

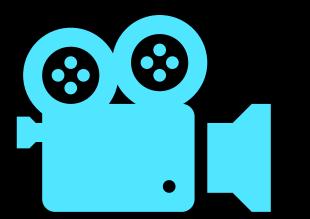
Enterprise Scale Landing Zones August 2021 Community Call





This meeting is being recorded











Agenda

- Welcome
- What's New?
- Questions from the community <u>https://github.com/Azure/Enterprise-Scale/issues/668</u>
- Contributing
- Q & A



Before we get started...

At any point, if you have a question please put it in the chat!

(we have the entire team here to help 💇)

Also we may stop and discuss your question/point at that time, we want this to be an open discussion with all of you ①



New "What's New?" page

https://aka.ms/ES/WhatsNew



Updates

Here's what's changed in Enterprise Scale:

August 2021

Docs

• Lots of updates to the Terraform Module for Cloud Adoption Framework Enterprise-scale wiki

Tooling

- Terraform Module for Cloud Adoption Framework Enterprise-scale release v0.4.0
 Brings support for Hub Connectivity & Identity landing zone peering read more in the release notes linked above
- Do-It-Yourself deployment instructions for Enterprise-Scale using Azure PowerShell released

Policy

Some minor changes to parameters and variables, tidying up some code.
 See PR #727

Other

No updates, yet.

July 2021

Docs

- Added guidance for Resource Group usage for Azure Networking topologies in Hub & Spoke & Virtual WAN CAF docs closing issue #632
- Updated Connectivity to Azure PaaS services CAF docs based on customer feedback around Private Link /Service Endpoints differences and guidance, including ExpressRoute peering options relating to this. Closing issue #519 on CAF repository
- Updated Contoso, Adventure Works & Wingtip Toys reference implementations with new Deploy To Azure buttons for new portal experience
 - $\circ\;$ Also updated guidance and option availability for each of them respectively
- User Guide updated to reflect latest release and new portal experience
- New Article to Deploy Azure Red Hat OpenShift (ARO) in enterprise-scale landing zones

Tooling

- Portal Experience Updated
 - Merged Contoso, AdventureWorks, and Wingtip into one ESLZ deployment experience via first-party deployment in the portal ("Deploy To Azure" button) experience
 - Support "N" network topologies in same experience (Hub and Spoke, Virtual WAN, Hub and Spoke with NVA)

Azure Landing Zone Accelerator portal experience

Azure landing zone accelerator

For organizations where this conceptual architecture fits with the operating model and resource structure they plan to use, there is a ready-made deployment experience available which we call the **Azure landing zone accelerator**.

The accelerator is an Azure portal-based deployment that will provide a full implementation of the conceptual architecture, along with opinionated configurations for key components such as management groups and policies.

Deploy to Azure

There are other deployment options available, some that deliver the full architecture using third-party deployment technologies, and others that start from a smaller footprint. For more information, see Implementation options.



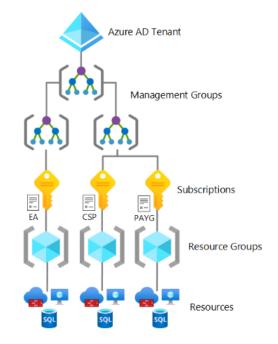
Updated article

Enterprise Agreement enrollment and Azure Active Directory tenants - Cloud Adoption Framework Microsoft Docs



Enterprise Agreement enrollment and Azure Active Directory tenants

The Azure service presents a range of active subscription offers 2, and customers can use these offers at the same time to gain flexible billing options. Example subscriptions include Enterprise Agreement (Enterprise Agreement) Support, Microsoft Customer Agreement, Cloud Service Provider, and others.



Enterprise-scale architecture supports subscriptions from any Azure offer. Subscriptions should exist within one Azure Active Directory (Azure AD) tenant to then relocate into the management group hierarchy within that tenant. They can then be managed by the various controls with enterprise-scale platforms like Azure Policy and role-based access control (RBAC).

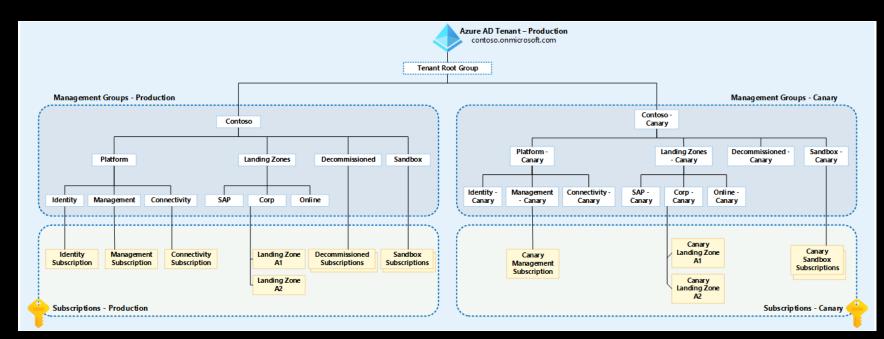
① Note

Enterprise-scale architecture is only scoped and deployed to one Azure AD tenant; however, billing options can span across multiple Azure AD tenants. For example, an Enterprise Agreement enrollment supports Azure subscriptions across different Azure AD tenants.



