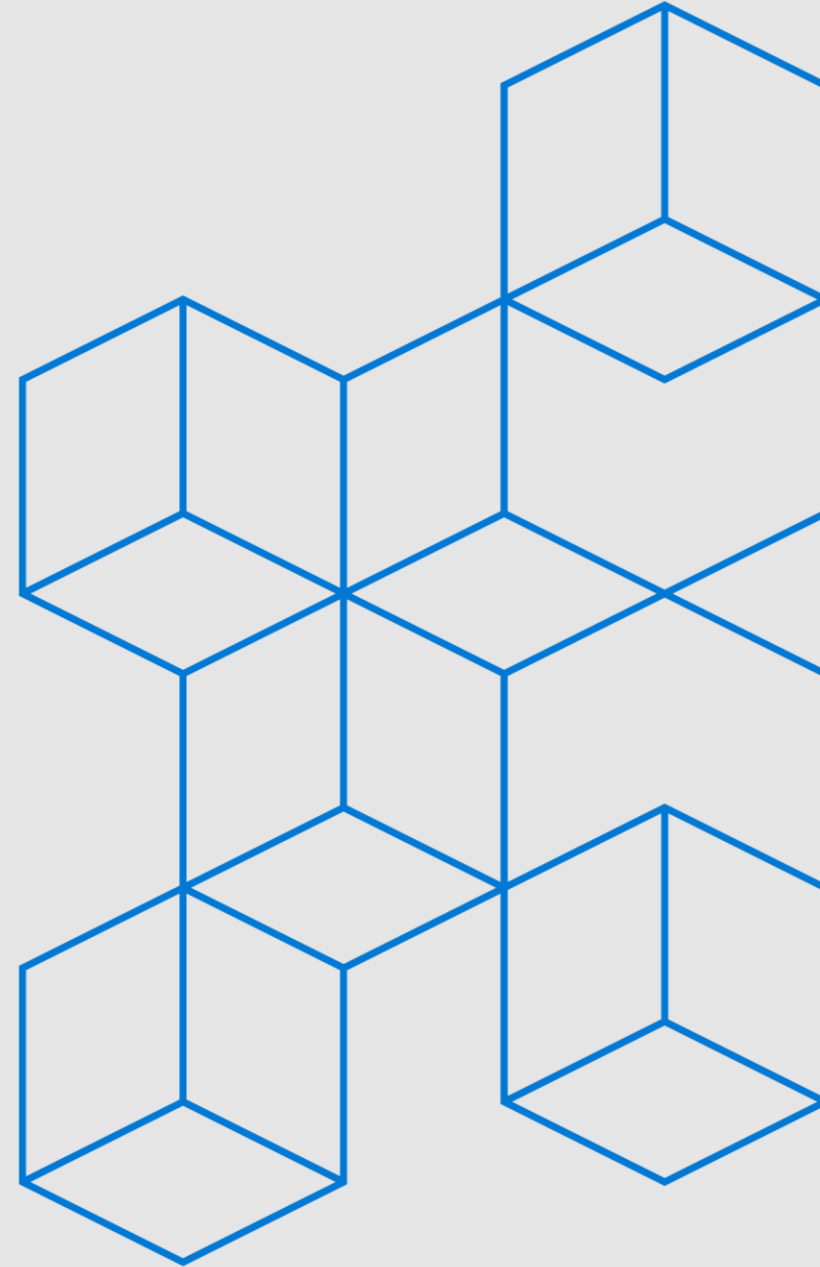




Azure Blueprints

Get to know and love them

Eric Berg
Microsoft MVP
Lead Architect at COMPAREX



Eric Berg

Lead Architect at COMPAREX

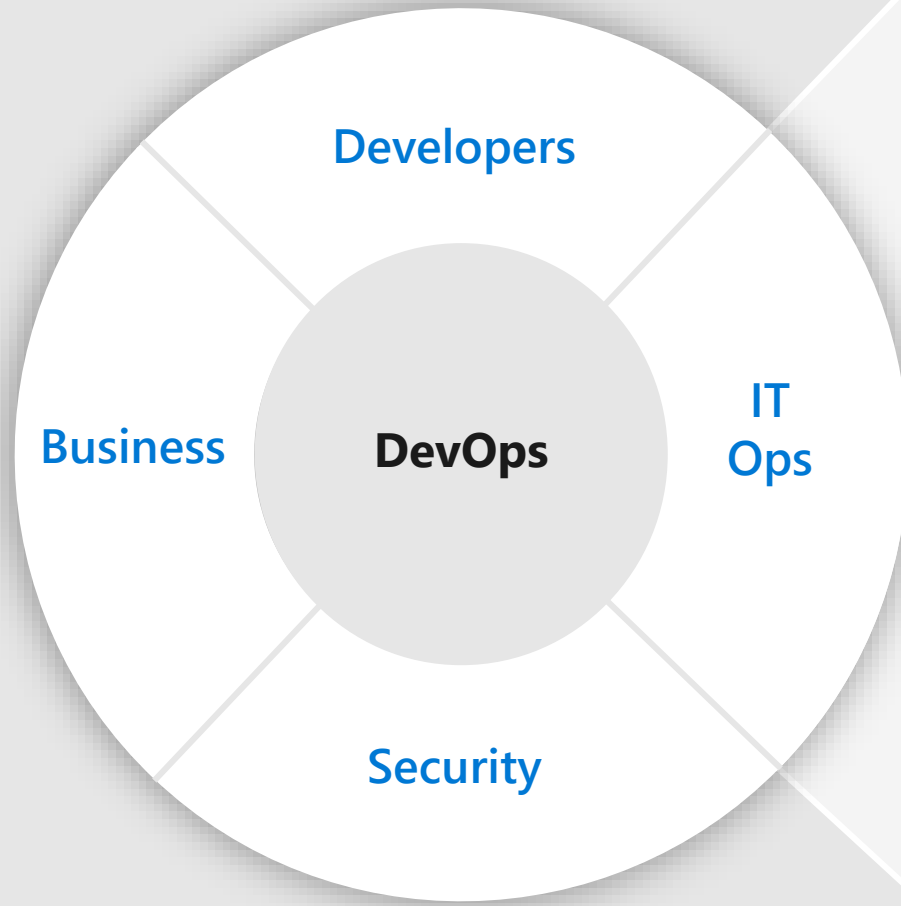
Microsoft MVP Azure & CDM

@ericberg_de

<https://ericberg.de>



IT is transforming



Adopting new cloud technologies



ARM



Templates



Scripting



Functions



Event Grid

Changing operating model



Developer
Collaboration



Business
value



Time to
market

Azure Security & Management

Built-in Azure services options to keep your Azure and hybrid resources secure and well-managed



