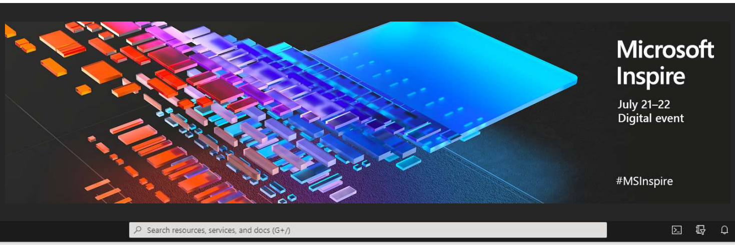
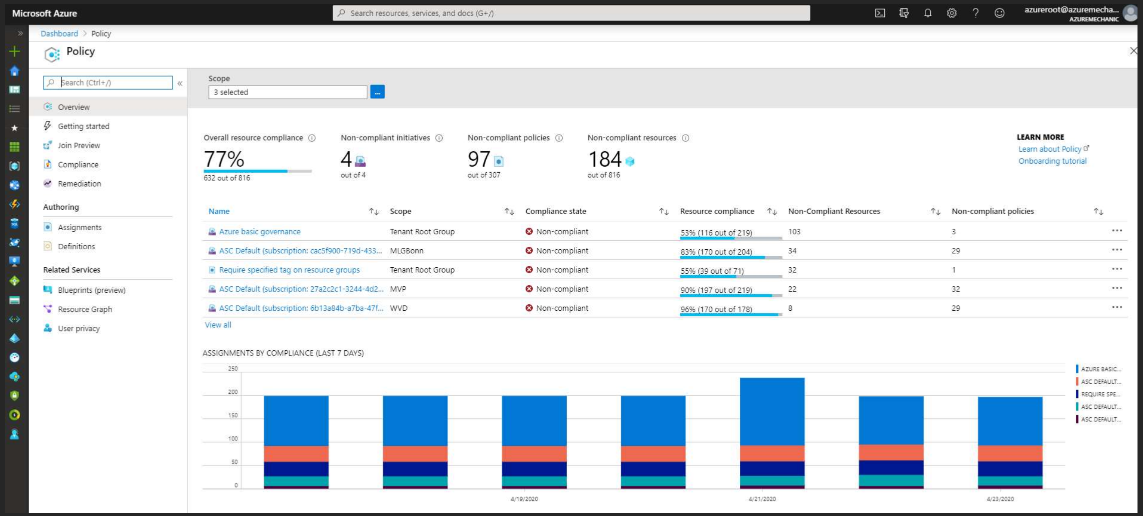


Microsoft Inspire

July 21–22
Digital event

#MSInspire

Azure Meetup
HAMBURG



Overall resource compliance: 77% (632 out of 816)

Non-compliant initiatives: 4 (out of 4)

Non-compliant policies: 97 (out of 307)

Non-compliant resources: 184 (out of 816)

Name	Scope	Compliance state	Resource compliance	Non-Compliant Resources	Non-compliant policies
Azure basic governance	Tenant Root Group	Non-compliant	53% (116 out of 219)	103	3
ASC Default (subscription: cac5f900-719d-433...	MLGBonn	Non-compliant	83% (170 out of 204)	34	29
Require specified tag on resource groups	Tenant Root Group	Non-compliant	55% (39 out of 71)	32	1
ASC Default (subscription: 27a2c2c1-3244-4d2...	MVP	Non-compliant	90% (197 out of 219)	22	32
ASC Default (subscription: 6b13a84b-a7ba-47f...	WVD	Non-compliant	96% (170 out of 178)	8	29

ASSIGNMENTS BY COMPLIANCE (LAST 7 DAYS)

