

WELKOM BIJ

**dotnet
Friday**

Vrijdag 1 december 2023

Govern your Azure Infrastructure through Azure Policies



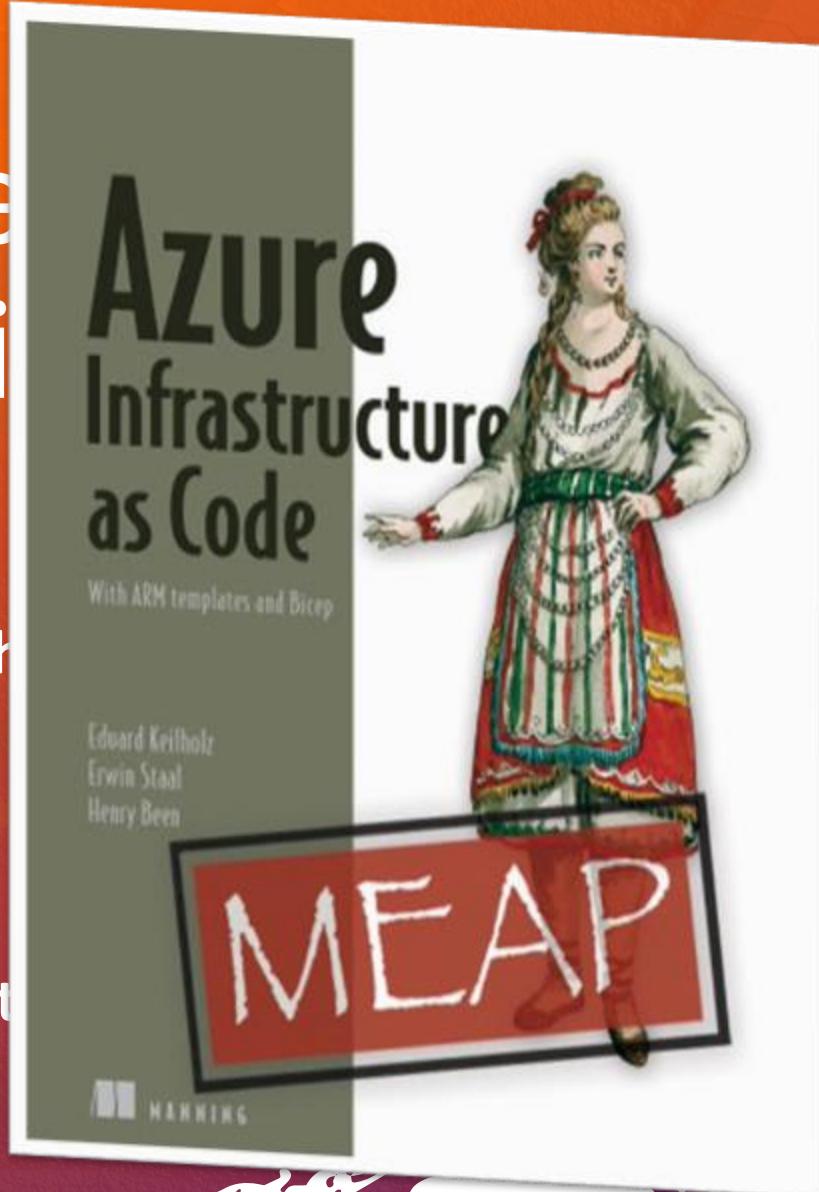
Patrick de Kruijf - Azure Architect

<https://www.linkedin.com/in/patrickdk>
<https://www.azurefreakconfessions.com>



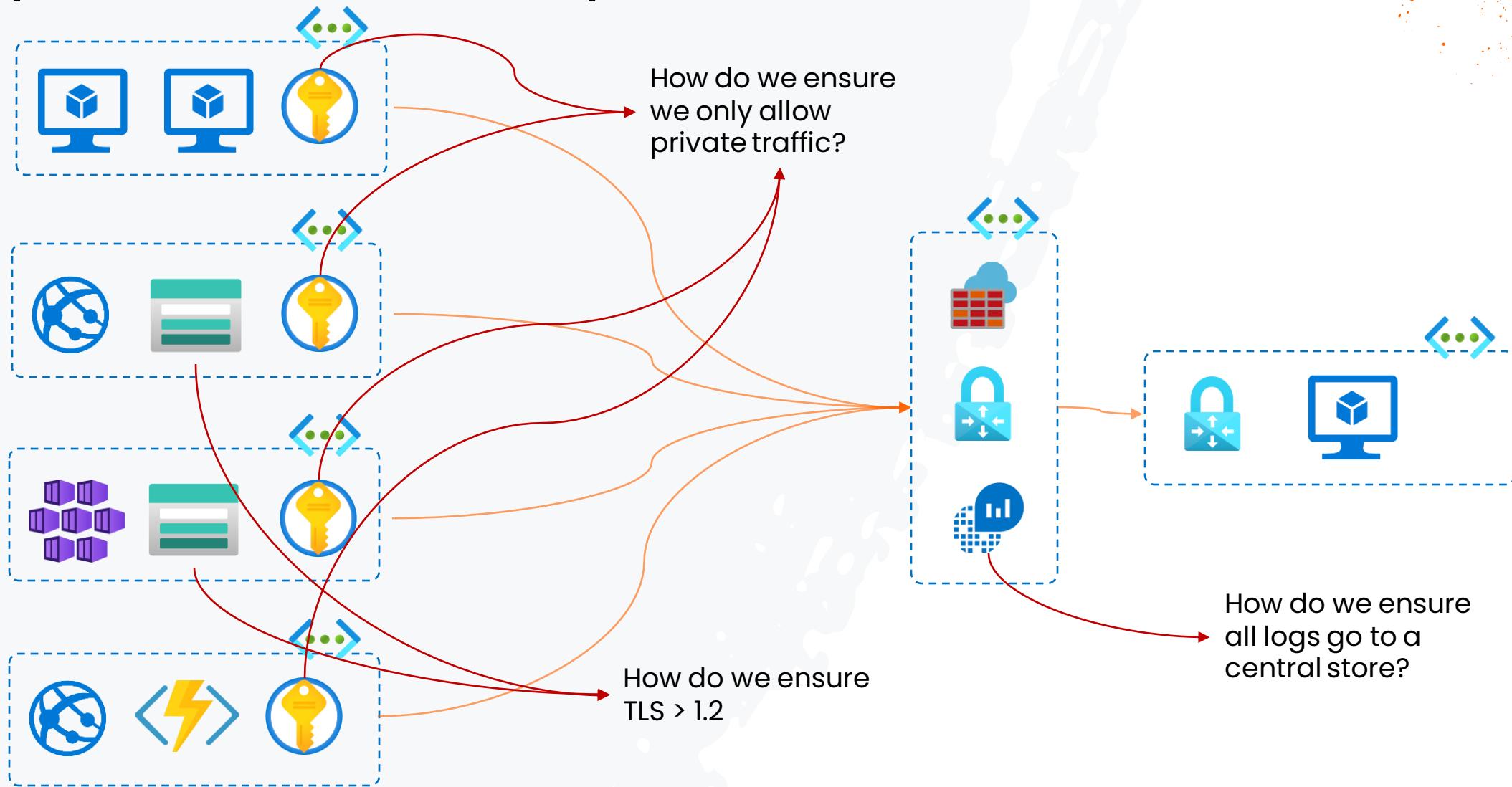
Erwin Staal - Azure Architect

@erwin_staal
<https://www.linkedin.com/in/erwinstaal>
<https://www.erwinstaal.nl>



Xepia | Xpirit

Why use Azure Policy?



Azure Policy



It helps organizations establish and maintain governance standards by defining and enforcing rules and best practices for resource configurations.

Governance Framework



Azure Policy operates on a rule-based system, where policies are authored using JSON and consist of conditions and effects.