NEW

Governance

Proactively apply policies and optimize cloud spend



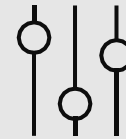
Security

Industry leading Security with Advanced Threat Protection



Resiliency

High availability and protection for VMs, apps and data



Monitoring

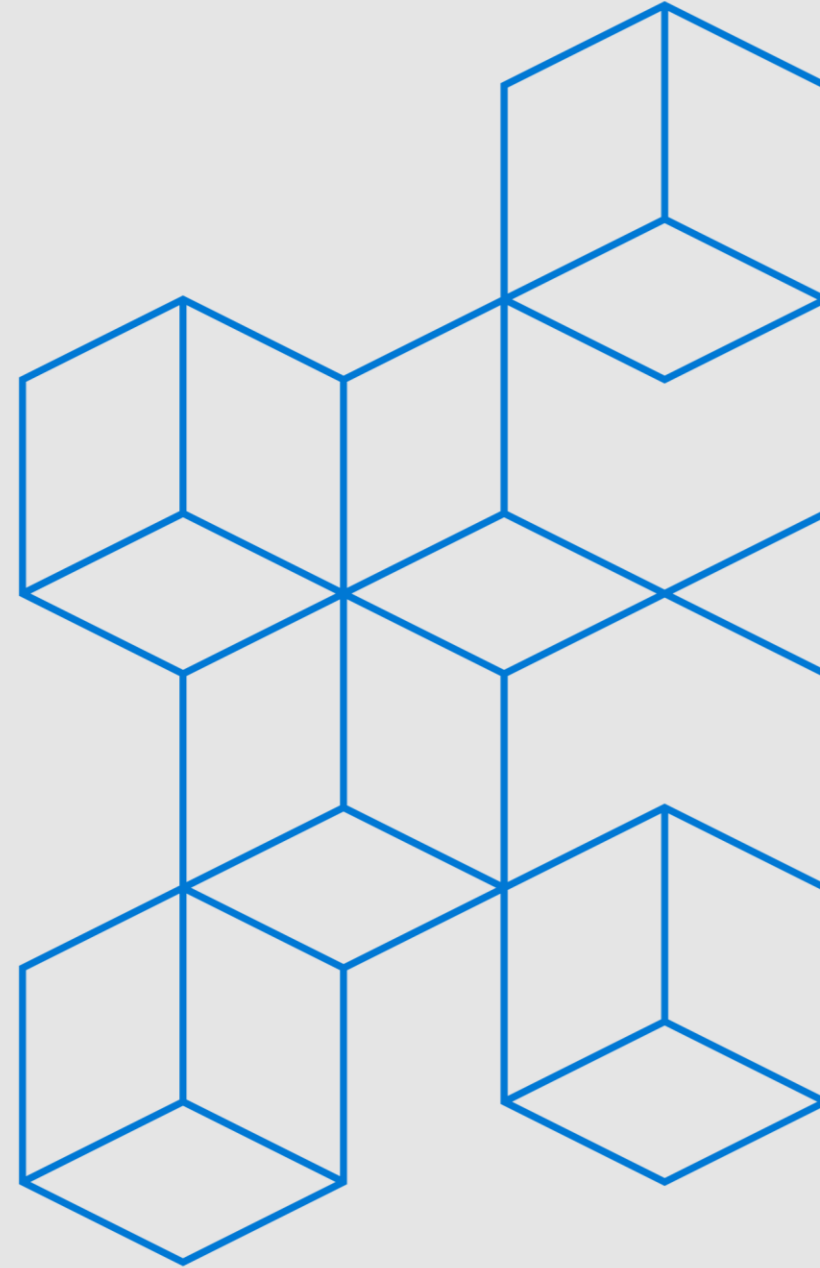
Deep operational insights with rich intelligence



Automate

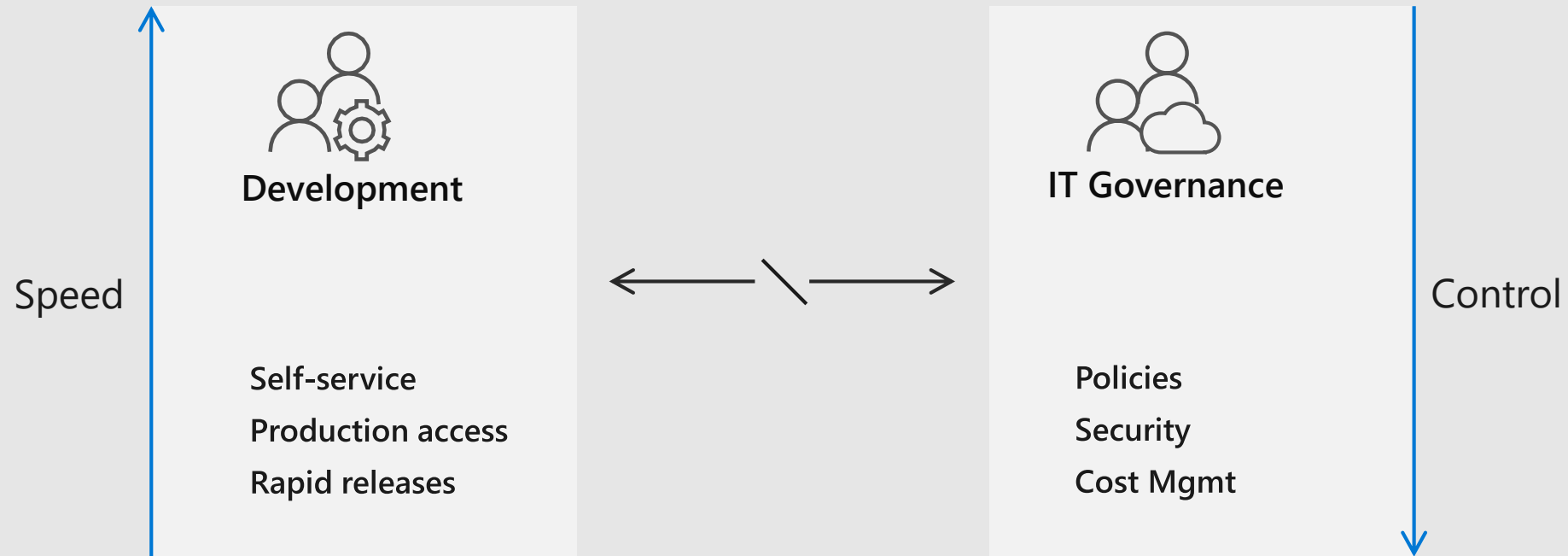
Powerful scripting, configuration and update management

