



# How to accelerate Azure with Open-Source



Global Azure 2023  
Chris McKelt



# Chris McKelt

- Cloud explorer since ~ 2015
- Hope to connect!



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GitHub  
Advanced  
Security  
GitHub



GitHub  
Administration  
GitHub



GitHub Actions  
GitHub



Microsoft  
Certified: Power  
Platform  
Fundamentals  
Microsoft



AZ-304:  
Microsoft Azure  
Architect Design  
Microsoft



Microsoft  
Certified: Azure  
Solutions  
Architect Expert  
Microsoft



AZ-303:  
Microsoft Azure  
Architect  
Technologies  
Microsoft



Microsoft  
Certified: Azure  
Fundamentals  
Microsoft

# Today's Topic

Quick run through of GitHub projects that can help



## Common Business Scenario

How can we help this business?



## Review and Recommend

Current state assessment



## Platform & Landing Zones

Reference architectures



## Solution Accelerators

Fast track your cloud value

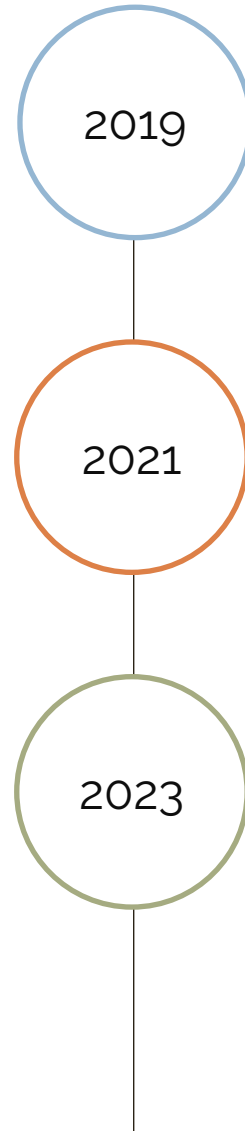


# Pet Toyz R US



## ‘Click Ops’ Setup

- Web / VMs / Databases
- COTS /SAAS Products
- Security an afterthought
- No DevOps ☹️



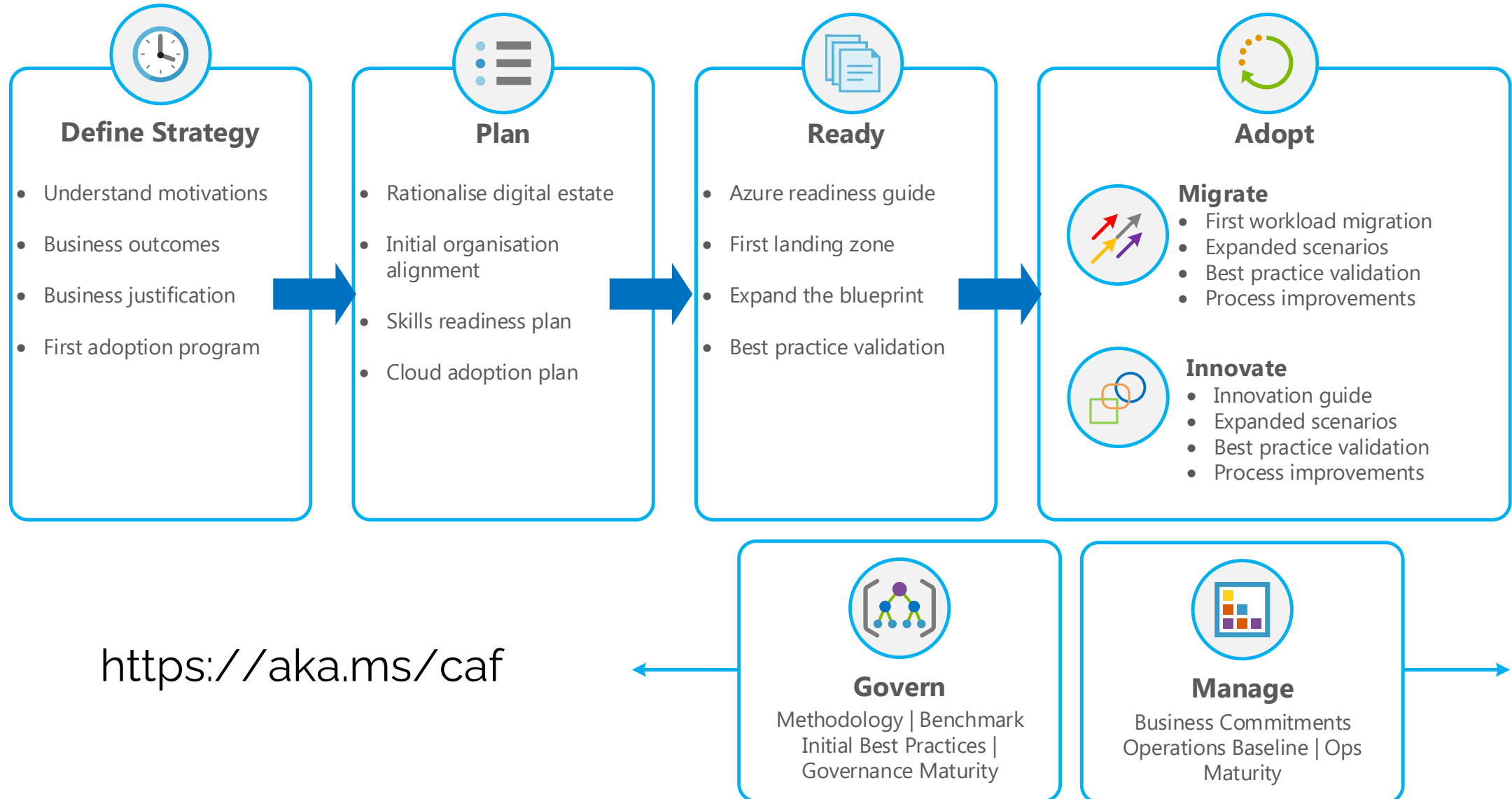
## Company Founded

- Online E-Commerce Business
- Global distribution
- 3<sup>rd</sup> Party Integration (FedEx etc.)

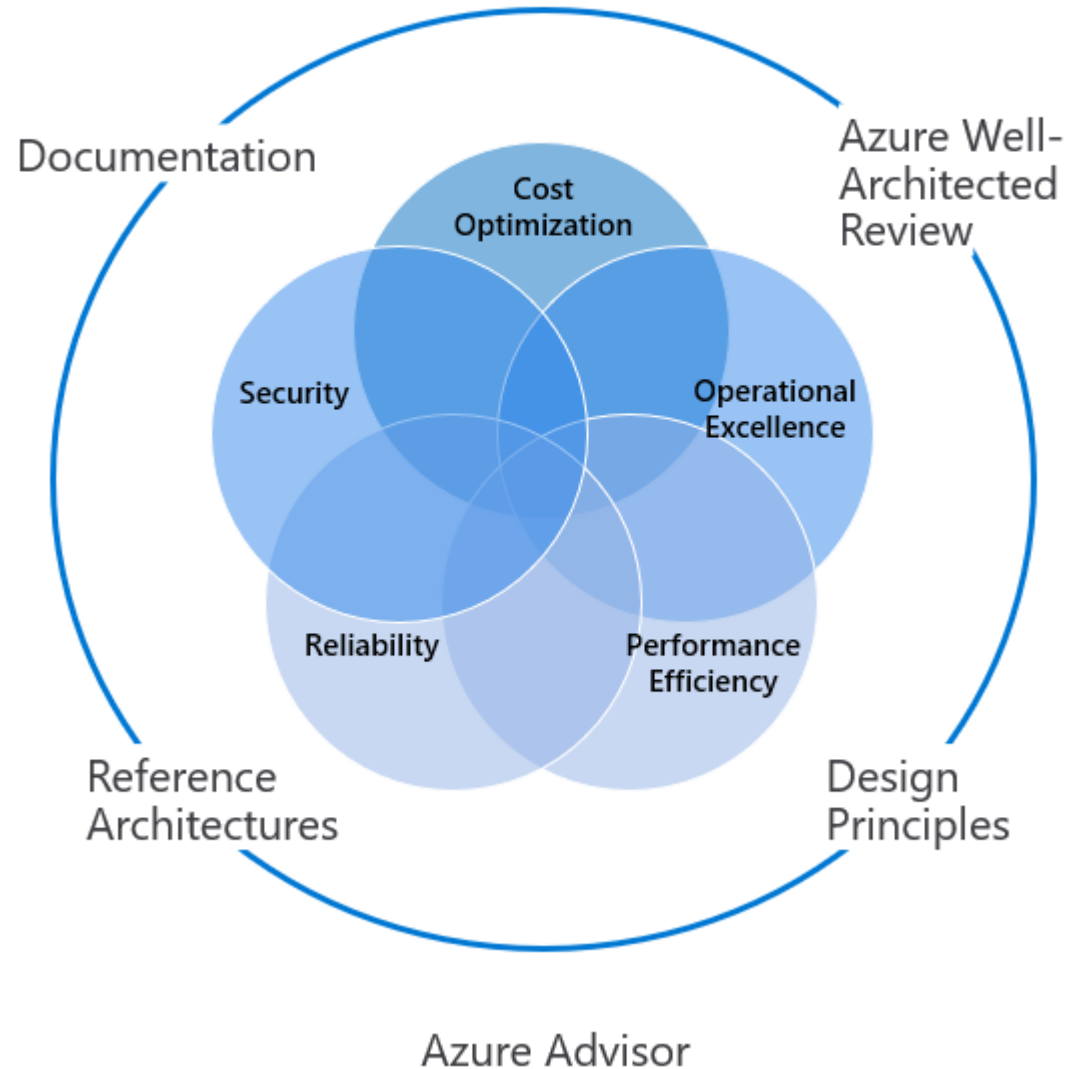
## Help Needed

- Change is painful
- Data collected but not uses
- Sales dropping (dogs unhappy)