Rule-Based Enforcement



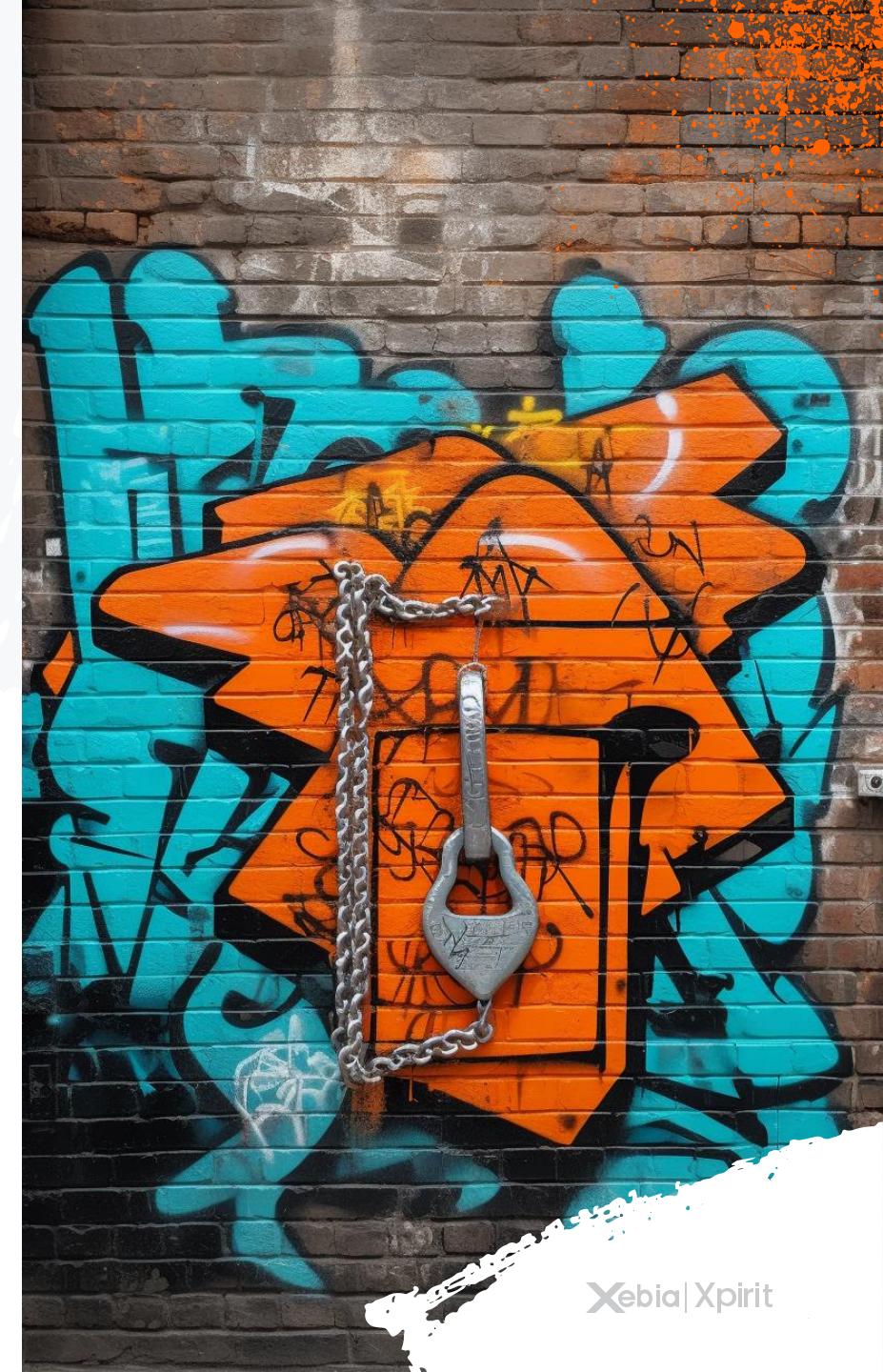
Azure Policy provides monitoring and reporting capabilities to track compliance status across the Azure resources.

Compliance and Reporting



Azure Policy is designed to scale across large and complex Azure environments, offering centralized policy management.

Scalable and Centralized



Policy Definition Sample

Azure Key Vault should have firewall enabled ...