Governance in Azure



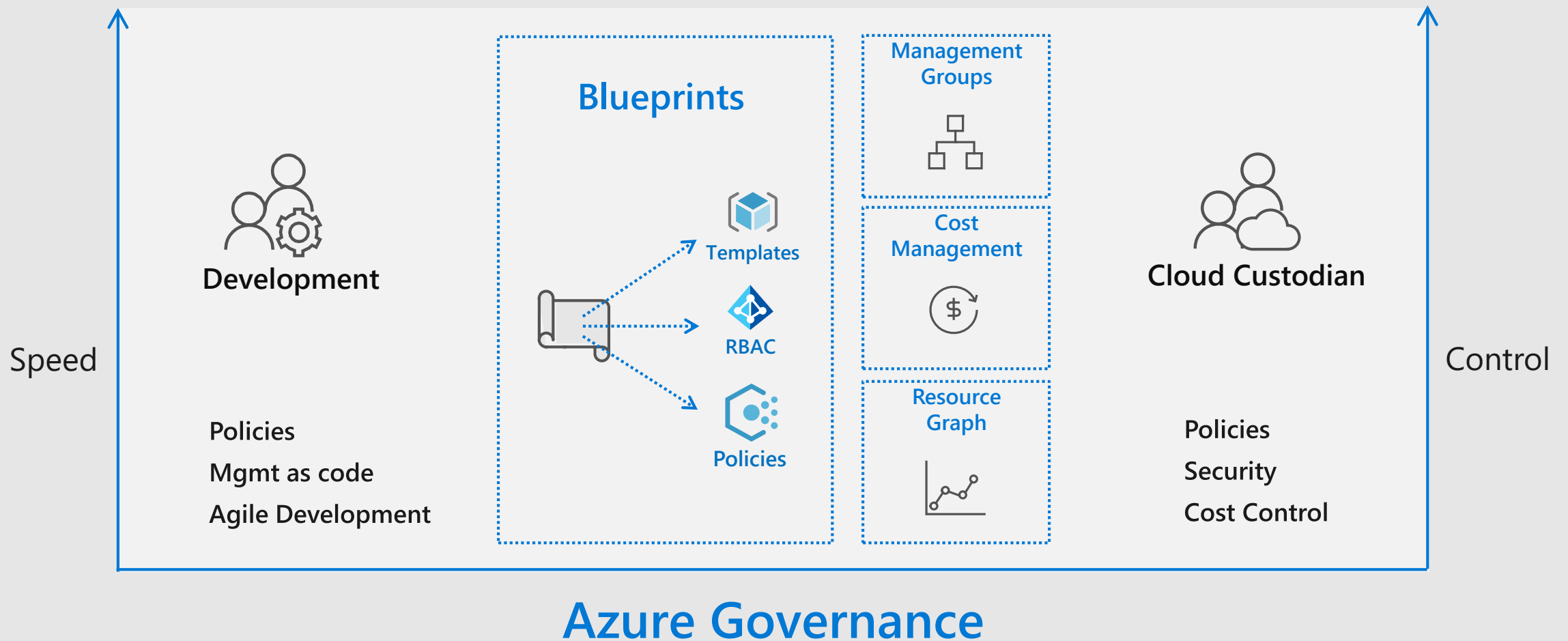
Traditional approach needs rethinking

Speed versus control



Built-in modern governance

Speed *and* control

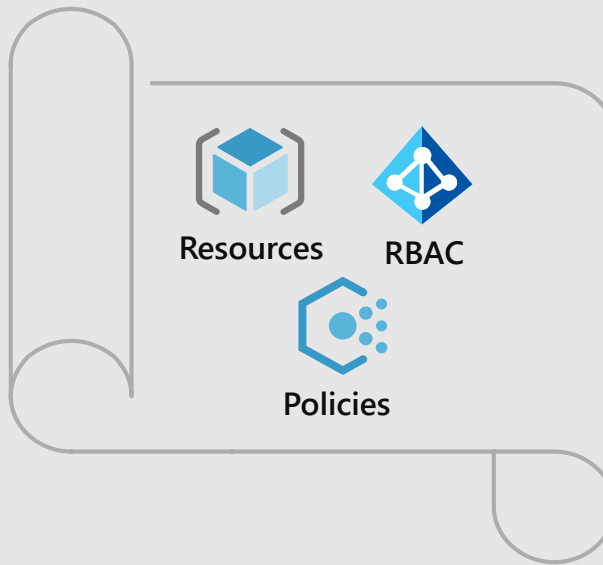


Key Azure governance technologies

```
"policyRule": {  
  "if": {  
    "not": {  
      "field": "location",  
      "in":  
        "[parameters('listOfAllowedLocations')]"  
    }  
  },  
  "then": {  
    "effect": "Deny"  
  }  
}
```

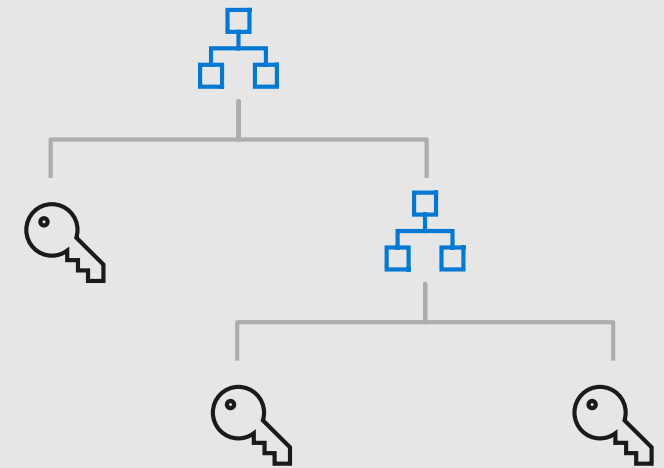
Policy

Enforce or audit rules to ensure compliance.



Blueprints

Quickly create multiple subscriptions with resources, policies and users already setup.

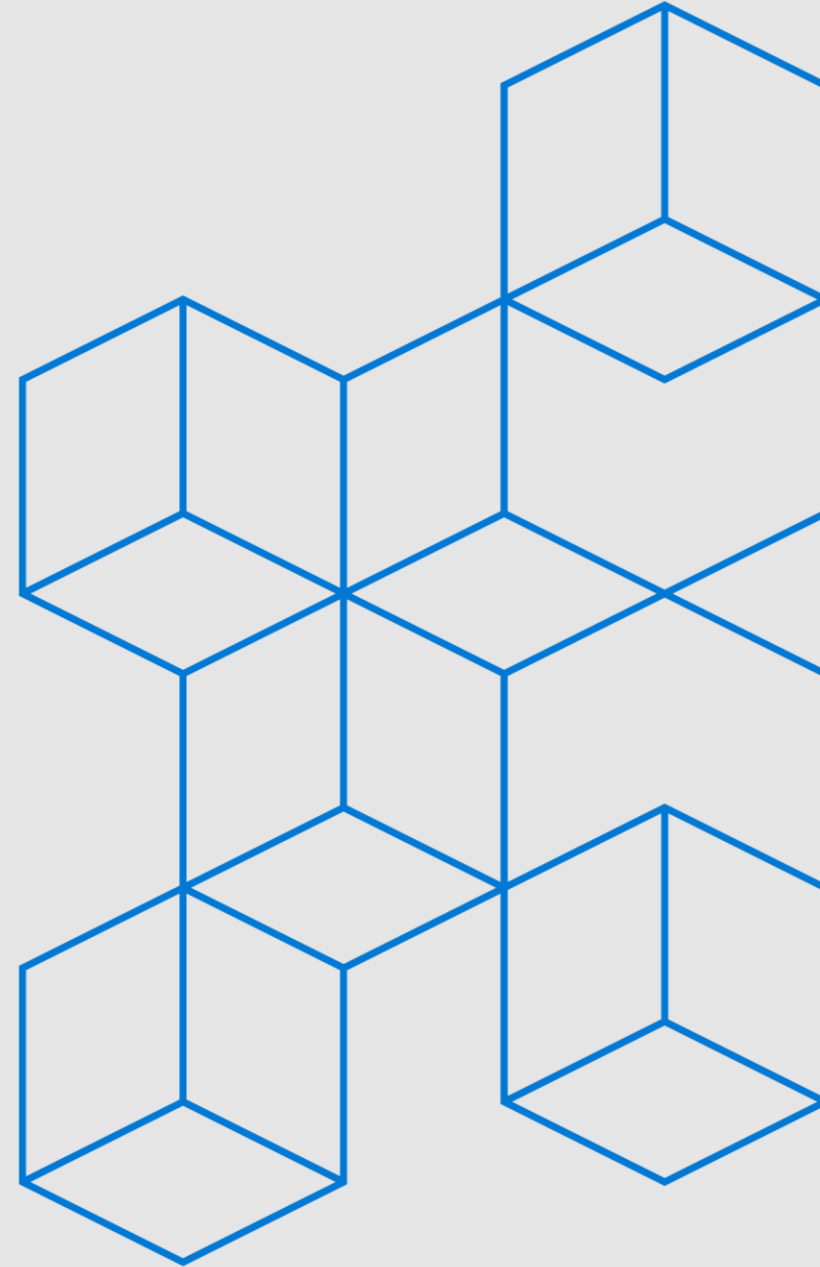


Management groups

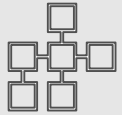
Map your organizational structure into Azure to enable governance in multi-tenant and cross-regional scenarios