# Needed: Cloud Adoption Framework



# Needed: Well Architected Framework





**Hired!**



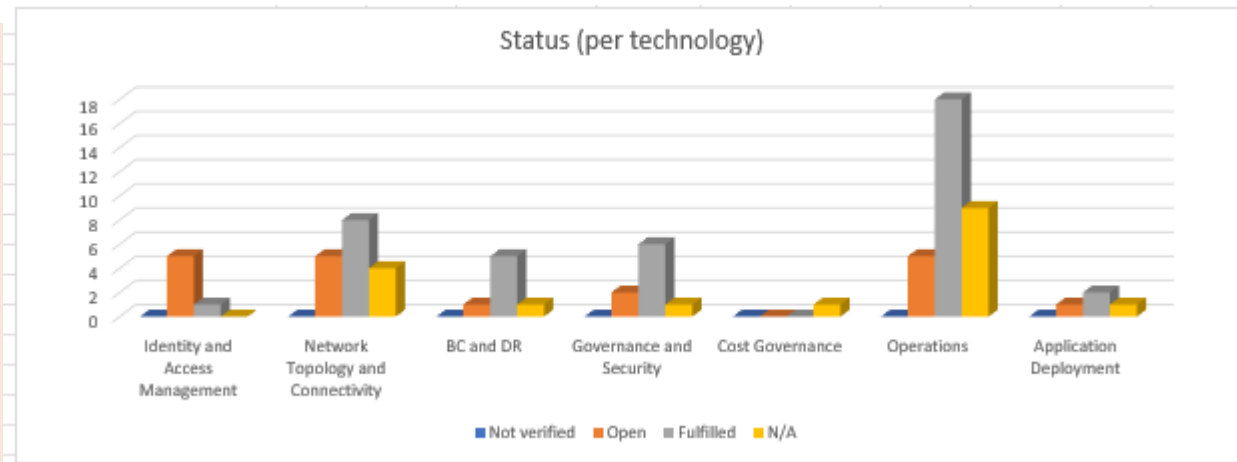
# **Current State Assessment**



# Azure Review Checklists

<https://github.com/Azure/review-checklists>

- Used by MSFT & Partners in reviews
- Excel Sheet imports JSON review tasks
- Cover 14 areas to review (plus yours)
- Visually displays dashboards
- <https://aka.ms/ftaaas> for a web frontend



Microsoft Azure FastTrack for Azure Azure Review Checklist

Import test checklist Landing Zone English Select a technology and a language

Import checklist from JSON Export checklist to JSON Import Graph results

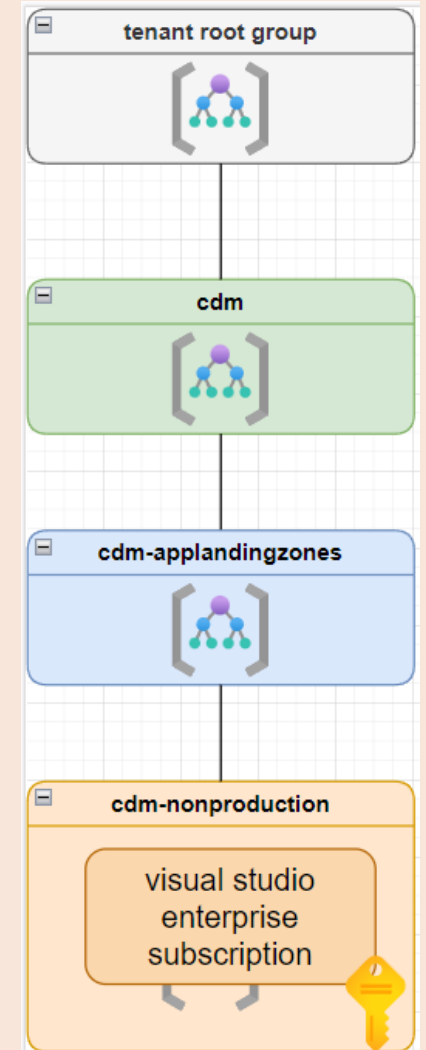
Main Area	Sub Area	Checklist item	Description (optional)	Severity	Status	Comment	More info	Training	Graph
Identity and Access	Identity and Access	Implement for emergency access or break-glass accounts to prevent tenant-wide account lockout		High	Not verified		More info	Training	
Identity and Access	Identity and Access	Enforce a RBAC model for management groups, subscriptions, resource groups and resources		High	Not verified		More info	Training	
Identity and Access	Identity and Access	Enforce Azure AD conditional-access policies for any user with rights to Azure environments		Low	Not verified		More info	Training	
Identity and Access	Identity and Access	Enforce multi-factor authentication for any user with rights to the Azure environments		High	Not verified		More info	Training	
Identity and Access	Identity and Access	Enforce centralized and delegated responsibilities to manage resources deployed inside the landing zone based on role and security requirements		Medium	Not verified		More info	Training	
Identity and Access	Identity and Access	Enforce Azure AD Privileged Identity Management (PIM) to establish zero standing access and least privilege		Medium	Not verified		More info	Training	
Identity and Access	Identity and Access	Only use the authentication type Work or school account for all account types. Avoid using the Microsoft account		High	Not verified		More info	Training	
Identity and Access	Identity and Access	Only use groups to assign permissions. Add on-premises groups to the Azure AD-only group if a group management system is already in place		Medium	Not verified		More info	Training	
Identity and Access	Identity and Access	Consider using Azure custom roles for the following key roles: Azure platform owner, network management, security operations, subscription management		Medium	Not verified		More info	Training	
Identity and Access	Identity and Access	If any data sovereignty requirements exist, custom user policies can be deployed to enforce them		Medium	Not verified		More info	Training	
Identity and Access	Identity and Access	If Azure Active Directory Domain Services (AADDS) is in use, deploy AADDS within the primary region because this service can only be deployed to the primary region		Medium	Not verified		More info	Training	
Identity and Access	Identity and Access	If AADDS is in use, evaluate the compatibility of all workloads		Medium	Not verified		More info	Training	
Identity and Access	Identity and Access	If AD on Windows server is in use, can all required resources access correct domain controller?		Medium	Not verified		More info	Training	
Identity and Access	Identity and Access	Has Azure AD Application Proxy been considered for remote access to on-premises applications?		Medium	Not verified		More info	Training	
Management Group Subscriptions	Management Group Subscriptions	Enforce reasonably flat management group hierarchy with no more than three to four levels, ideally		Medium	Not verified		More info	Training	
Management Group Subscriptions	Management Group Subscriptions	Enforce or append resource tags through Azure Policy		Medium	Not verified		More info	Training	
Management Group Subscriptions	Management Group Subscriptions	Enforce a sandbox management group to allow users to immediately experiment with Azure		Medium	Not verified		More info	Training	
Management Group Subscriptions	Management Group Subscriptions	Enforce a platform management group under the root management group to support common platform policy and Azure role assignments		Medium	Not verified		More info	Training	
Management Group Subscriptions	Management Group Subscriptions	Enforce a dedicated connectivity subscription in the Platform management group to host an Azure Virtual WAN hub, private Domain Name System (DNS) zone, and other resources		Medium	Not verified		More info	Training	
Management Group Subscriptions	Management Group Subscriptions	Enforce no subscriptions are placed under the root management group		Medium	Not verified		More info	Training	
Management Group Subscriptions	Management Group Subscriptions	Enforce that only privileged users can operate management groups in the tenant by enabling Azure RBAC authorization in the management group		Medium	Not verified		More info	Training	
Management Group Subscriptions	Management Group Subscriptions	Enforce management groups under the root-level management group to represent the types of workloads, based on their security, compliance, and cost requirements		Medium	Not verified		More info	Training	
Management Group Subscriptions	Management Group Subscriptions	Enforce a process to make resource owners aware of their roles and responsibilities, access review, budget review, policy compliance and High		High	Not verified		More info	Training	
Management Group Subscriptions	Management Group Subscriptions	Ensure that all subscription owners and IT core team are aware of subscription support limitations as part of workload design sessions		Medium	Not verified		More info	Training	
Management Group Subscriptions	Management Group Subscriptions	Enforce the use of reserved instances to prioritize reserved capacity in required regions. Then the workload will have the required capacity		High	Not verified		More info	Training	
Management Group Subscriptions	Management Group Subscriptions	Enforce a dashboard, workbook, or manual process to monitor used capacity levels		High	Not verified		More info	Training	
Management Group Subscriptions	Management Group Subscriptions	Ensure required services and features are available within the chosen deployment regions		Medium	Not verified		More info	Training	
Management Group Subscriptions	Management Group Subscriptions	Enforce a process for cost management		High	Not verified		More info	Training	
Management Group Subscriptions	Management Group Subscriptions	If AD on Windows Server, establish a dedicated identity subscription in the Platform management group to host Windows Server Active Directory		Medium	Not verified		More info	Training	
Management Group Subscriptions	Management Group Subscriptions	Ensure tags are used for billing and cost management		Medium	Not verified		More info	Training	
Network Topology: IP plan	Network Topology: IP plan	Ensure no overlapping IP address spaces across Azure regions and on-premises locations		Medium	Not verified		More info	Training	
Network Topology: IP plan	Network Topology: IP plan	Ensure to use IP addresses from the address allocation for private internet (RFC 1918)		Medium	Not verified		More info	Training	
Network Topology: IP plan	Network Topology: IP plan	Ensure that IP address space isn't wasted; don't create unnecessarily large virtual networks (for example /16)		Medium	Not verified		More info	Training	
Network Topology: IP plan	Network Topology: IP plan	Ensure no public IP address range (CIDR block) for VNets, especially if not owned by your organization		Medium	Not verified		More info	Training	
Network Topology: IP plan	Network Topology: IP plan	Avoid using overlapping IP address ranges for production and DR sites		Medium	Not verified		More info	Training	
Network Topology: IP plan	Network Topology: IP plan	For environments where name resolution in Azure is all that's required, use Azure Private DNS for resolution. Create a delegated zone for		Medium	Not verified		More info	Training	
Network Topology: IP plan	Network Topology: IP plan	For environments where name resolution across Azure and on-premises is required, use existing DNS infrastructure (for example Active Directory)		Medium	Not verified		More info	Training	
Network Topology: IP plan	Network Topology: IP plan	Special workloads that require and deploy their own DNS (such as Red Hat OpenShift) should use their preferred DNS solution		Medium	Not verified		More info	Training	
Network Topology: IP plan	Network Topology: IP plan	Enable auto-registration for Azure DNS to automatically manage the lifecycle of the DNS records for the virtual machines deployed within		Medium	Not verified		More info	Training	
Network Topology: Virtual WAN	Network Topology: Virtual WAN	Consider Virtual WAN for simplified Azure networking management, and make sure your scenario is explicitly described in the list of Virtual WAN		Medium	Not verified		More info	Training	
Network Topology: Virtual WAN	Network Topology: Virtual WAN	Use a Virtual WAN hub per Azure region to connect multiple landing zones together across Azure regions via a common global Azure Virtual WAN		Medium	Not verified		More info	Training	
Network Topology: Virtual WAN	Network Topology: Virtual WAN	Use Virtual Hub Routing features to further segment traffic between VNets and branches		Medium	Not verified		More info	Training	
Network Topology: Virtual WAN	Network Topology: Virtual WAN	Connect Virtual WAN hubs to on-premises datacenters by using ExpressRoute		Medium	Not verified		More info	Training	
Network Topology: Virtual WAN	Network Topology: Virtual WAN	Connect branches and remote locations to the nearest Virtual WAN hub via Site-to-Site VPN, or enable branch connectivity to Virtual WAN		Medium	Not verified		More info	Training	
Network Topology: Virtual WAN	Network Topology: Virtual WAN	Connect users to the Virtual WAN hub via a Point-to-Site VPN		Medium	Not verified		More info	Training	
Network Topology: Virtual WAN	Network Topology: Virtual WAN	Follow the principle 'traffic in Azure stays in Azure' so that communication across resources in Azure occurs via the Microsoft backbone network		Medium	Not verified		More info	Training	
Network Topology: Virtual WAN	Network Topology: Virtual WAN	For outbound internet traffic protection and filtering, deploy Azure Firewall		Medium	Not verified		More info	Training	
Network Topology: Virtual WAN	Network Topology: Virtual WAN	When deploying partner networking technologies and HW in Virtual WAN, verify configuration with partner vendor's guidance to ensure the		Medium	Not verified		More info	Training	
Network Topology: Virtual WAN	Network Topology: Virtual WAN	Ensure that Azure Virtual WAN and Azure Firewall resources are created in the connectivity subscription		Medium	Not verified		More info	Training	