Policy definition

Assign Edit definition Duplicate definition Delete definition

^ Essentials

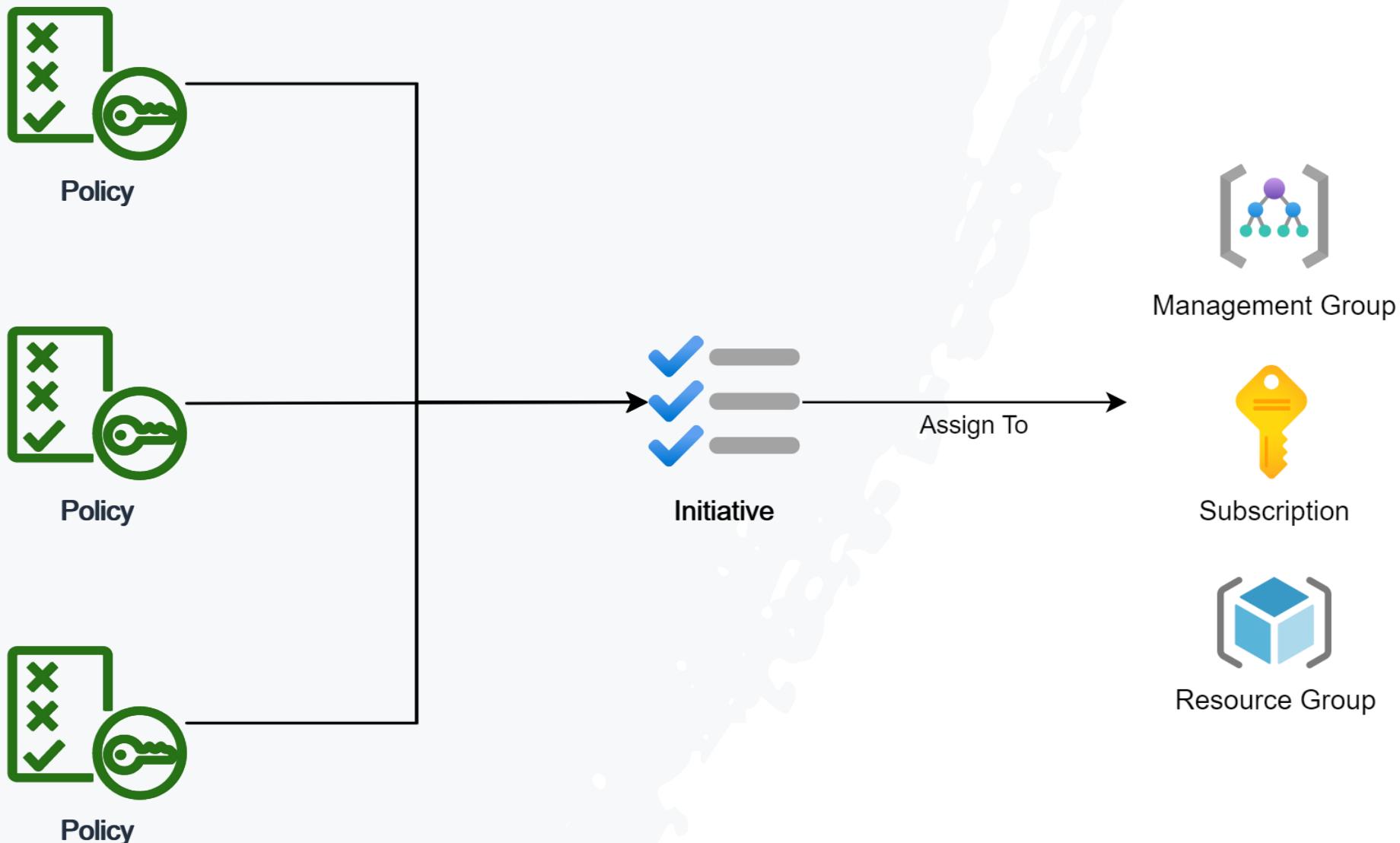
Name	:	Azure Key Vault should have firewall enabled	Definition location	:	--
Description	:	Enable the key vault firewall so that the key vault is not accessible by default to any ...	Definition ID	:	/providers/Microsoft.Authorization/policyDefinitions/55615ac9-af46-4a59-874e-3...
Available Effects	:	Audit	Type	:	Built-in
Category	:	Key Vault	Mode	:	Indexed

Definition Assignments (0) Parameters

```
1 {
2   "properties": {
3     "displayName": "Azure Key Vault should have firewall enabled",
4     "policyType": "BuiltIn",
5     "mode": "Indexed",
6     "description": "Enable the key vault firewall so that the key vault is not accessible by default to any public IPs. Optionally, you can configure specific IP ranges t",
7     "metadata": {
8       "version": "3.2.1",
9       "category": "Key Vault"
10    },
11    "parameters": {
12      "effect": {
13        "type": "String",
14        "metadata": {
15          "displayName": "Effect",
16          "description": "Enable or disable the execution of the policy"
17        },
18        "allowedValues": [
19          "Audit",
20          "Deny",
21          "Disabled"
22        ],
23        "defaultValue": "Audit"
24      },
25      "restrictIPAddresses": {
26        "type": "String"
27      }
28    }
29  }
30}
```