Azure Management Groups

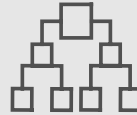


Introducing Azure Management Groups



Make environment management easier by grouping subscriptions together

- Grouping subscriptions into logical groups allow for new organization models
- Inheritance allows for single assignment of controls that apply to all subscriptions
- Aggregated views above the subscription level



Create a hierarchy of management groups that fit your organization

- Create a flexible hierarchy that can be updated quickly
- Hierarchy doesn't need to model the organizations billing hierarchy
- Can easily scale up or down depending on the organizational needs



Apply governance controls with policies and access controls along with other Azure services

- Azure Resource Manager (ARM) objects that allow integrations with other Azure services
- Azure services:
 - Azure Policy
 - RBAC
 - Azure Cost Management
 - Azure Blueprints
 - Azure Security Center

Management Group & Subscription Modeling Strategy



Org Management Group



Prod RBAC + Policy



App A
Prod



App B
Prod



App C
Prod



Shared
services
(Prod)



Pre-Prod RBAC + Policy



App A
Pre-Prod



App B
Pre-Prod

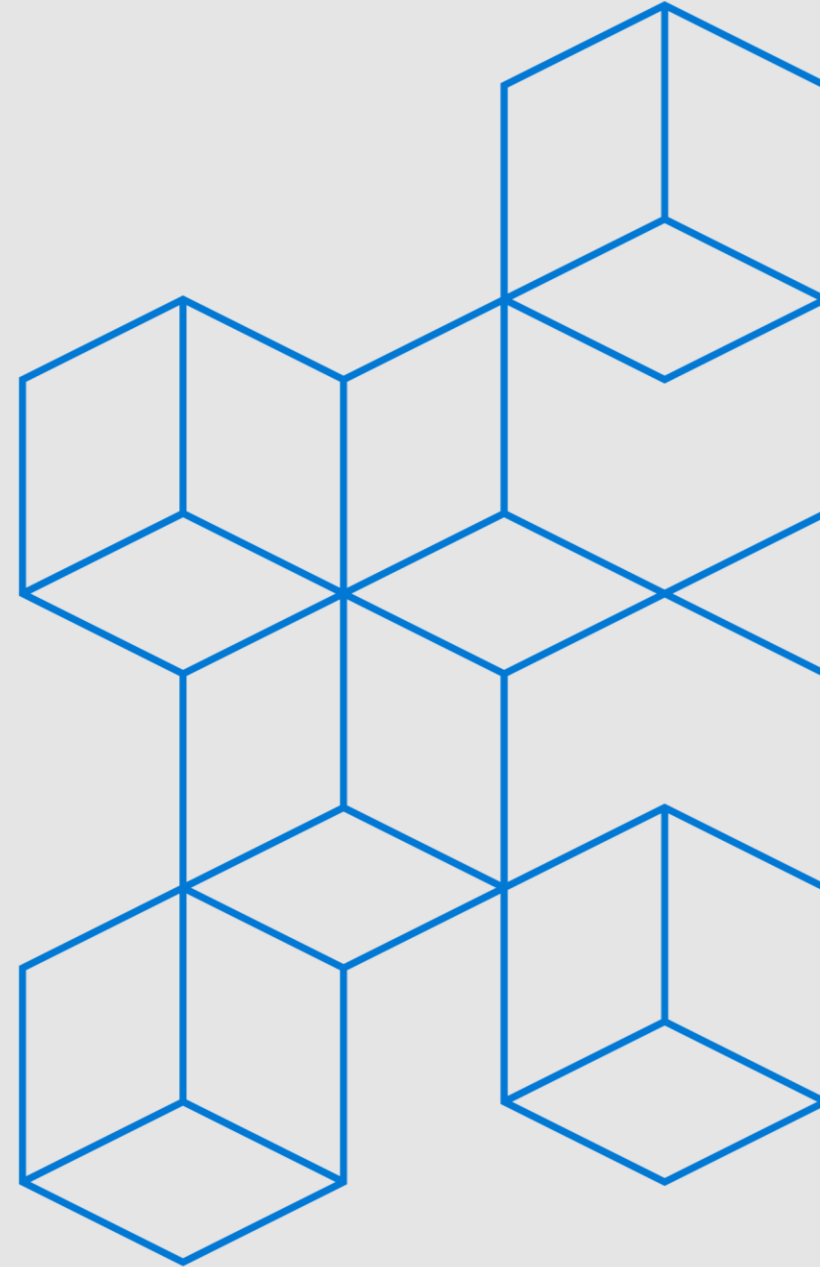


App C
Pre-Prod



Shared
services
(Pre-Prod)

Microsoft
Recommended



Azure Policy Journey

09/2017

Limited public preview

Introduced the new compliance engine (scans every 24 hours), UX and initiative

09/2017

12/2017

Public preview

Introduced Management Group support

Compliance scan on resource change (delta scan)

Built-in definition support for remediation

12/2017

05/2018

GA

Pricing details announcement (FREE!)

National clouds support

Introduced policy events view (count by user)

05/2018

09/2018

Compliance percentage

Full fidelity of resources (store compliant resources)

'Last evaluated' timestamp

Trigger scan (on-demand scan) API

Custom definition support for remediation

Remediation on existing resources

'Denied due to policy' UX improvement

Progressive compliance results

In-guest Policy public preview

Default parameters

Azure DevOps integration

Azure Security Center integration

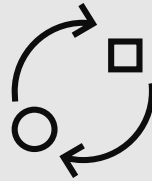
09/2018

Azure Policy



- Turn on built-in policies or build custom ones for all resource types
- Real-time policy evaluation and enforcement
- Periodic & on-demand compliance evaluation
- VM In-Guest Policy (**NEW**)

Enforcement & Compliance



- Apply policies to a Management Group with control across your entire organization
- Apply multiple policies and & aggregate policy states with policy initiative
- Exclusion Scope