Azure Policy with Azure Security Center - Your Cloud Guards

by Gregor Reimling

Please go to menti.com and enter 95 62 46
https://www.menti.com/3buuoers97

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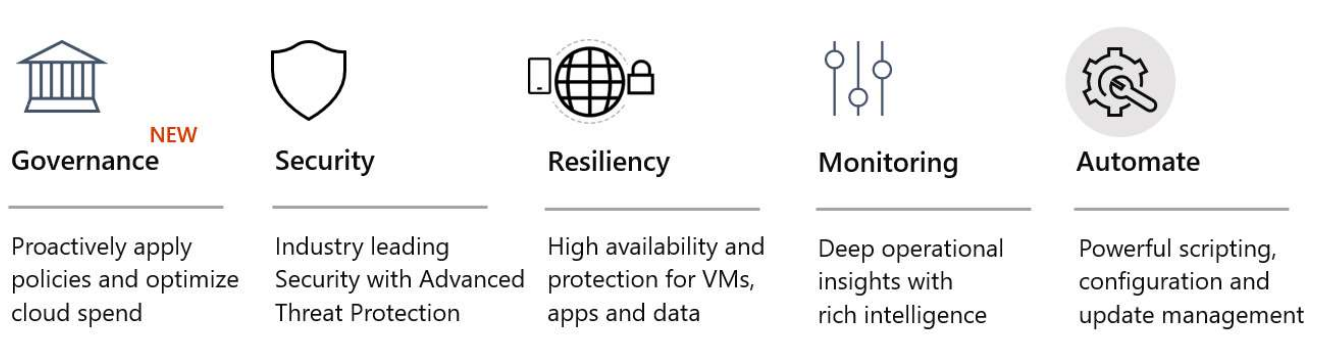
Agenda

- Azure Policy
- Azure Security Center
- How does it work together
- Summary



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

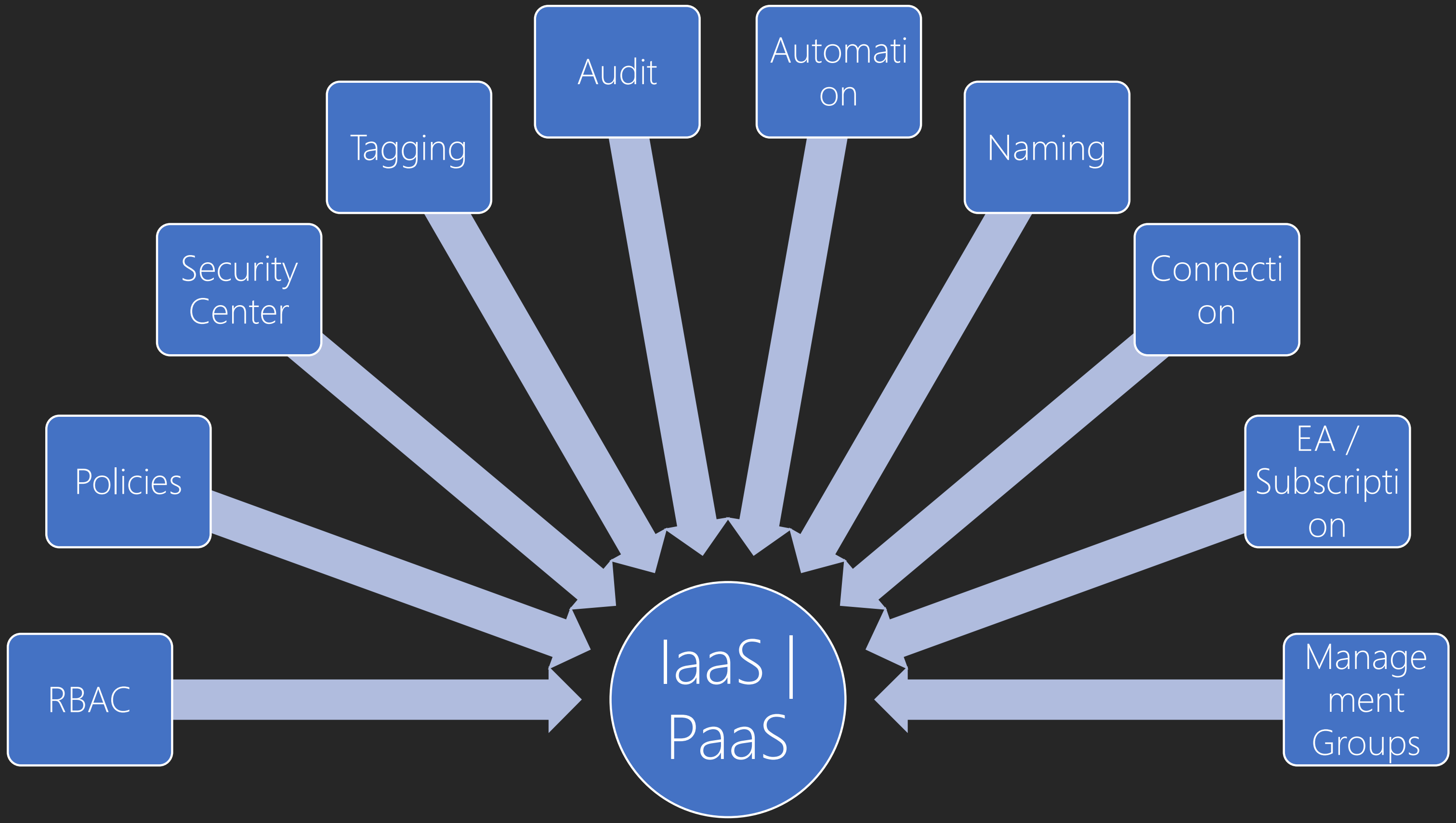
Deep operational insights with rich intelligence