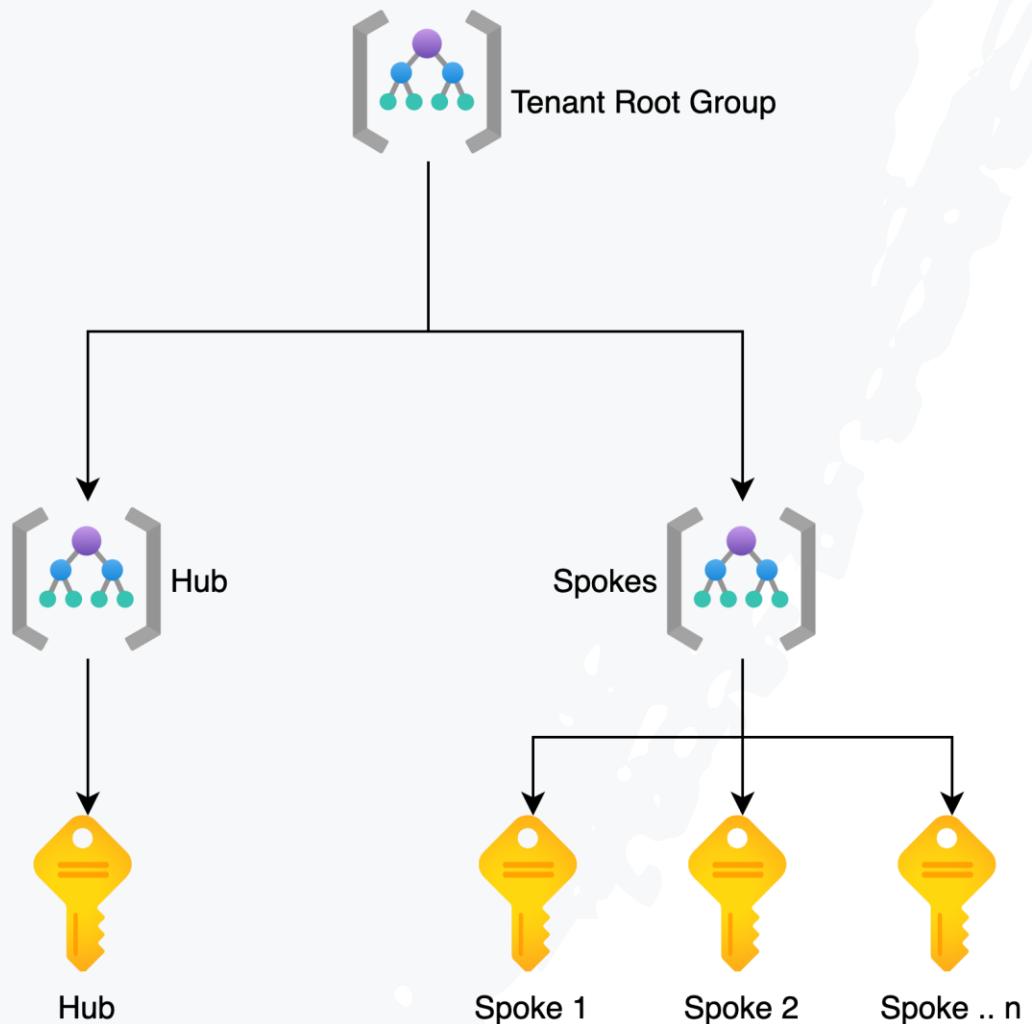
What are policies?