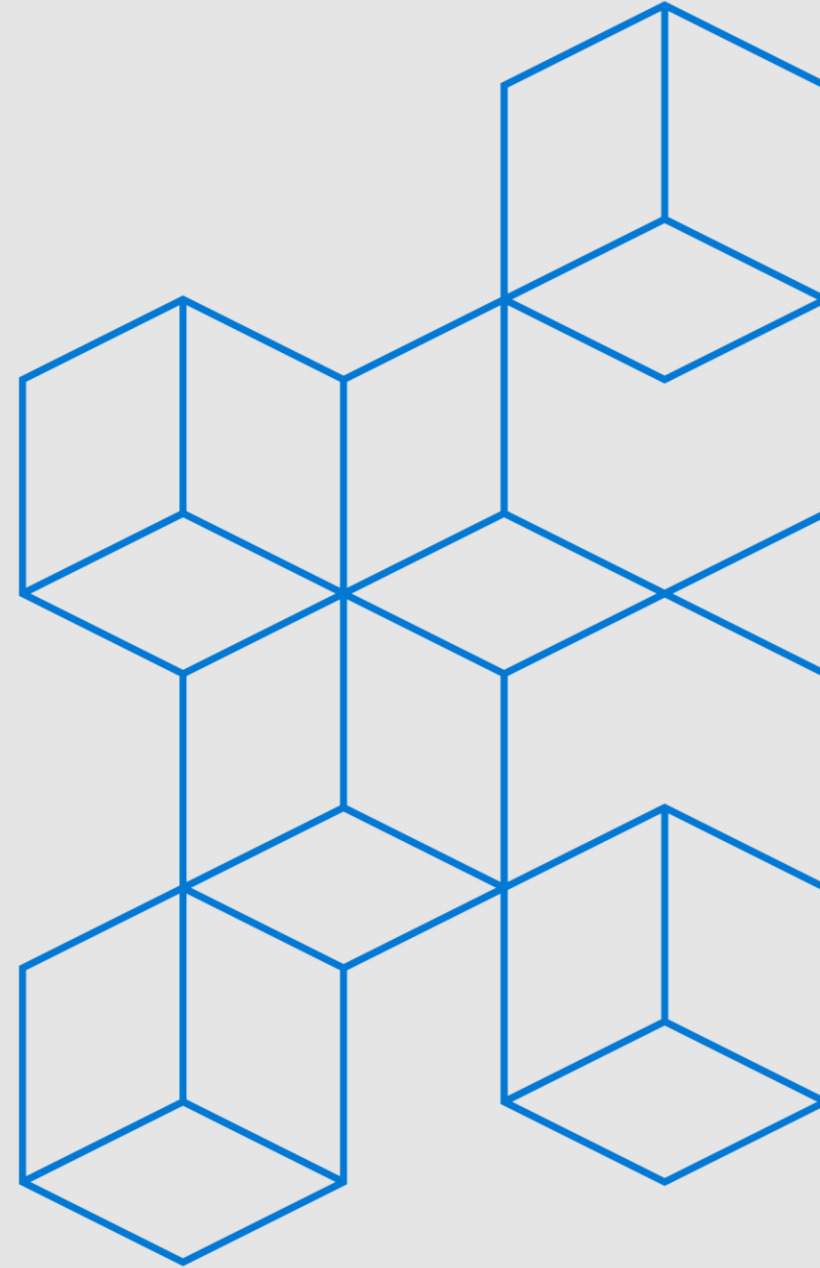
Apply policies at scale



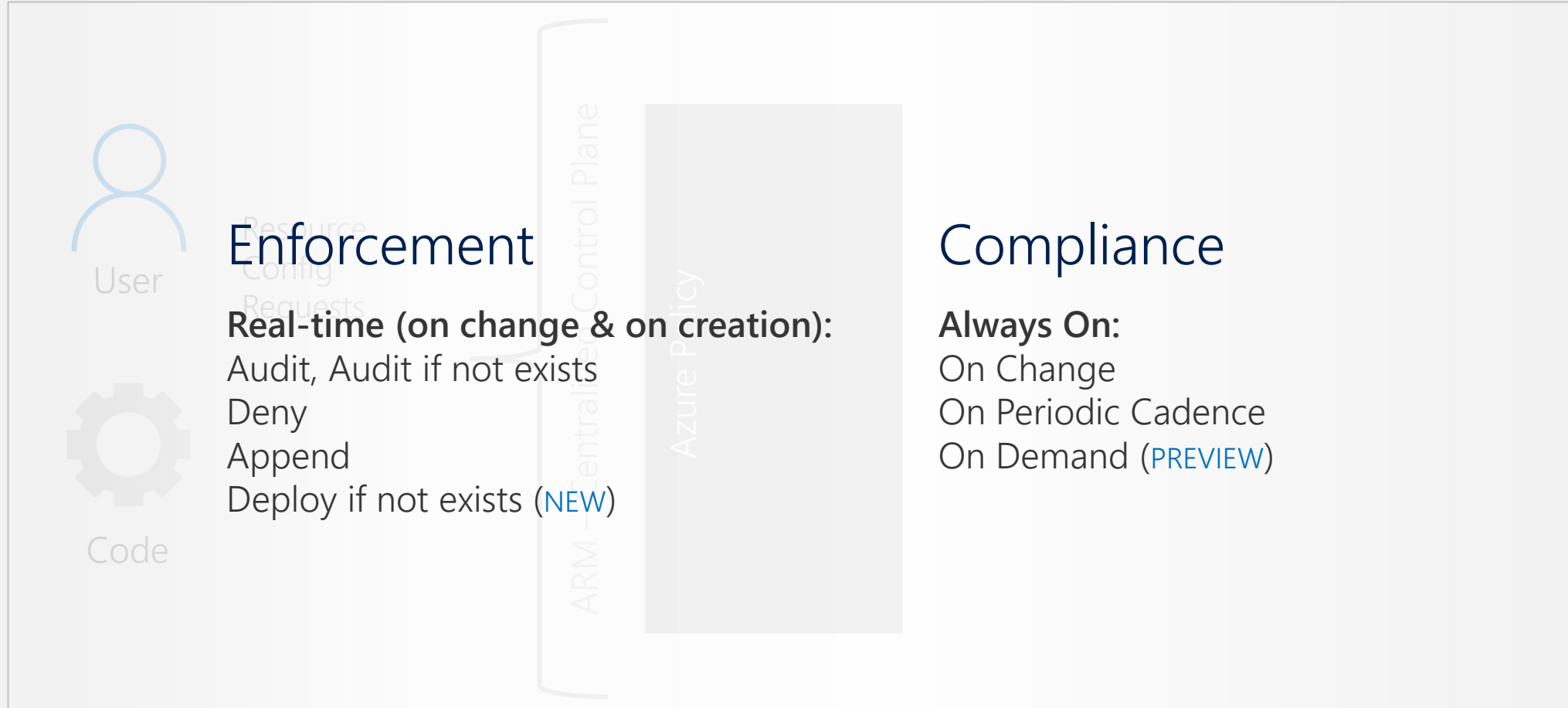
- Real time remediation
- Remediation on existing resources (**NEW**)