Dashboard Checklist Values

# Azure Resource Inventory (ARI)

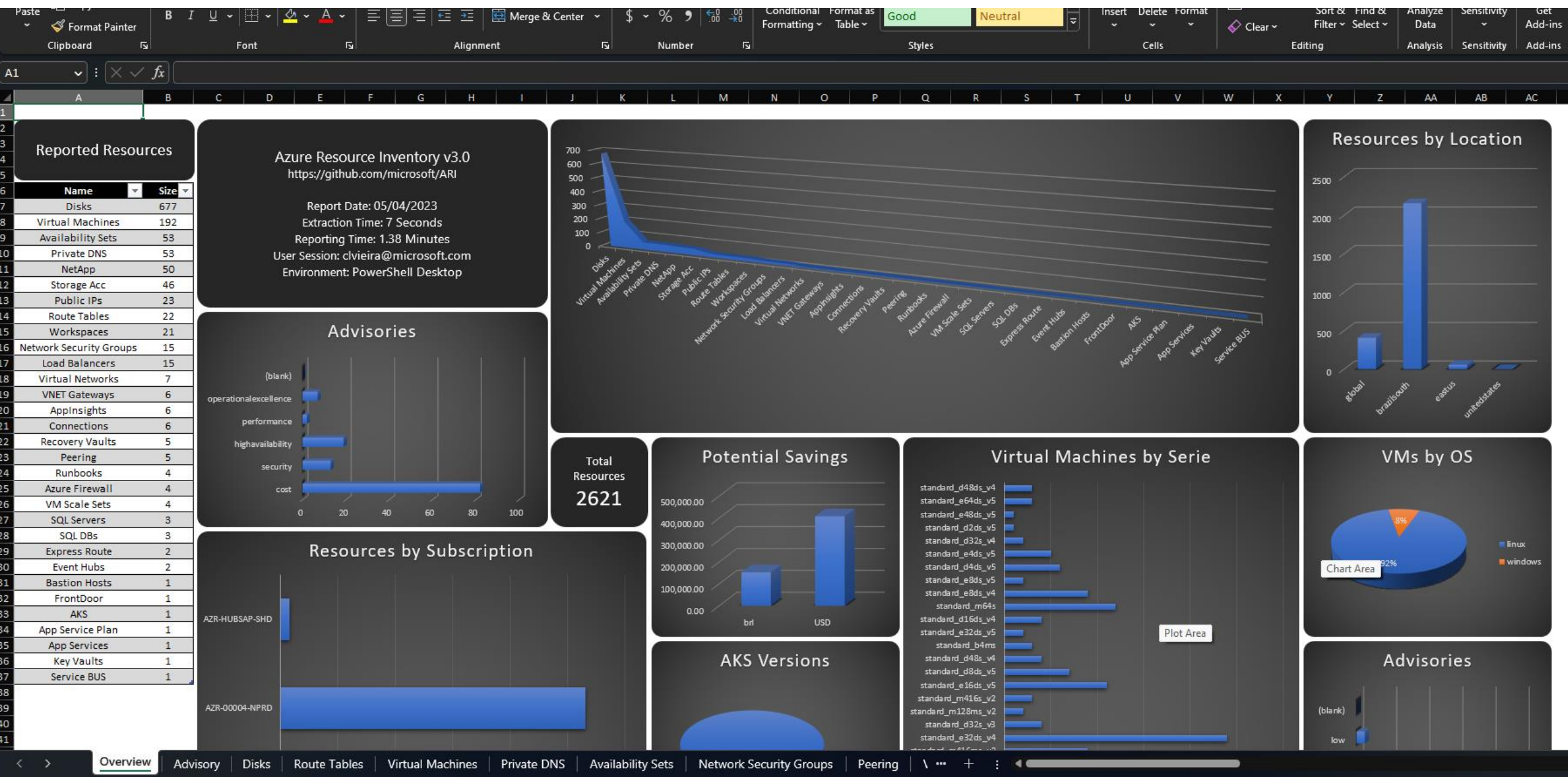
<https://github.com/microsoft/ARI>

- Single PowerShell file '*AzureResourceInventory.ps1*'
- Create Draw.io diagram of
  - Network topology
  - Organisation
  - subscriptions
- Creates an Excel Sheet covering resources and provide visual dashboards



# Azure Resource Inventory (ARI)

<https://github.com/microsoft/ARI>



1

## **AzGovViz → Azure Governance**

<https://github.com/microsoft/CloudAdoptionFramework/tree/master/govern/AzureGovernanceVisualizer>