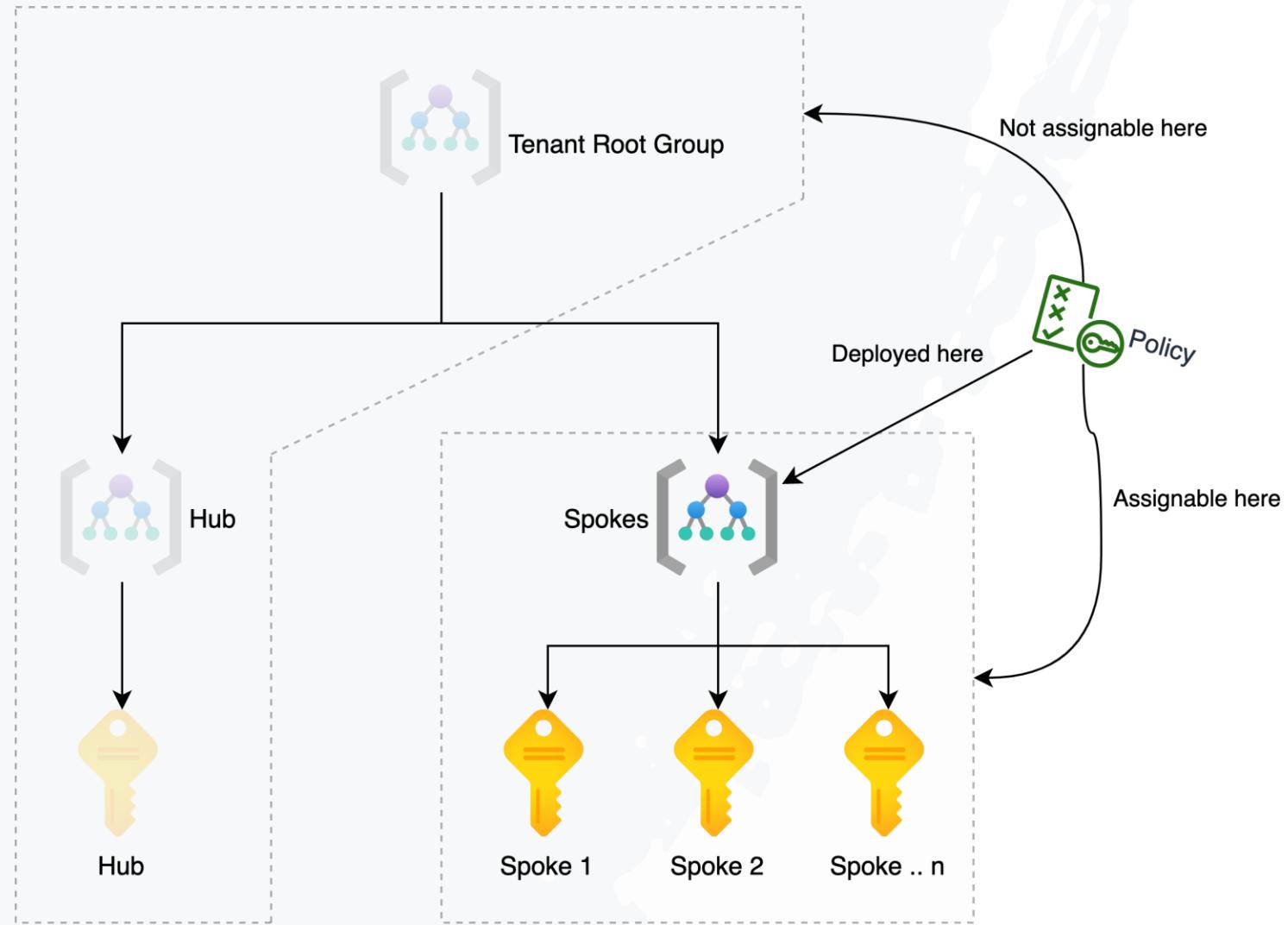
DEMO



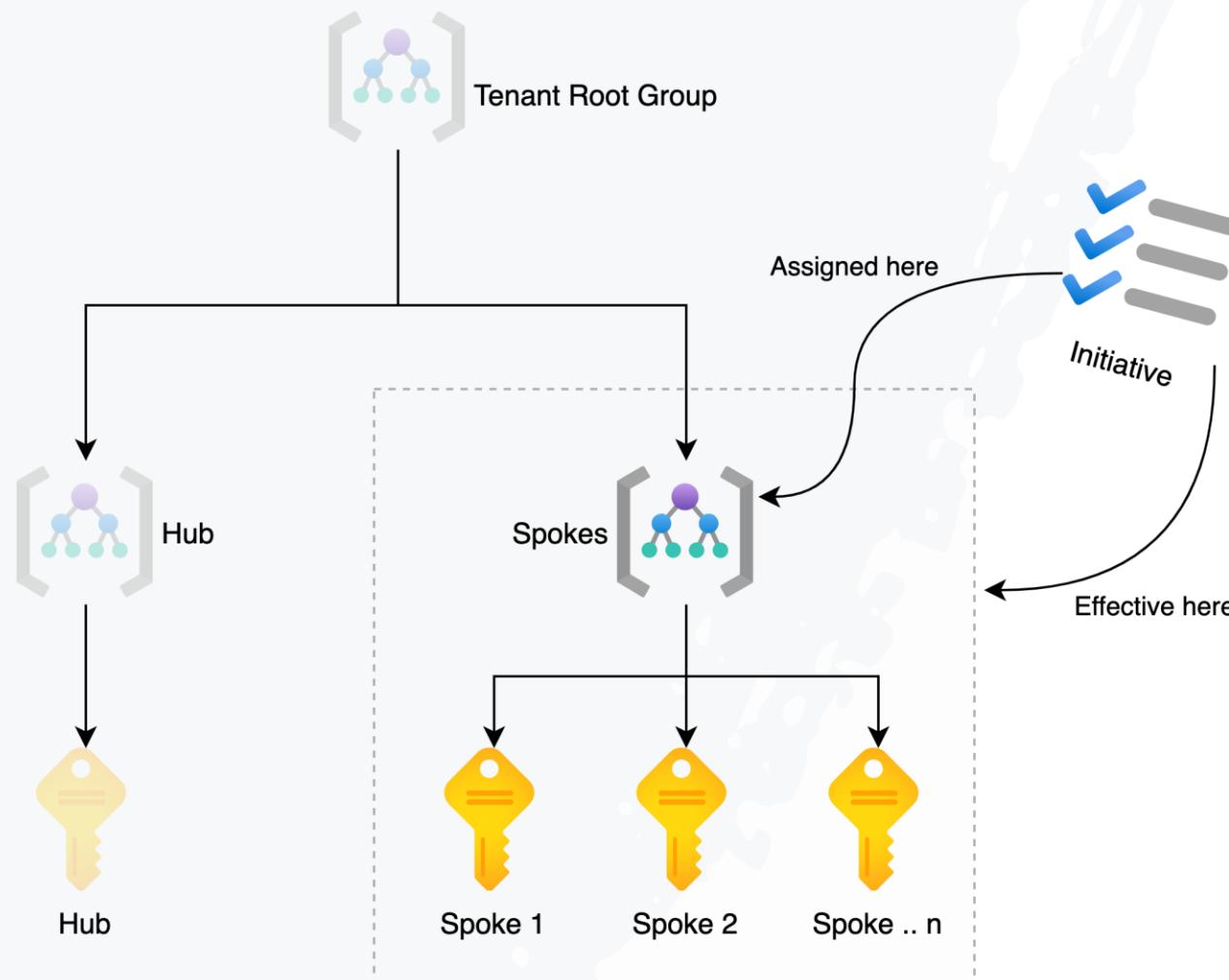
Definition location and Assignable scope