Remediation

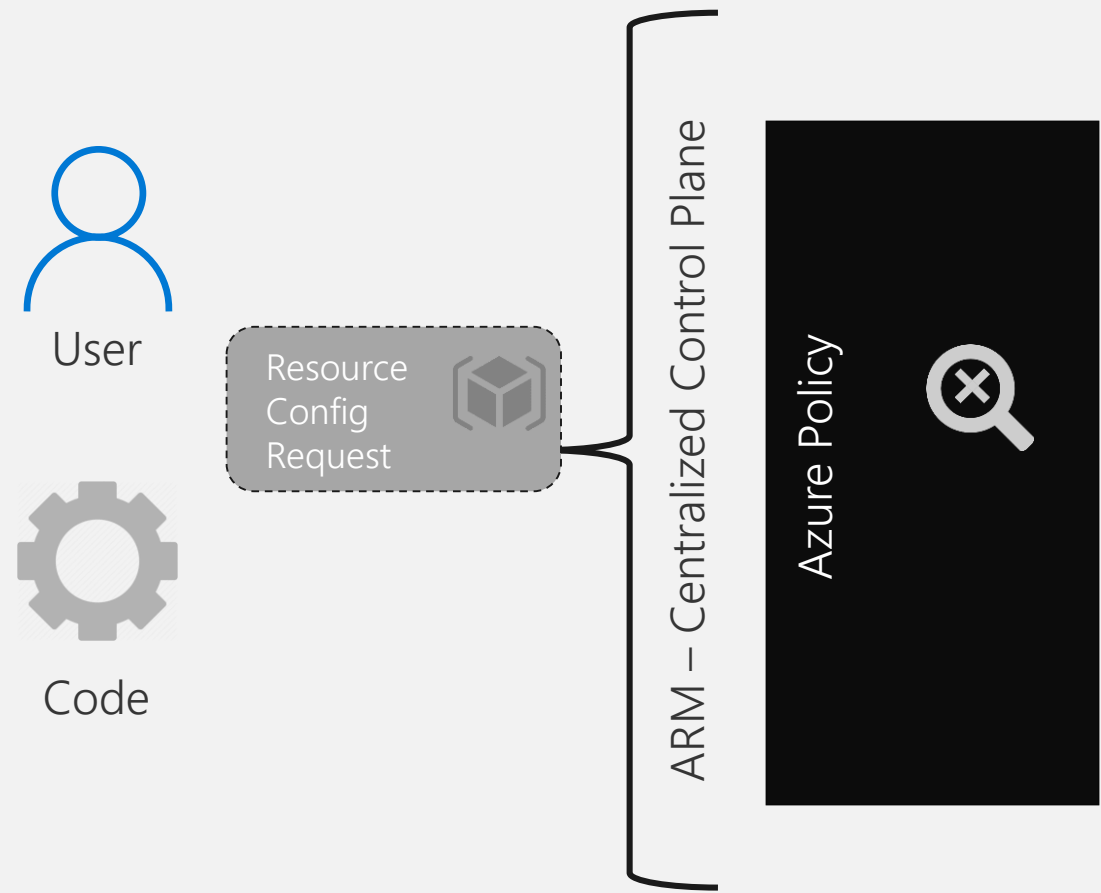
Policy enforcement



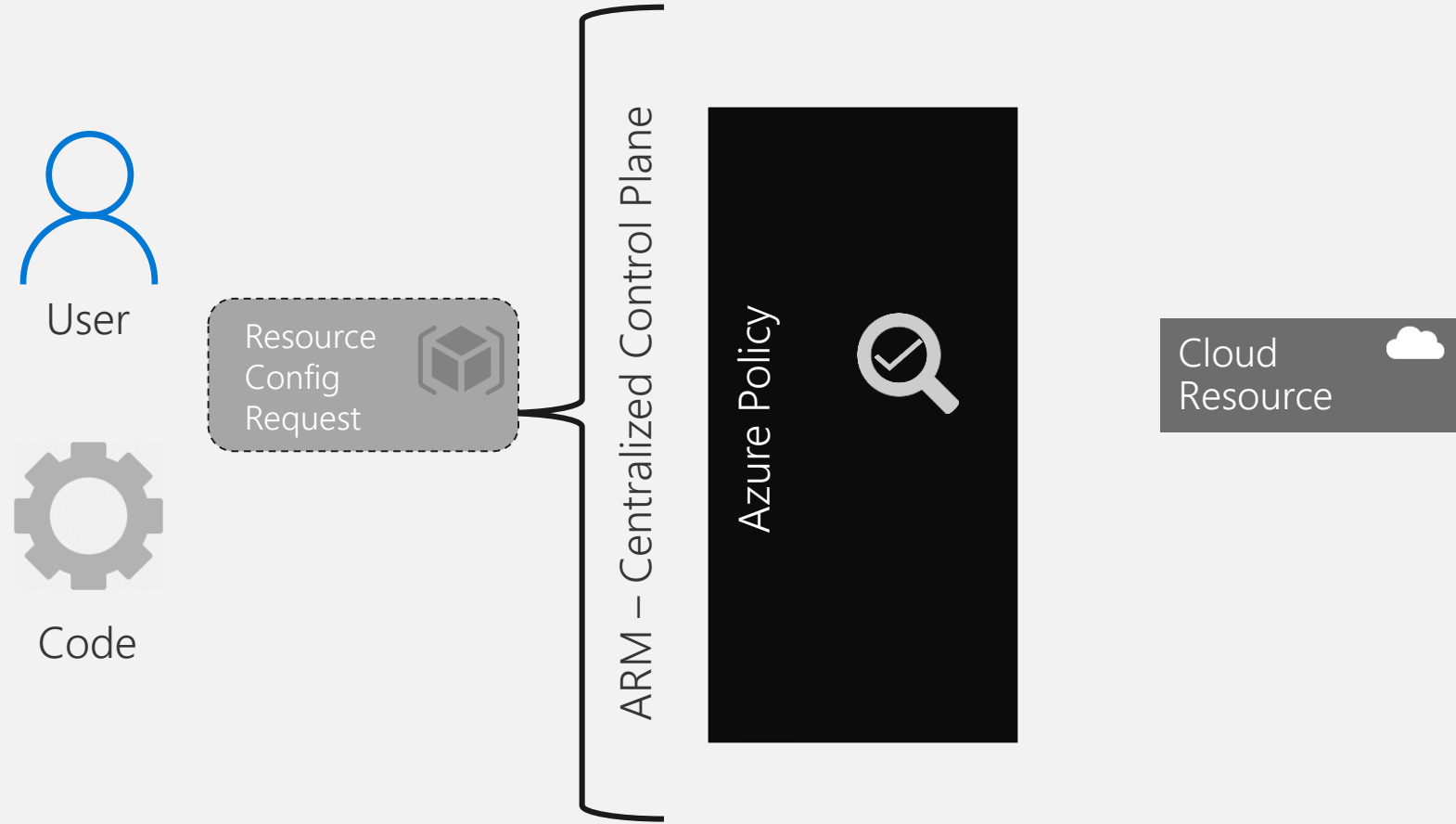
How does it work?



How does it work?