2

## **AzViz → Azure Visualizer (resource topology diagrams )**

<https://github.com/PrateekKumarSingh/AzViz>

3

## **AzQr → Azure Quick Review (high level recommendations)**

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

4

## **Azure Resource Map (by Graeme Foster)**

<https://github.com/gaemefoster/AzureResourceMap>

5

## **Azure Documenter \$**

<https://docs.serverless360.com/docs/what-is-azure-documenter>

# Review Findings...



## Naming/Tagging

- No naming standards
- No tagging
- Everything is in one resource group



## Security

- RBAC issues (too many admins)
- No private networking



## Cost Optimisation

- Unused resources costing \$
- Not right sized



## Disparate Environments

- No segregation production and nonproduction
- Resources deployed across regions





# RECOMMENDATIONS

# & TOOLINGS

## Platform & Guard Rails

Establish a scalable Azure cloud platform with best-practice networking and security foundations

## Data Platform

Azure Data Services Go Fast

## Landing Zone Accelerators

Reference implementations for application/APIs

## Solution Accelerators

Open-source projects to fast track solution options



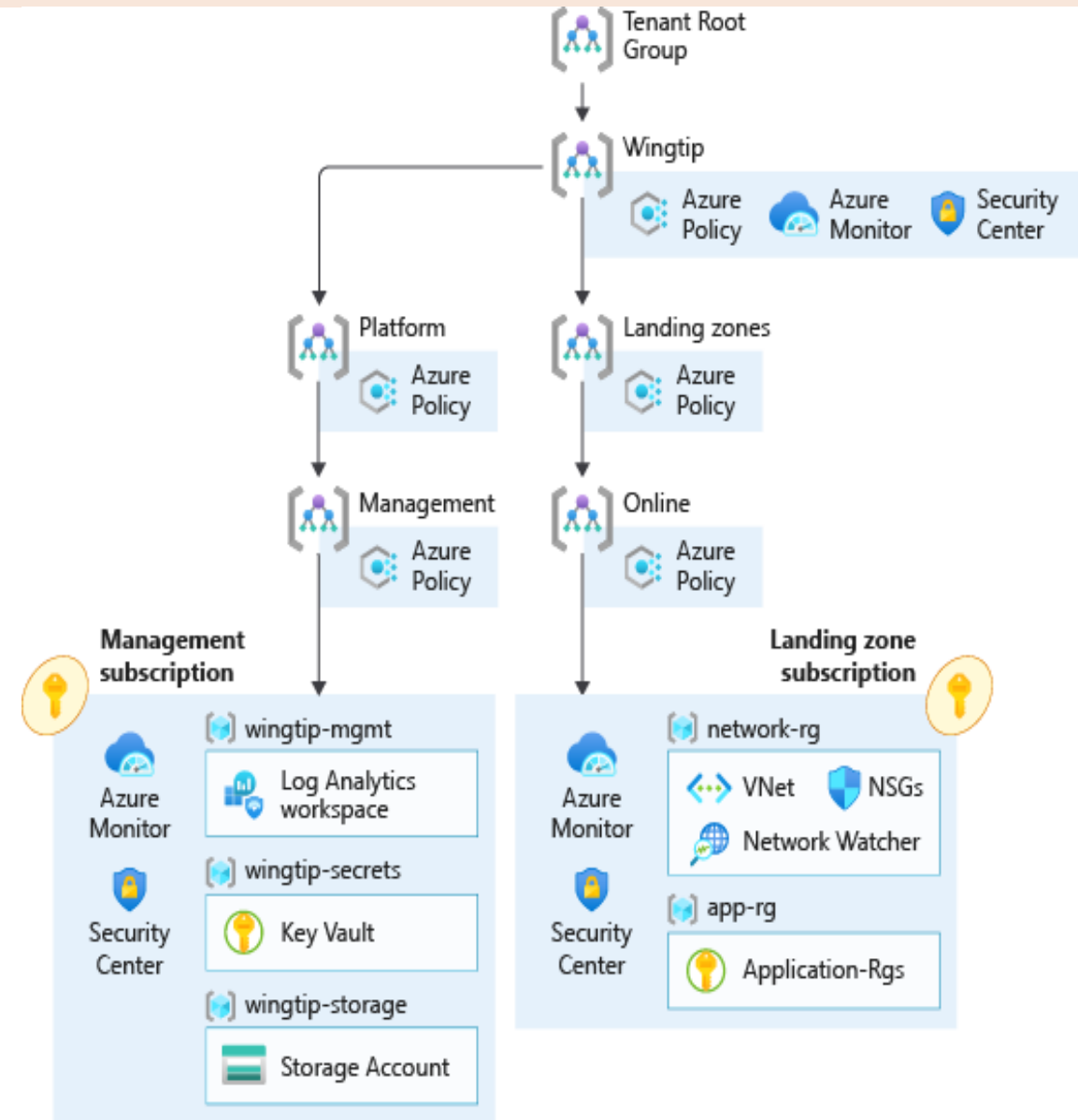


Platform

# Enterprise-Scale

<https://github.com/Azure/Enterprise-Scale>

- Prescriptive guidance across WAF
  - Identity
  - Networking
  - Security
  - Governance
- Modular by design and a variety of flavours across
  - Hub and Spoke
  - Virtual WAN
  - Hybrid Connectivity
  - SAP/AKS/Government
- ARM, Bicep, Terraform





1

## **EPAC – Enterprise Policy as Code**

<https://github.com/Azure/enterprise-azure-policy-as-code>

PowerShell module to deploy templates at all scope levels

2

## **Community Policy**

<https://github.com/Azure/Community-Policy>

Custom policies built by the community

3

## **ALZ Monitor**

<https://github.com/Azure/alz-monitor>

Alerts and Monitoring best practice setup

4

## **AZOps**

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

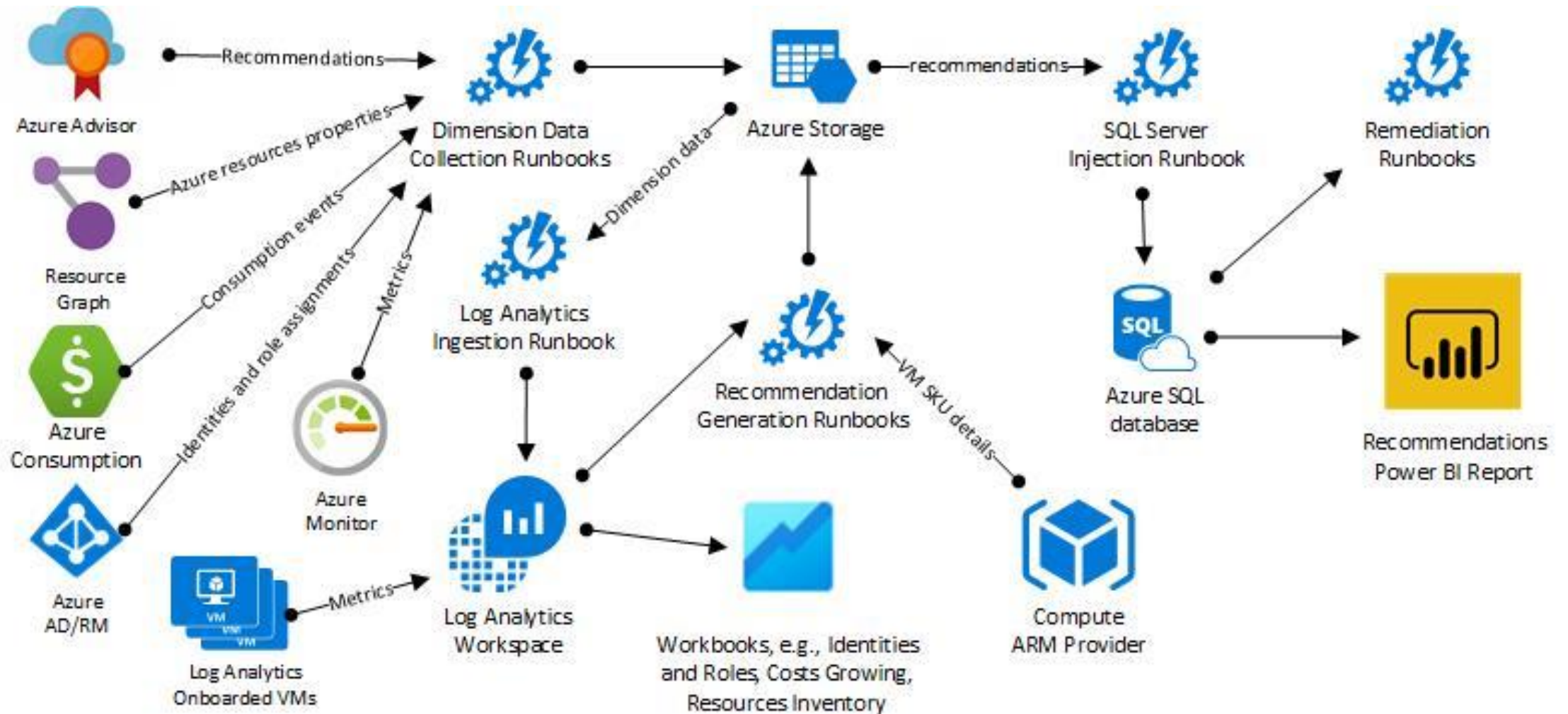
PowerShell module to deploy resources at any scope