Definition location



Assignment scope



DEMO



Policy Effects

The policy rule is defined but not enforced, allowing resources to be created or modified without compliance checks.

Resources that violate the policy rule are not allowed to be created or modified.



Disabled



Audit



AuditIfExists



Deny



DenyAction



Append



DeployIfExists



Modify

Used to block requests based on intended action to resources. The only supported action today is DELETE.

source violates the policy rule, the existing properties or elements are modified to bring it into compliance.



DEMO



Remediation

DeployIfNotExists or **Modify**

Uses a managed identity



DEMO



Exemptions

Home >

Storage accounts should use private link



Policy compliance

[View definition](#) [Edit assignment](#) [Assign to another scope](#) [Delete assignment](#) [Create Remediation Task](#) ...

Essentials

Name	Scope
Storage accounts should use private link	Visual Studio Enterprise – MPN
Description	Excluded scopes
This is the default set of policies monitored by Azure Security Cent...	--
Assignment ID	Definition
/subscriptions/c5725c48-2107-4cc5-957d-d800701b0705/provider...	Storage accounts should use private link

Selected Scopes ⓘ

4 selected subscriptions ▾

Compliance state ⓘ



Exempt

Overall resource compliance ⓘ

100%

2 out of 2

Resources by compliance state ⓘ



- 0 - Compliant
- 2 - Exempt
- 0 - Non-compliant

Details

Effect Type **AuditIfNotExists**

Parent Initiative

ASC Default (subscription: c5725c48-2107-4cc5-957d-d800701b0705)

Resource compliance

Events

Filter by resource name or ID... Exempt All resource t... All locations

Name	Compliance state	Compliance reas...	Resource Type	Location	Scope
bookpolicydemo	Exempt	Waiver	microsoft.storage/st...	West Europe	Visual Studio Enterpris



Exemptions

Basics Advanced Review + create

Info Policy exemption is now available! For pricing details, see <https://aka.ms/policypricing>

Policy exemptions are used by Azure Policy to exempt a resource hierarchy or an individual resource from evaluation of initiatives or definitions.

Exemption scope * ⓘ
Toma Toe Pizza Non-prod

Assignment name ⓘ
demo-allowed-locations-without-parameters-audit

Exemption name * ⓘ
Toma Toe Pizza Non-prod - demo-allowed-locations-without-parameters-audit

Exemption category * ⓘ
 Waiver
 Mitigated

Set an expiration date for the exemption

Warning Please be aware the policy assignment will take effect again when the policy exemption expires.