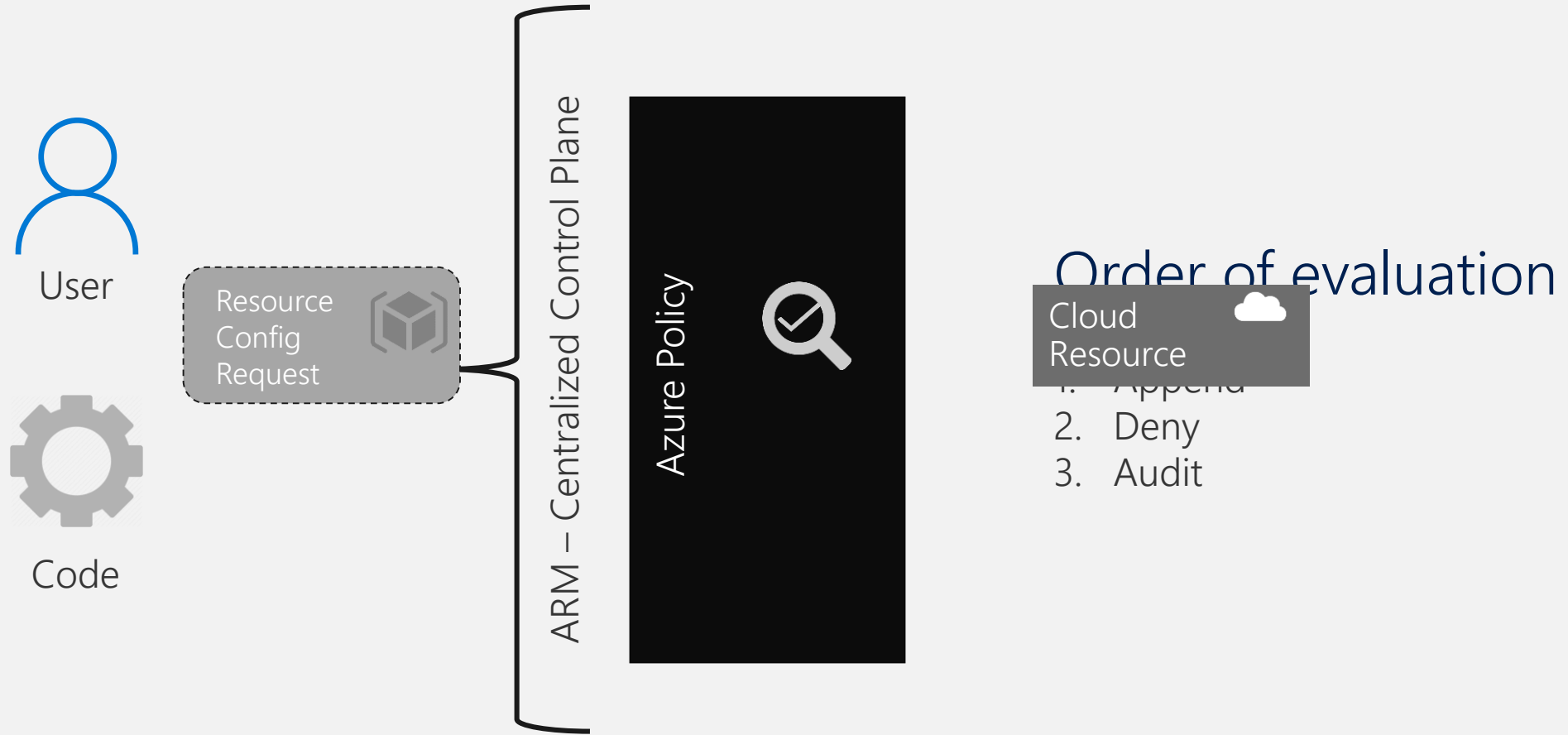
How does it work?



Order of evaluation

- Append
- Deny
- Audit
- DeployIfNotExists
- AuditIfNotExists

How does it work?



How does it work?



User



Code



Azure Policy



Cloud
Resource



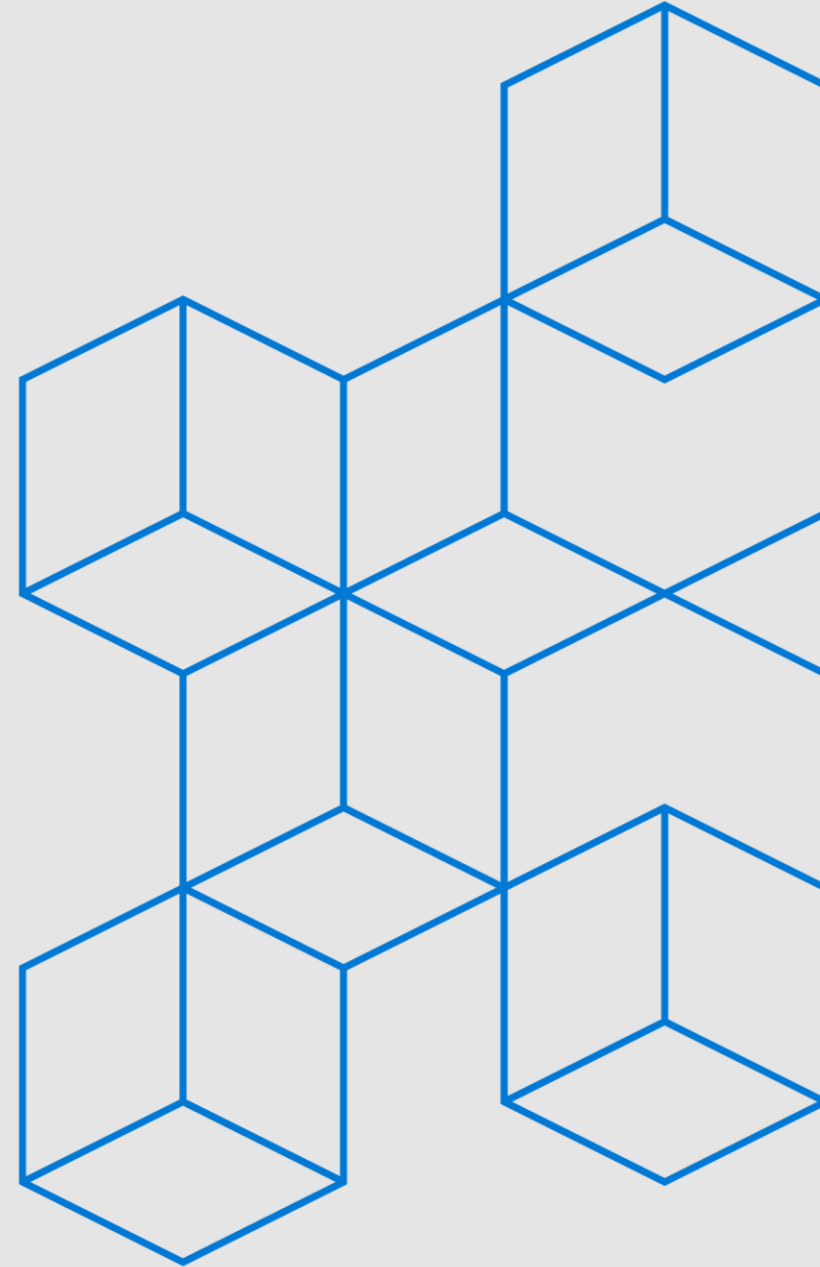
- 4. DeployIfNotExists
- 5. AuditIfNotExists

Policy

- 100 policy definitions per scope
- 100 policy set definitions per scope
- 1000 policy set definitions per tenant
- 100 policyDefinition references per policySetDefinition
- 100 policy assignments per scope
- 10 notScopes per policyAssignment