Cost  
Optimisation

# Azure Cost Optimisation

<https://github.com/helderpinto/AzureOptimizationEngine>



# Azure Cost Optimisation

<https://github.com/helderpinto/AzureOptimizationEngine>

Extensible solution designed to generate optimization recommendations across:



Azure Advisor  
Data



Cost



Security



High  
Availability



Performance



Custom  
Recommendations



Operational  
Excellence



Power BI/ Azure  
Workbook  
Dashboards

# Azure Cost Optimisation

<https://github.com/helderpinto/AzureOptimizationEngine>

## Latest Recommendations

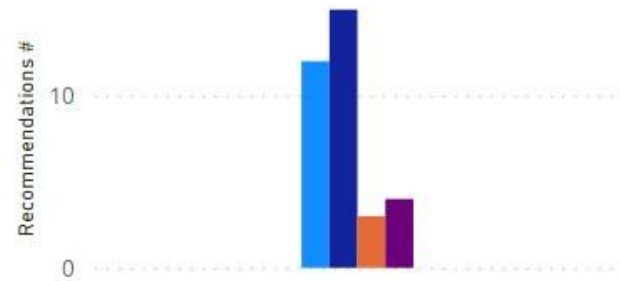
01-03-2021 00:08:00

34

Total Recommendations

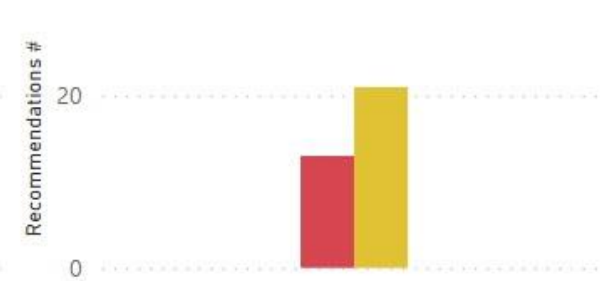
Recommendations # by Category

Cost HighAvailability OperationalExc... Security



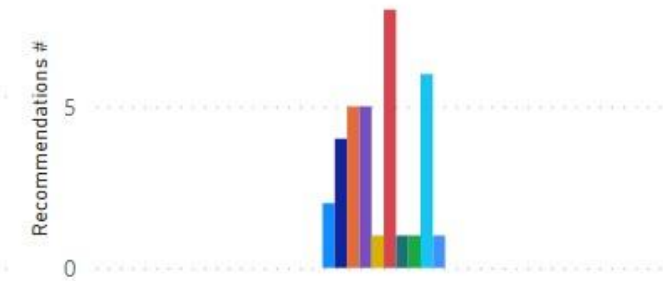
Recommendations # by Impact

High Medium



Recommendations # by Sub-Type

AADExpiringCre... AADNotExpiri... AdvisorCost



Category	Impact	Sub-Type	Recommendation	Cloud	SubscriptionId	Environment
All	All	Multiple selections	All	All	All	All

Recommendation	Category	Impact	Cloud	SubscriptionGuid	ResourceGroup	Environment	Count
Virtual Machines should use Managed Disks for higher availability and manageab...	HighAvailability	High	AzureCloud	dfabc7a1-ca6f-4a...	onprem-tests-rg		6
Virtual Machines should be placed in an Availability Set together with other insta...	HighAvailability	Medium	AzureCloud	dfabc7a1-ca6f-4a...	onprem-tests-rg		5
Azure AD application with credentials expiration not set or too far in time	Security	Medium	AzureCloud	N/A	N/A		4
Virtual Machine has been deallocated for long with disks still incurring costs	Cost	Medium	AzureCloud	dfabc7a1-ca6f-4a...	onprem-tests-rg		4
Azure AD application with credentials expired or about to expire	OperationalExcellence	Medium	AzureCloud	N/A	N/A		2
Right-size or shutdown underutilized virtual machines	Cost	High	AzureCloud	dfabc7a1-ca6f-4a...	devops-rg	dev	2
Virtual Machines should use Managed Disks for higher availability and manageab...	HighAvailability	High	AzureCloud	dfabc7a1-ca6f-4a...	devops-rg		2



# Azure Cost Optimisation

<https://github.com/helderpinto/AzureOptimizationEngine>

## Cost Overview

Costs and estimated savings refer to 30 days

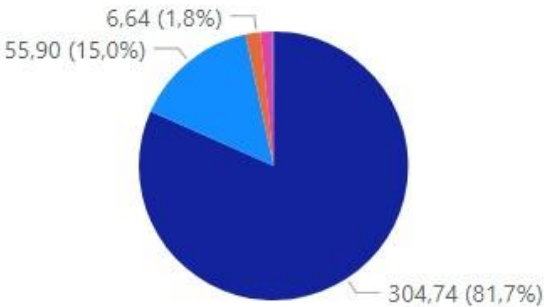
12

Recommendations

373

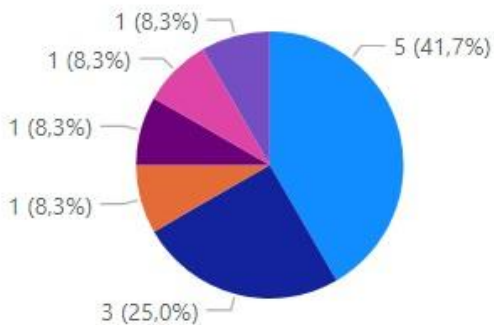
Savings

Savings by Recommendation



- Right-size or shutdown ...
- Virtual Machine has be...
- Buy virtual machine res...
- Unattached disks (with...
- Use Standard Storage t...
- Standard Load Balancer...

Recommendations Count



- Virtual Machine has be...
- Right-size or shutdown...
- Buy virtual machine res...
- Standard Load Balance...
- Unattached disks (with...
- Use Standard Storage t...

Impact	Sub-Type	Recommendation	Cloud	SubscriptionId	ResourceGroup	Environment
All	All	All	All	All	All	All

Recommendation	InstanceName	Cloud	SubscriptionGuid	ResourceGroup	Environment	Impact	Costs	Savings	FitScore	URL
Right-size or shutdown underutilized virtual machines	sql01	AzureCloud	dfabc7a1-ca6f-4a95-8a7...	prod-rg	prd	High	301,32	226,18	0,00	<a href="#">🔗</a>
Right-size or shutdown underutilized virtual machines	ubuntu1801	AzureCloud	dfabc7a1-ca6f-4a95-8a7...	devops-rg	dev	High	63,98	41,37	4,90	<a href="#">🔗</a>
Right-size or shutdown underutilized virtual machines	devops01	AzureCloud	dfabc7a1-ca6f-4a95-8a7...	devops-rg	dev	High	127,96	37,20	3,90	<a href="#">🔗</a>
Virtual Machine has been deallocated for long with disk...	onprem-mig02	AzureCloud	dfabc7a1-ca6f-4a95-8a7...	onprem-tests-rg		Medium	20,70	20,70	5,00	<a href="#">🔗</a>
Virtual Machine has been deallocated for long with disk...	devops01	AzureCloud	dfabc7a1-ca6f-4a95-8a7...	devops-rg		Medium	16,30	16,30	5,00	<a href="#">🔗</a>
Virtual Machine has been deallocated for long with disk...	onprem-mig04	AzureCloud	dfabc7a1-ca6f-4a95-8a7...	onprem-tests-rg		Medium	12,40	12,40	5,00	<a href="#">🔗</a>
Buy virtual machine reserved instances to save money o...	standard_d8a_v4 virt...	AzureCloud	dfabc7a1-ca6f-4a95-8a7...	notavailable		High	0,00	6,64	5,00	<a href="#">🔗</a>
Virtual Machine has been deallocated for long with disk...	onprem-srv01	AzureCloud	dfabc7a1-ca6f-4a95-8a7...	onprem-tests-rg		Medium	6,50	6,50	5,00	<a href="#">🔗</a>
Unattached disks (without owner VM) incur in unnecess...	physicaldrive0-onpr...	AzureCloud	dfabc7a1-ca6f-4a95-8a7...	adhoc-tests		Medium	5,27	5,27	5,00	<a href="#">🔗</a>