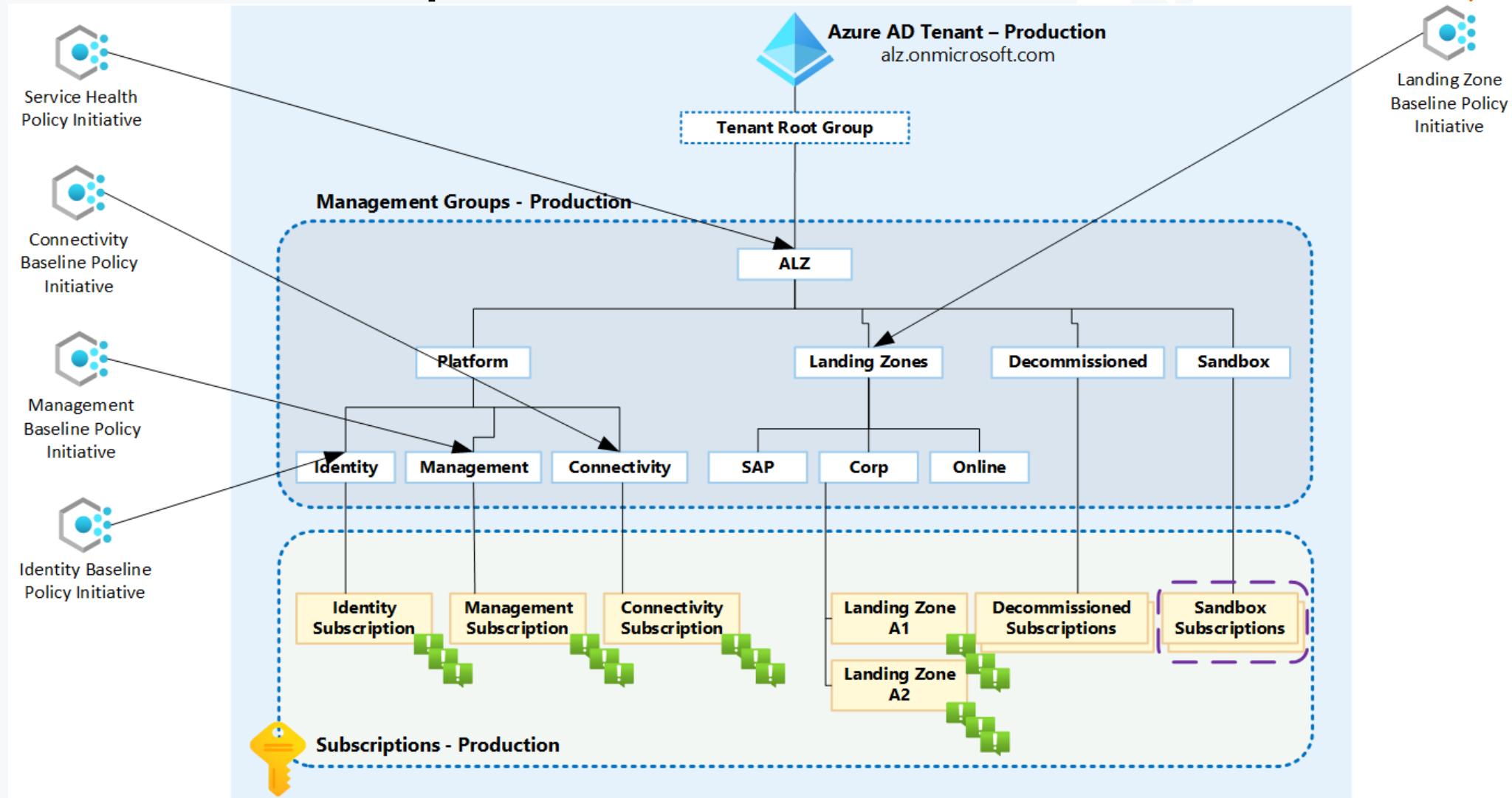
Expiration date ⓘ
DD-MM-YYYY h:mm AM

Exemption description ⓘ

Created by



Real-life examples



References

- <https://github.com/XpiritBV/azure-policy-session>
- <https://xpirit.com/azure-policy-unveiled-ignite-your-cloud-management-passion/>
- <https://www.manning.com/books/azure-infrastructure-as-code>
- https://www.azadvertiser.net/azpolicyadvertiser_all.html

Thanks!



Patrick de Kruijf - Azure Architect

<https://www.linkedin.com/in/patrickdk>
<https://www.azurefreakconfessions.com>



Erwin Staal - Azure Architect

@erwin_staal
<https://www.linkedin.com/in/erwinstaal>
<https://www.erwinstaal.nl>