Automate

Powerful scripting, configuration and update management

Azure Governance

Azure Meetup BONN



Azure Policy Concepts

- Create, assign and manage policies
- Enforce rules to ensure your ressoures are compliant
- Focus on ressource properties for new and existing deployments
- A definition is a set of conditions in audit or deny mode
- An assignment is a policy definition placed on a specific scope
- An initiative is a collection of policies

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

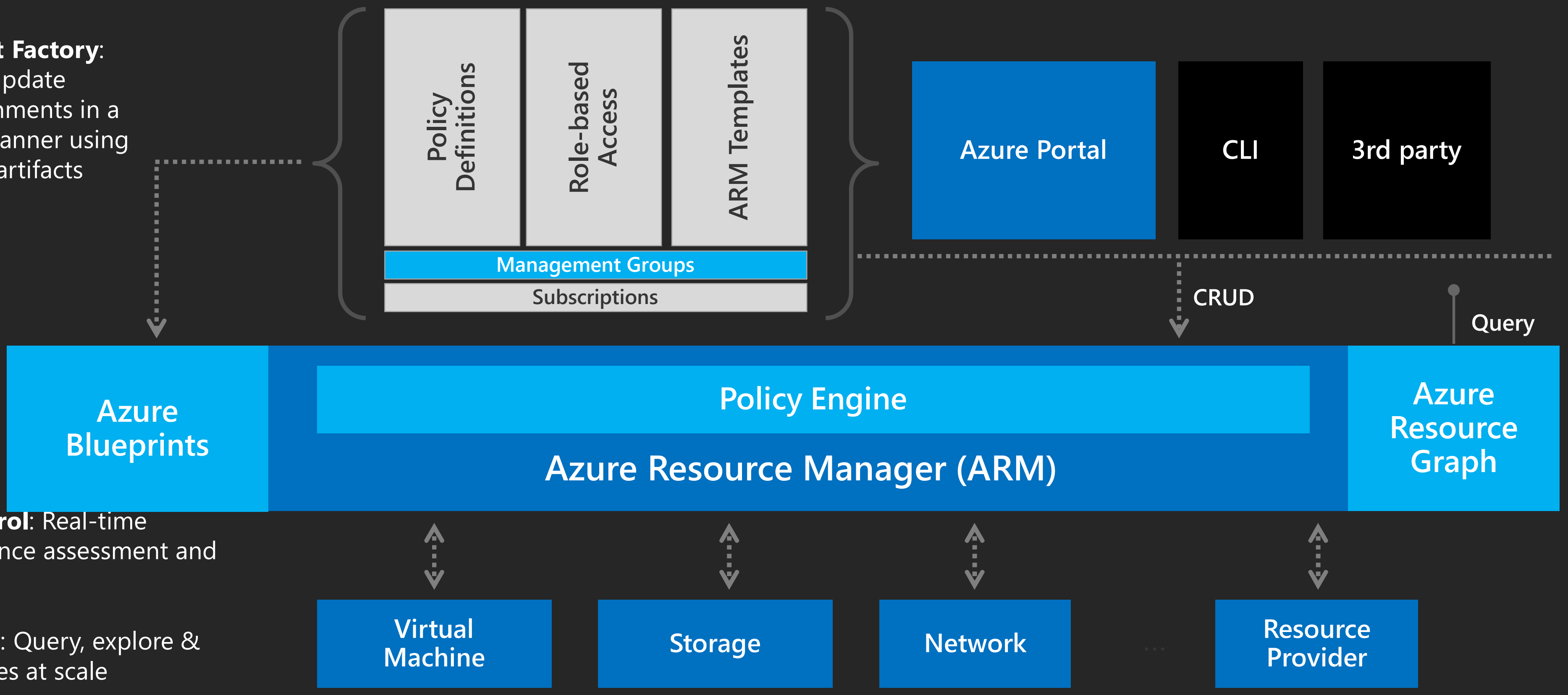
- Real time remediation
- Remediation on existing resources (**NEW**)