# Azure Cost Optimisation

<https://github.com/helderpinto/AzureOptimizationEngine>

## VM Right-Size Overview

Costs and estimated savings refer to 30 days

3

Recommendations

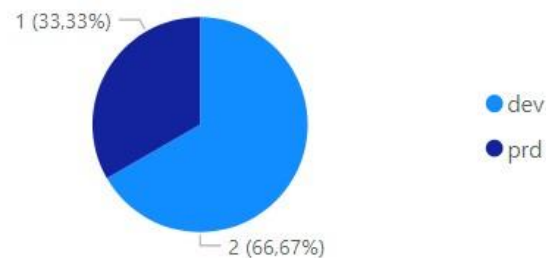
305

Savings

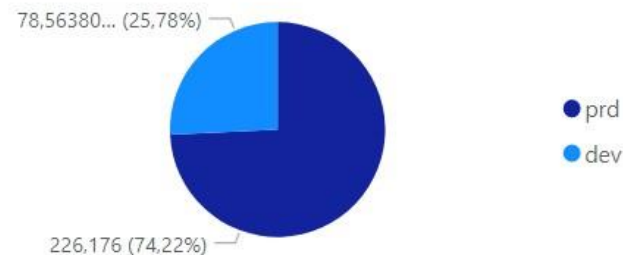
VMs by Fit Score



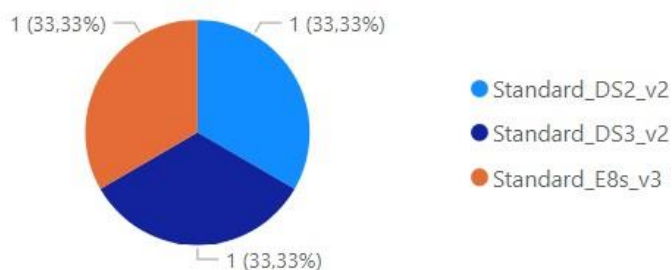
VMs by Environment



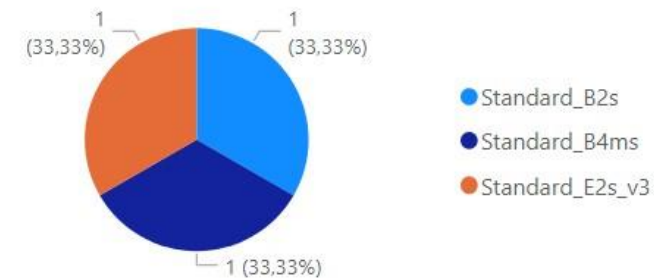
Savings by Environment



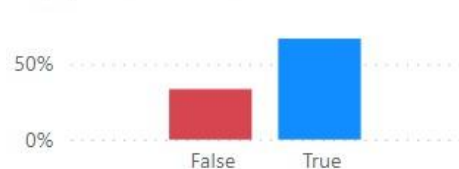
VMs by Current SKU



VMs by Target SKU



Supports Data Disk Count?



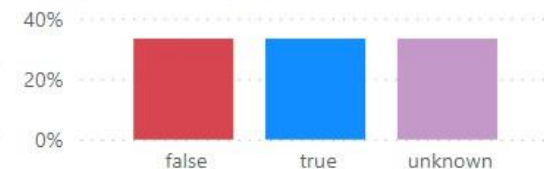
Supports NIC Count?



Supports IOPS Limit?



Supports Throughput Limit?



Below CPU threshold?



Below Memory threshold?



Below Network threshold?



Shutdown VMs



Landing Zones  
Accelerators



# What is a Landing Zone Accelerator?



Open-Source on GitHub



Architecture guidance



Reference implementations



Infrastructure as Code templates



Follows Best Practices



Free to modify as needed

1

## **APIM Landing Zone Accelerator**

<https://aka.ms/EnterpriseScale-APIM>

2

## **App Service Landing Zone**

<https://aka.ms/EnterpriseScale-AppService>

3

## **Integration Services Landing Zone [WIP]**

<https://github.com/Azure/Integration-Services-Landing-Zone-Accelerator>

4

## **Azure Virtual Desktop (AVD) Landing Zone**

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

5

## **Azure Spring Apps**

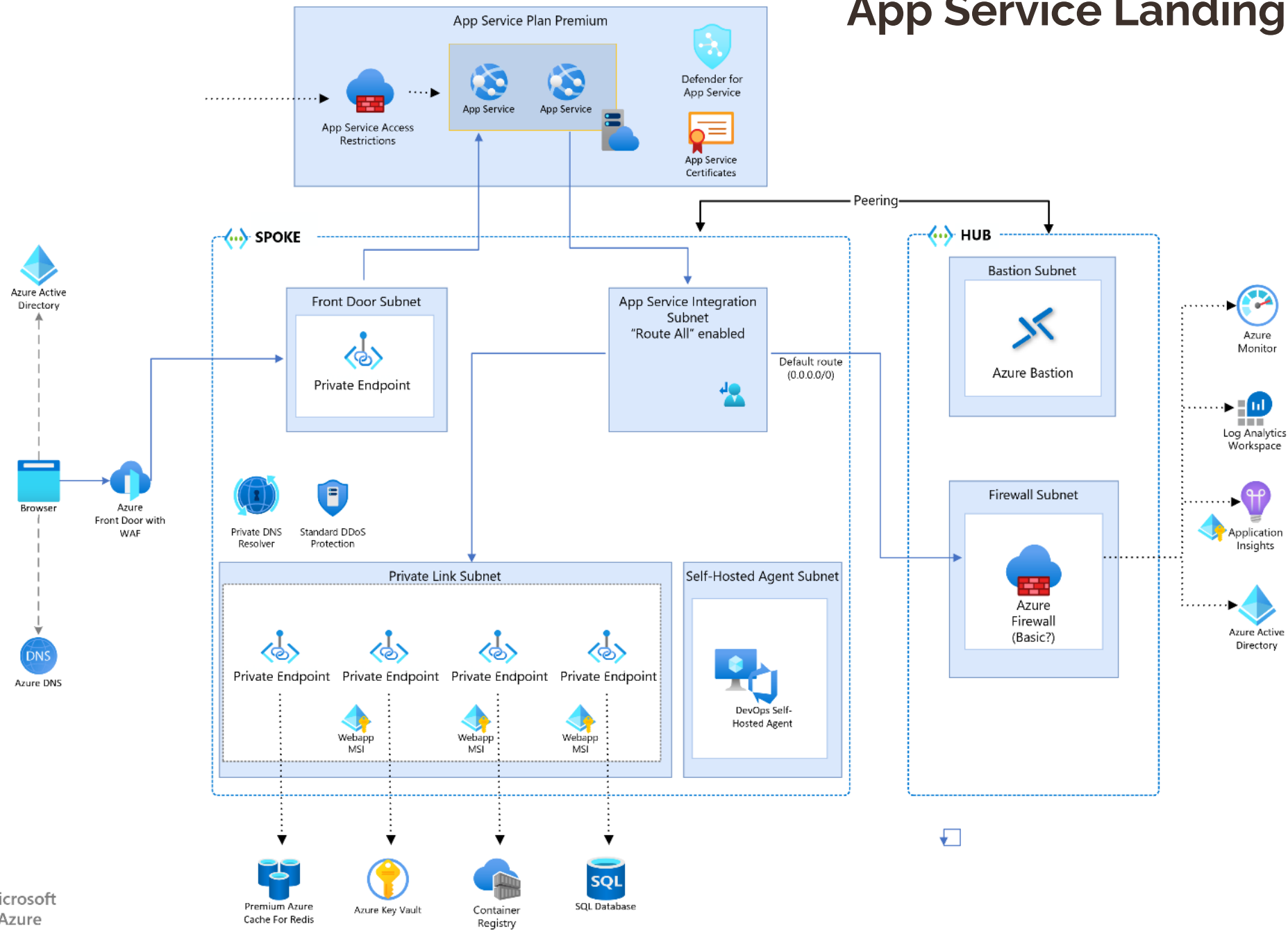
<https://github.com/Azure/azure-spring-apps-landing-zone-accelerator>