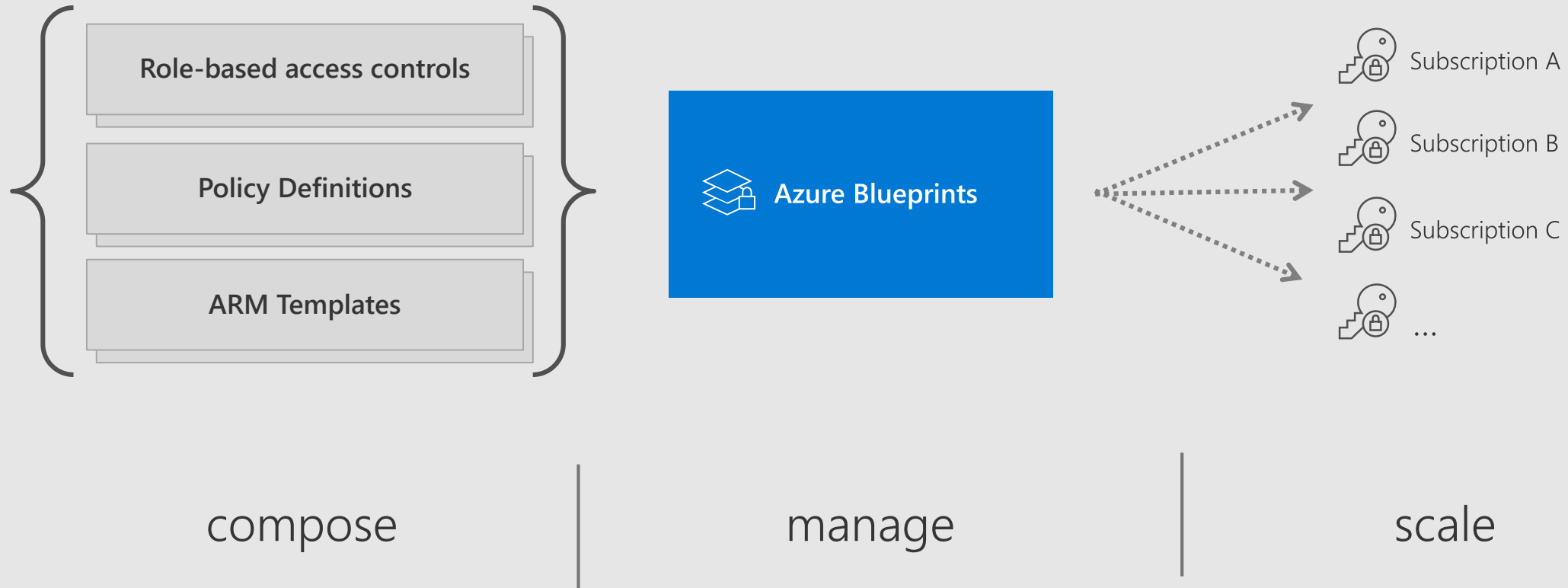


Blueprints



Azure Blueprints

deploy and update cloud environments in a repeatable manner using composable artifacts



Blueprints and ARM

- We love ARM

Blueprints and ARM

- We love ARM
- Scaling up ARM is a challenge
 - How do you use ARM templates across 50, 100, 1,000 app teams?
 - How do you keep your templates modular for maximum re-use?
 - How do you make sure those environments stay up to date?

Demo

Azure Blueprints



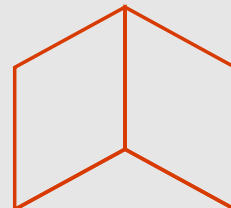
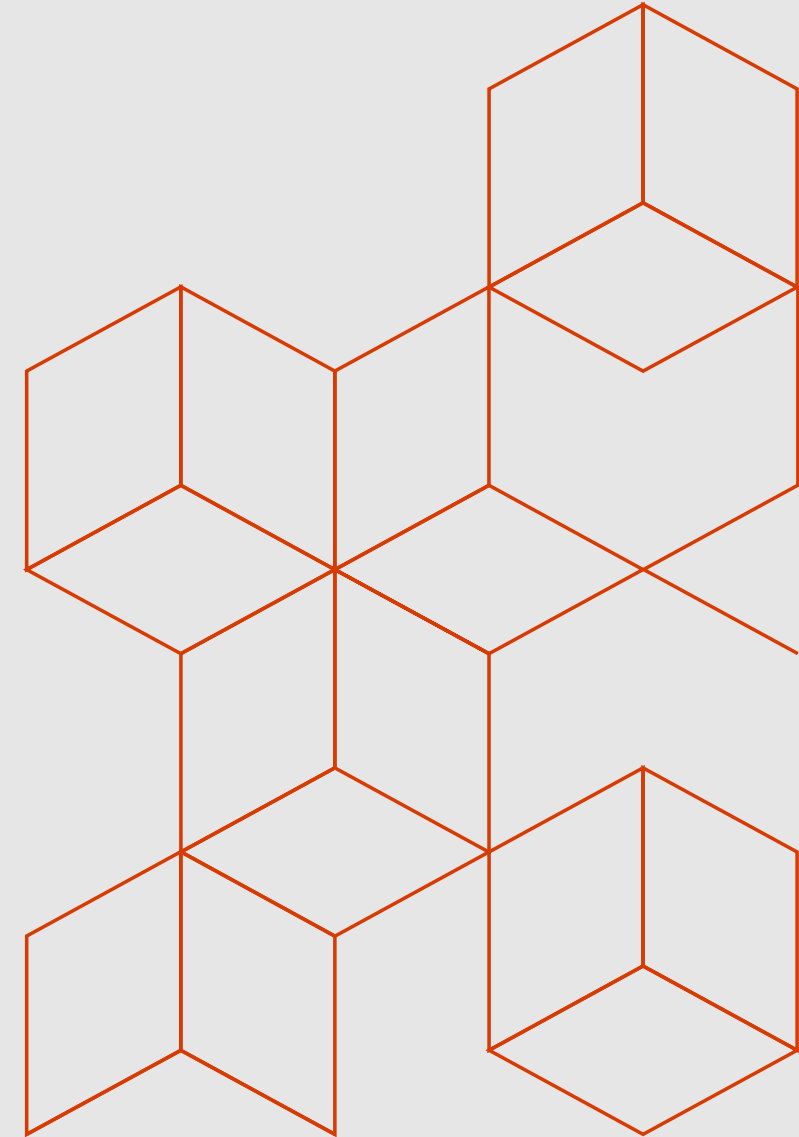
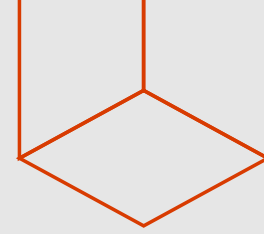
Roadmap for Blueprints

- More advanced Assignment updates
 - What-if analysis for updates
 - Resource delete
- Advanced resource locking
 - Configure the artifacts to be locked instead of the whole assignment
- Pre/Post deployment script execution
- Advanced sequencing
 - Passing values between artifacts
- Better import/export experience for sharing Blueprints across tenants
- Support for assigning Blueprints to a Management Group
- Powershell cmdlets and CLI commands

NEXT

Azure Migration Tips
Today - 15:30 (3:30 pm)
A4-5

Martial Arts and Community
Tomorrow – 09:30 (9:30 am)
7.1A(3)



Got questions?

Find me at the COMPAREX booth!

S 5



Webinar Series: Azure Basics



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30.01.2019: *Governance - Why it's better to have a strategy!?*

20.02.2019: *Azure IaaS – What's the benefit of Infrastructure as a Service and how to do it right?*

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