Remediation

Azure Governance Architecture

providing control over the cloud environment, without sacrificing developer agility

1. **Environment Factory**: Deploy and update cloud environments in a repeatable manner using composable artifacts



2. **Policy-based Control**: Real-time enforcement, compliance assessment and remediation at scale

3. **Resource Visibility**: Query, explore & analyze cloud resources at scale

Leverage built-in initiative & policies

Security

- Azure Security Center
- Guest Config baselines
- Key Vault certificate
- NSG rules
- AKS & AKS Engine
- RBAC role assignment

Regulatory Compliance

- NIST SP 800-53 R4
- ISO 27001:2013
- CIS
- PCI v3.2.1:2018
- FedRAMP Moderate
- Canada Federal PBMM
- SWIFT CSP-CSCF v2020
- UK Official and UK NHS
- IRS 1075

Tags

- Require specified tag
- Add or replace a tag
- Inherit a tag from the RG
- Append a tag

Resource standardization

- Allowed/ not allowed RP
- Allowed locations
- Naming convention
- Back up VMs
- Allowed images for AKS

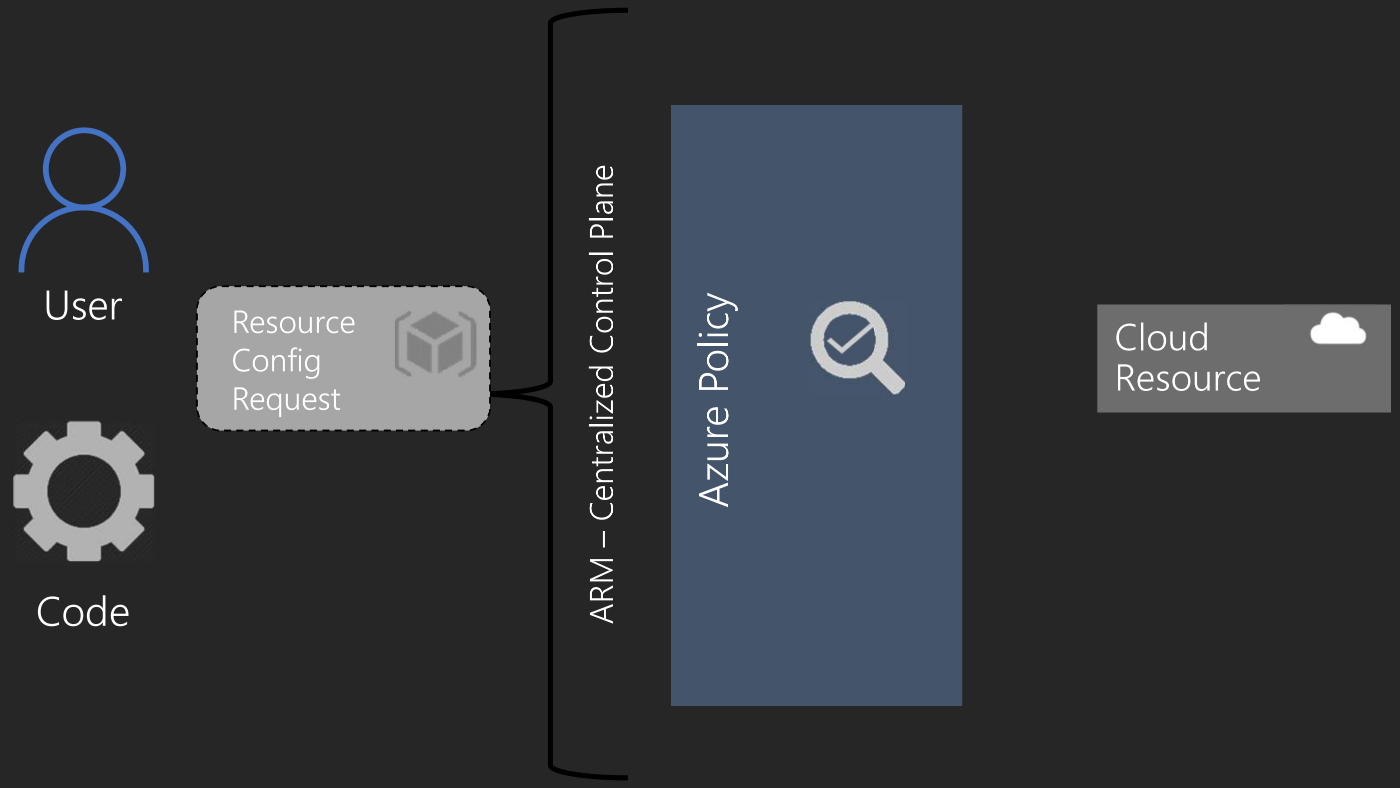
Cost

- Allowed VM SKUs
- Allowed Storage SKUs

Azure Policy

DEMO

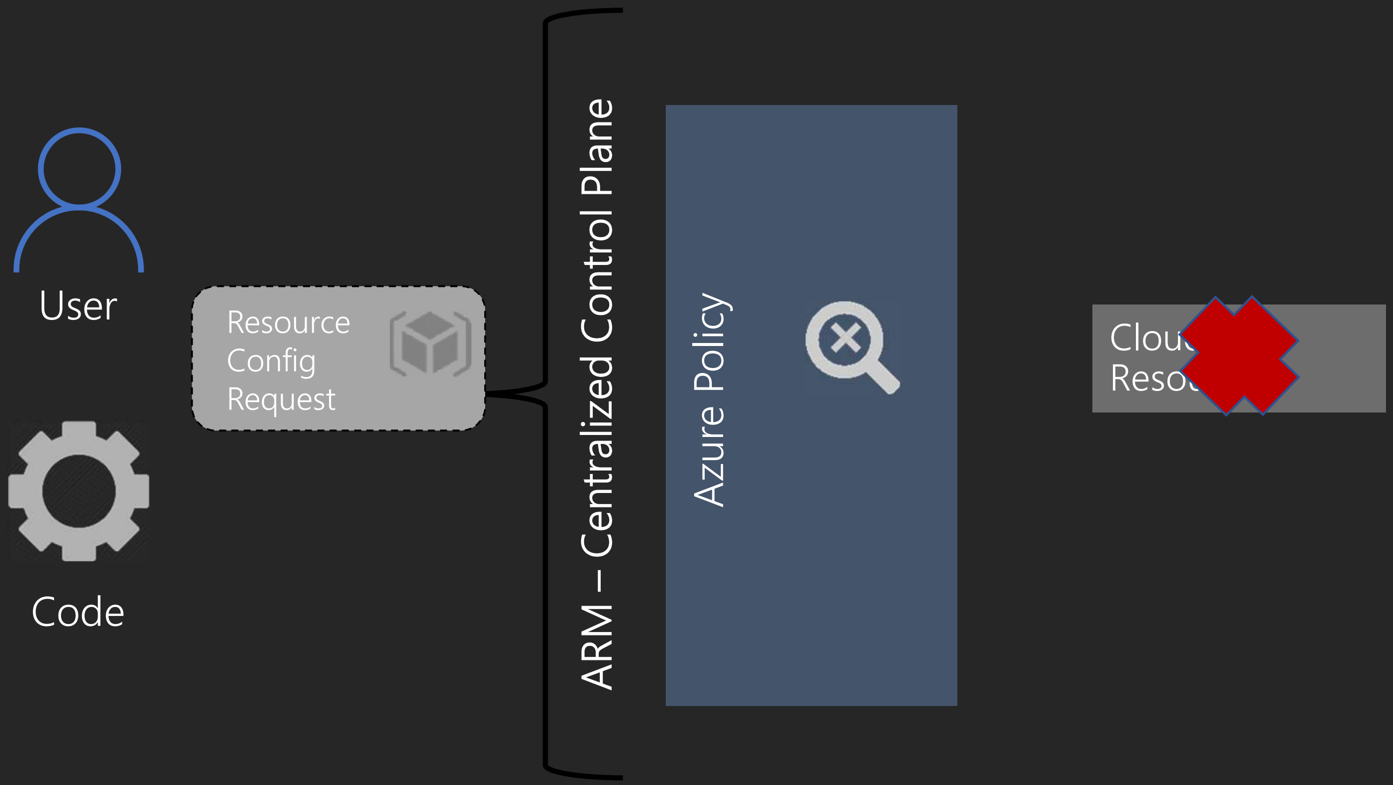
How does it work?