6

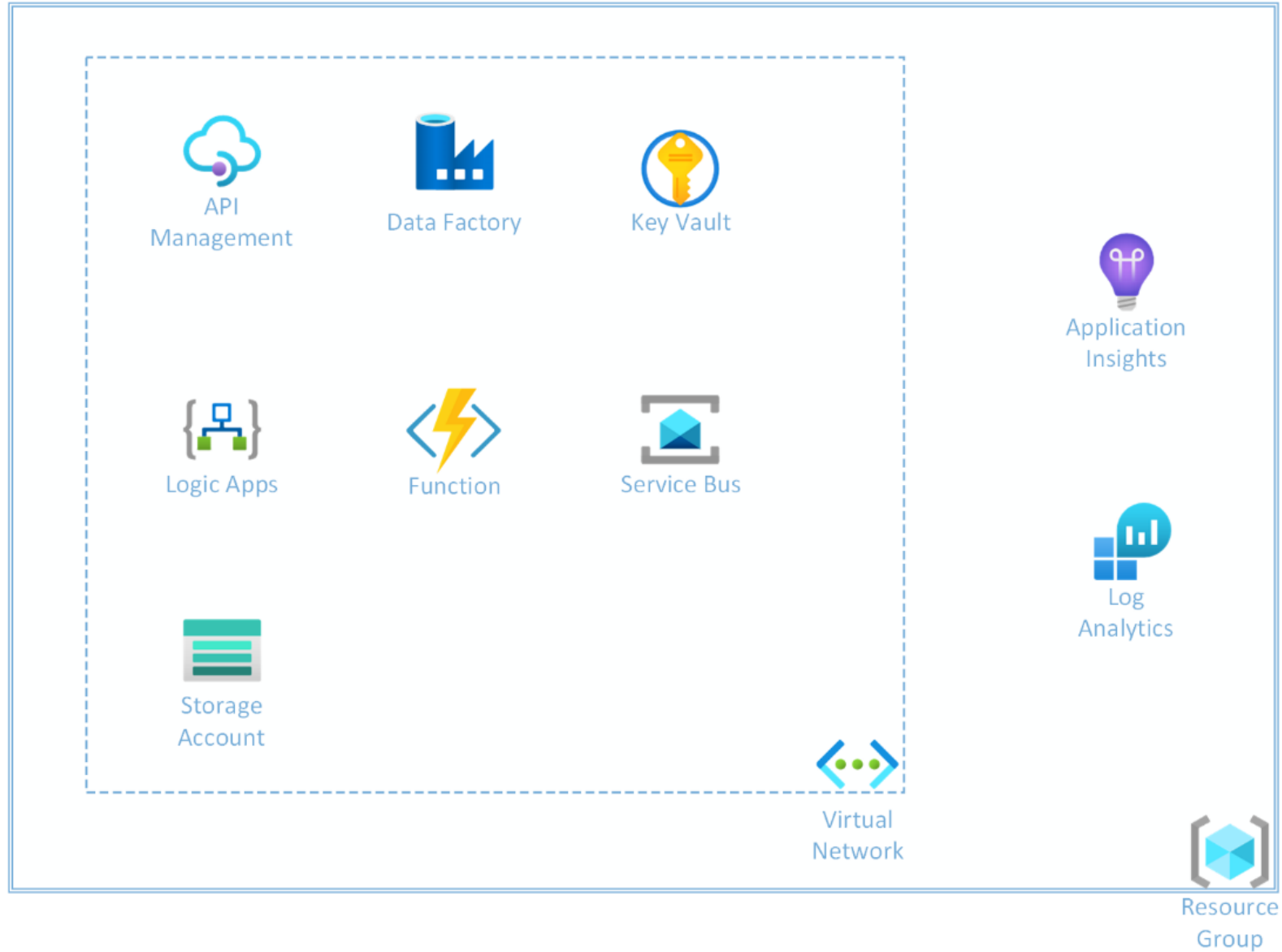
## **Azure Red Hat OpenShift**

<https://github.com/Azure/ARO-Landing-Zone-Accelerator>

# App Service Landing Zone Accelerator



# AIS Landing Zone Accelerator





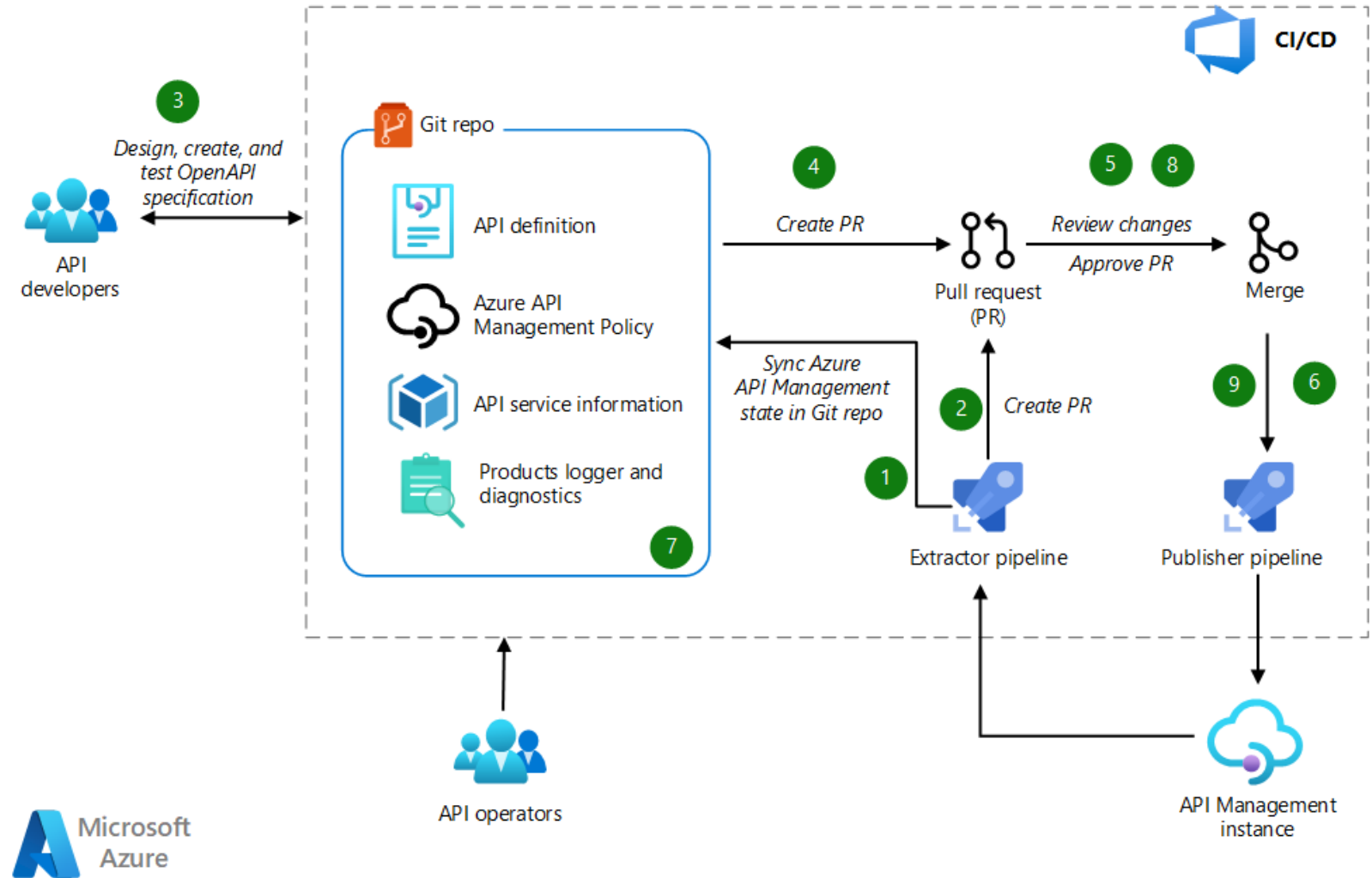


API Tooling

# APIOps


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

- Applies concepts of DevOps to Azure API Management.
- Versions controls your API Management Solution
- Lifecycle of API design, development, and deployment with self-service and automated tools
- Automation tools to extract your current API and put rigour around changes



# APIM Policy Snippets

- Community repository for APIM Policies
- 50 commonly used policies

```
1
2 <policies>
3   <inbound>
4     <base/>
5   </inbound>
6   <backend>
7     <base/>
8   </backend>
9   <outbound>
10    sethea
11    <base/>  set-header
12  </outbound>
13  <on-error>
14    <base/>
15  </on-error>
16 </policies>
```

Add a new header, change the value of an existing header or remove a header. Works for both response and request headers - policy can be applied in inbound or outbound sections at any scope. (User Snippet)

```
<set-header name="" exists-  
action="override">  
  <value></value>
```



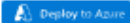


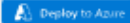
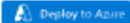
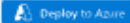


Data Platform /  
Cloud Scale  
Analytics

# Cloud Scale Analytics

<https://github.com/Azure/data-product-analytics>

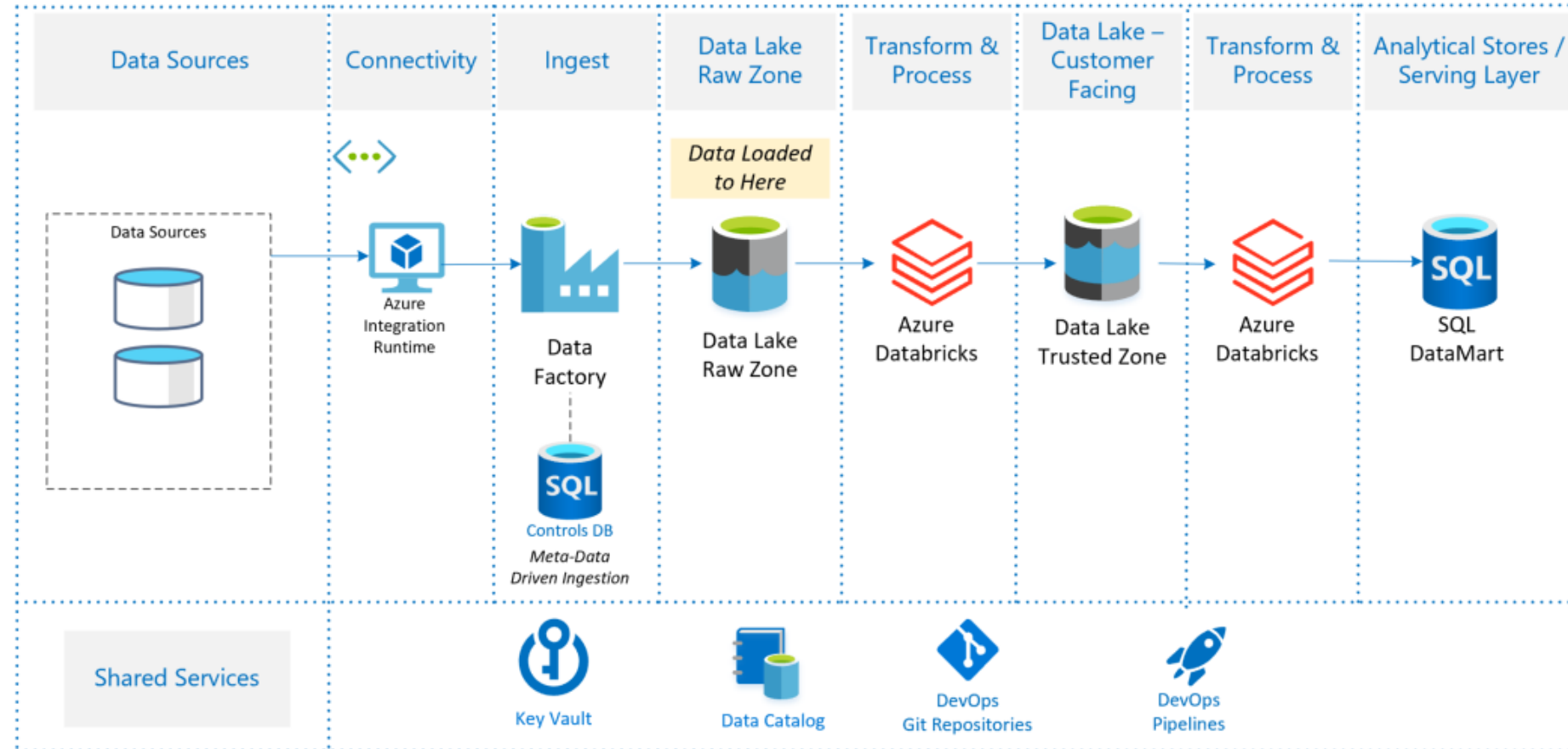
- 2 Core building blocks
  - Data Management Landing Zone
  - Data Landing Zone

Reference implementation	Description	Deploy to Azure	Link
Cloud-scale Analytics Scenario	Deploys a <a href="#">Data Management Landing Zone</a> and one or multiple Data Landing Zones all at once. Provides less options than the the individual Data Management Landing Zone and Data Landing Zone deployment options. Helps you to quickly get started and make yourself familiar with the reference design. For more advanced scenarios, please deploy the artifacts individually.		
Data Management Landing Zone	Deploys a single Data Management Landing Zone to a subscription.		<a href="#">Repository</a>
Data Landing Zone	Deploys a single Data Landing Zone to a subscription. Please deploy a <a href="#">Data Management Landing Zone</a> first.		<a href="#">Repository</a>
Data Product Batch	Deploys a Data Workload template for Data Batch Analysis to a resource group inside a Data Landing Zone. Please deploy a <a href="#">Data Management Landing Zone</a> and <a href="#">Data Landing Zone</a> first.		<a href="#">Repository</a>
Data Product Streaming	Deploys a Data Workload template for Data Streaming Analysis to a resource group inside a Data Landing Zone. Please deploy a <a href="#">Data Management Landing Zone</a> and <a href="#">Data Landing Zone</a> first.		<a href="#">Repository</a>
Data Product Analytics	Deploys a Data Workload template for Data Analytics and Data Science to a resource group inside a Data Landing Zone. Please deploy a <a href="#">Data Management Landing Zone</a> and <a href="#">Data Landing Zone</a> first.		<a href="#">Repository</a>

# Azure Data Services Go Fast

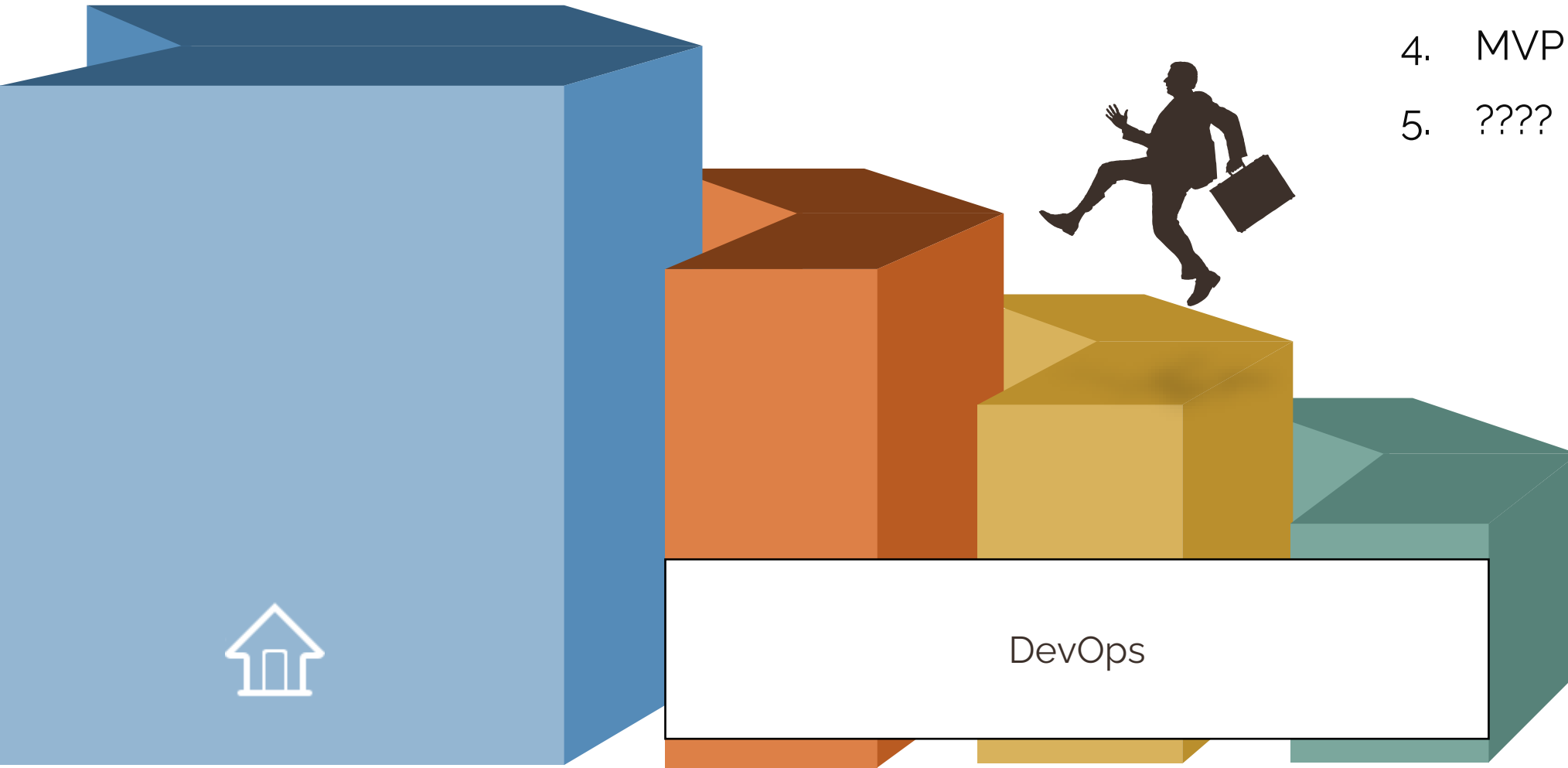
<https://github.com/microsoft/azure-data-services-go-fast-codebase>

- MVP Data Platform
- "Out of the box" CI/CD
- Enterprise grade security
- Codeless ingestion into Data Lake
- Web page for user interaction with dashboards



# Where are we?

1. Platform Established
2. App Landing Zones
3. Applications Migrated
4. MVP Data Platform
5. ????





# Solution Accelerators

## **What is it?**

- Ready to deploy solution offerings
- Can be customised to your business

## **What does it include?**

- Solution overview
- Reference architecture
- Deployment guides and code
- Training videos

# Solution Accelerators

<https://msusazureaccelerators.github.io/>

Solution Accelerator	Technology Stack	Use Case	Link
Azure Synapse Customer Insights Customer 360	Azure Synapse, Customer Insights, ADLS, Power BI, Azure Machine Learning	Accelerate creation process of a unified customer 360 profile that can also segment at-risk customers	<a href="https://aka.ms/Customer360SA">https://aka.ms/Customer360SA</a>
Azure Retail Recommender	Azure Synapse, ADLS, Azure Machine Learning, AKS, Azure Cosmos DB, Power BI	Build a retail recommender solution based on current and historical user data on an ecommerce platform	<a href="https://aka.ms/RetailRecommender">https://aka.ms/RetailRecommender</a>
Content Recommendations	Azure Synapse, ADLS, Power BI	Create personalized content recommendations based on user activity	<a href="https://aka.ms/ContentRecommender">https://aka.ms/ContentRecommender</a>
Financial Analytics Customer Revenue Growth Factor	Azure Synapse, ADLS, Azure Machine Learning, ACI, Power BI	Bring together data from different systems to quickly identify top factors for customer revenue growth	<a href="https://aka.ms/CustomerGrowthFactor">https://aka.ms/CustomerGrowthFactor</a>

# Quick Reference Links

- <https://aka.ms/AwesomeAzureArchitecture>
- <https://github.com/ddneves/awesome-azure-learning>
- <https://github.com/globalbao/awesome-azure-policy>





Thanks