Order of evaluation

1. Append
2. Audit
3. DeployIfNotExists
4. AuditIfNotExists

How does it work?



- Append
- Deny
- Audit
- DeployIfNotExists
- AuditIfNotExists

Azure Policy

DEMO

Azure Policy Defintion structure

```
{   "properties": {
        "mode": "all",
        "parameters": {
            "allowedLocations": {
                "type": "array",
                "metadata": { "description": "The list of locations that can be specified when deploying resources",
                    "strongType": "location",
                    "displayName": "Allowed locations"  },  "defaultValue": [ "westus2" ]
            } },
        "displayName": "Allowed locations",
        "description": "This policy enables you to restrict the locations your organization can specify when deploying resources.",
        "policyRule": {
            "if": {
                "not": {
                    "field": "location",   "in": "[parameters('allowedLocations')]"
                } },
            "then": {  "effect": "deny"
            }  } }}
```

Policy

- 250 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
- 250 notScopes per policyAssignment
- https://github.com/Azure/azure-policy

Azure Security Center

Azure Security Center

- A service to strengthen your security posture
- Available in two Tiers – Basic and Standard
- Basic -> Free – Activated by default for all subscriptions
- Based on an security score – scope based
- Available for all workloads (Server, Container, SQL, IoT and more)

Azure security center

Strengthen security posture

Cloud security posture management

Secure Score

Policies and compliance

Protect against threats

For servers

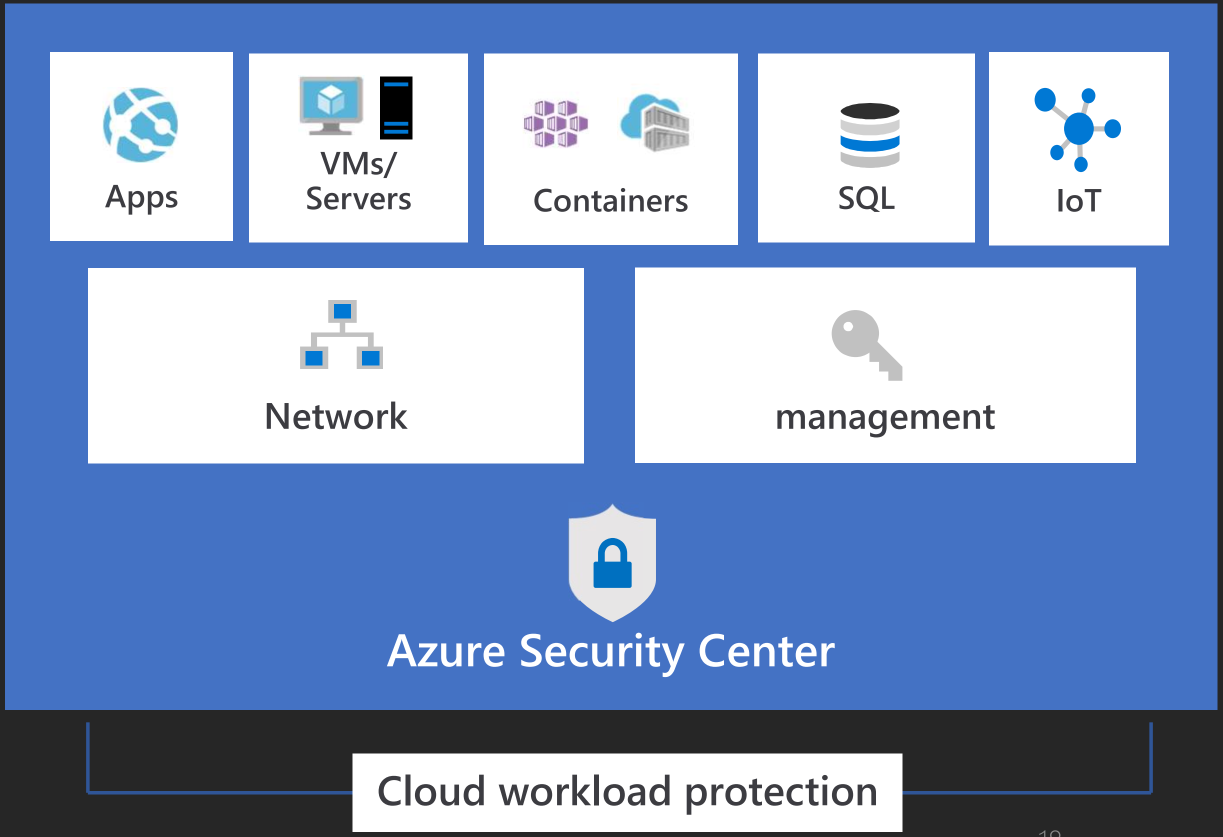
For cloud native workloads

For databases and storage

Get secure faster

Protect your workloads

- Detect & block advanced malware and threats for Linux and Windows Servers on any cloud
- Protect cloud-native services from threats
- Protect data services against malicious attacks
- Protect your Azure IoT solutions with near real time monitoring
- Service layer detections: Azure network layer and Azure management layer (ARM)



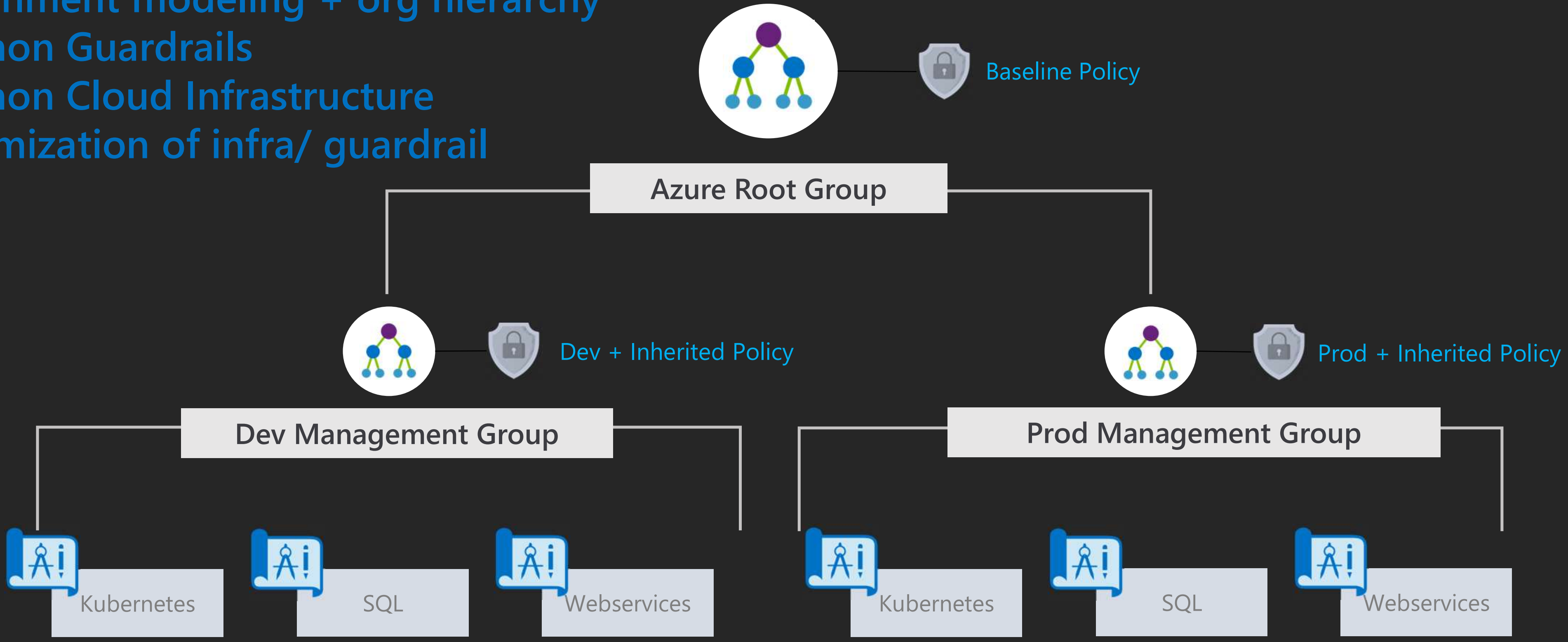
Azure Security Center

DEMO

Management Groups

Azure Meetup BONN

Environment modeling + org hierarchy
Common Guardrails
Common Cloud Infrastructure
Customization of infra/ guardrail



Baseline Policy

Azure Root Group

Dev + Inherited Policy

Prod + Inherited Policy

Dev Management Group

Prod Management Group

Kubernetes

SQL

Webservices

Kubernetes

SQL

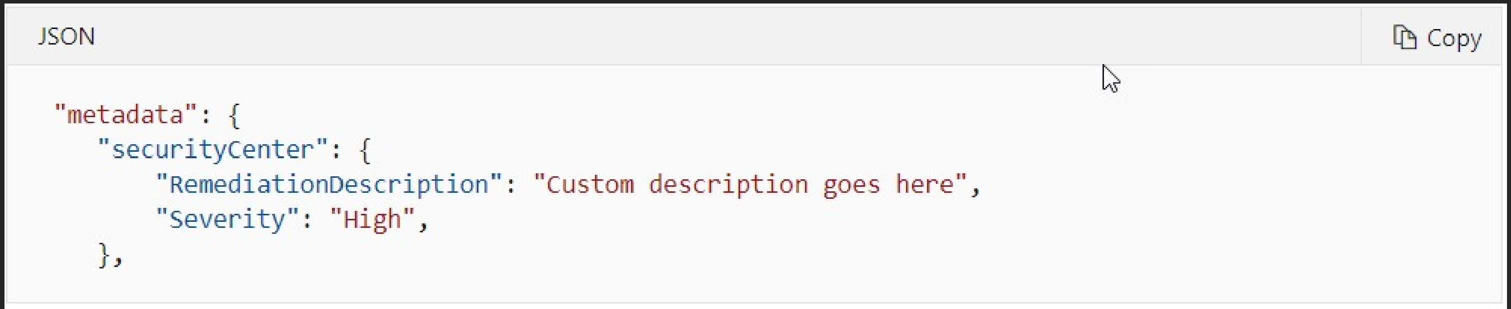
Webservices

How it works together

- All Azure Security Center recommendations based on Azure Policy
- Secure score is result of Azure Policy settings
- Recommendation is also a result of Azure Policy
- All Azure Policy are defined in Compliance mode

Using custom security polices in ASC

- You can define custom security policies for Secure score
- Use Management Group for scoping
- Own security policies will display as custom
- Enhanced information for recommendation is possible
  - Needs to define additional settings in the definition



```json
"metadata": {
   "securityCenter": {
       "RemediationDescription": "Custom description goes here",
       "Severity": "High",
   },
```

Azure Security Center

DEMO

Azure Policy Recap

- Powerful solution to define Cloud Guards for own Tenant
- Start with an audit effect instead of a deny effect
- Define Management Groups to group subscriptions and set Policies at Higher level
- Use Deny effect for Production workloads with wisdom
- Creating initivatives even for single policy definition
- Integrate Azure Policy in your regulary Azure check

Azure Security Center

- Start with ASC to get a Security Overview
- Use ASC to strengthen your infrastructure
- Check the status in ASC regularly
- Create own security policies for secure score
- Use ASC to proof your infrastructure
- Integrate Azure Policy in your regulary Azure check

Links

- https://docs.microsoft.com/en-us/azure/governance/policy/overview
- https://docs.microsoft.com/en-us/azure/governance/policy/
- https://docs.microsoft.com/en-us/azure/governance/policy/tutorials/create-and-manage
- https://www.reimling.eu/2019/03/azure-management-groups-und-blueprints-ueberblick-und-einrichtung-teil-1/
- https://github.com/Azure/azure-policy/
- https://aka.ms/SecurityCommunity
- https://docs.microsoft.com/en-us/azure/security-center/
- https://docs.microsoft.com/en-us/azure/security-center/security-center-policy-definitions
- https://docs.microsoft.com/en-us/azure/security-center/custom-security-policies
- https://blog.azureandbeyond.com/2020/04/24/mastering-azure-security-my-latest-adventure/

Azure Meetup
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Session Slides https://bit.ly/2XGZwCF

Questions? ->
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