New article

Testing approach for enterprise-scale - Cloud Adoption Framework <u>Microsoft Docs</u>







New Networking Navigation

https://aka.ms/EnterpriseScale/Networking

• Multiple smaller articles instead of a single large one



∨ Critical design areas

Enterprise enrollment and Azure AD tenants

Identity and access management Management group and subscription organization

Network topology and connectivity
 Overview

Plan for IP addressing DNS for on-premises and Azure resources

Private Link and DNS integration at scale Define an Azure network topology Virtual WAN network topology (Microsoft-managed) Traditional Azure networking topology Connectivity to Azure Connectivity to Azure PaaS services Plan for inbound and outbound internet connectivity Plan for app delivery Plan for landing zone network

segmentation

Define network encryption requirements

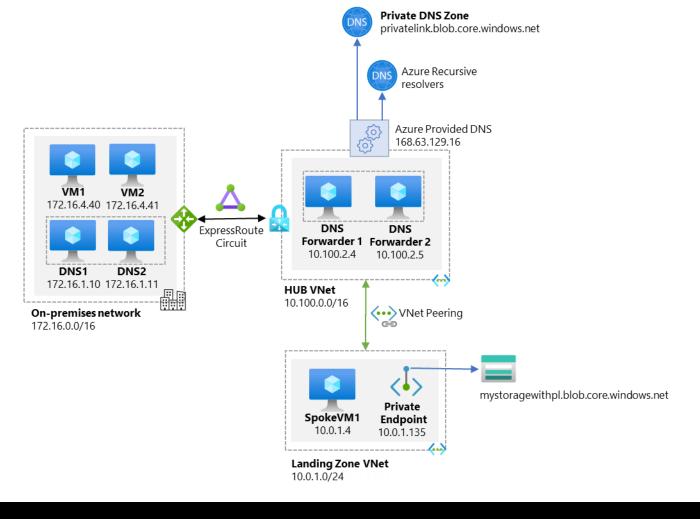
Plan for traffic inspection

Connectivity to other cloud providers



Make sure to check out...

Private Link and DNS integration at scale - Cloud Adoption Framework | Microsoft Docs

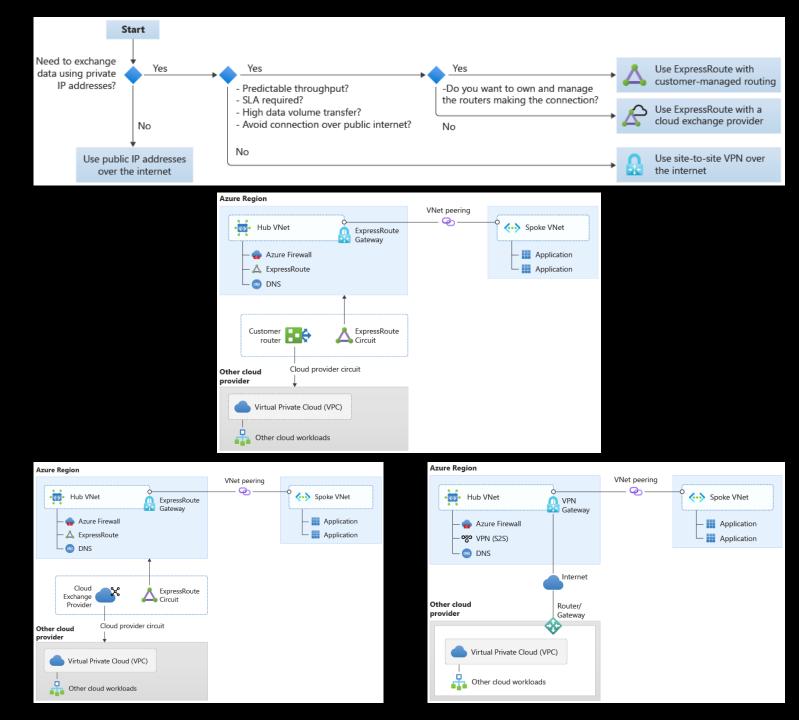






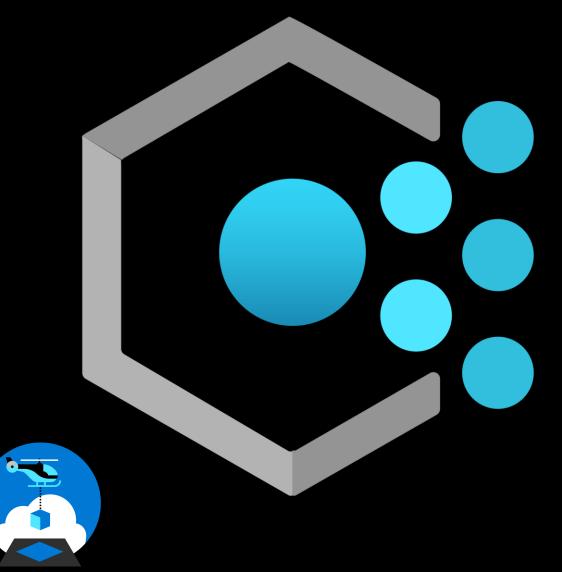
Make sure to check out...

Connectivity to other cloud providers - Cloud Adoption Framework | Microsoft Docs



Azure Policy updates





AINE and DINE enhancements – Available Now!

- EvaluationDelay <u>Understand how effects work Azure</u> <u>Policy | Microsoft Docs</u>
 - Control when the child resource gets evaluated
 - AfterProvisioning / AfterProvisioningSuccess / AfterProvisioningFailure or an ISO 8601 duration between 0 and 360 minutes
 - Default time is 10 minutes unchanged from today
- DINE now triggers on 'Microsoft.Resources/subscriptions'
 - Brings it inline with all other resource behaviour for DINE

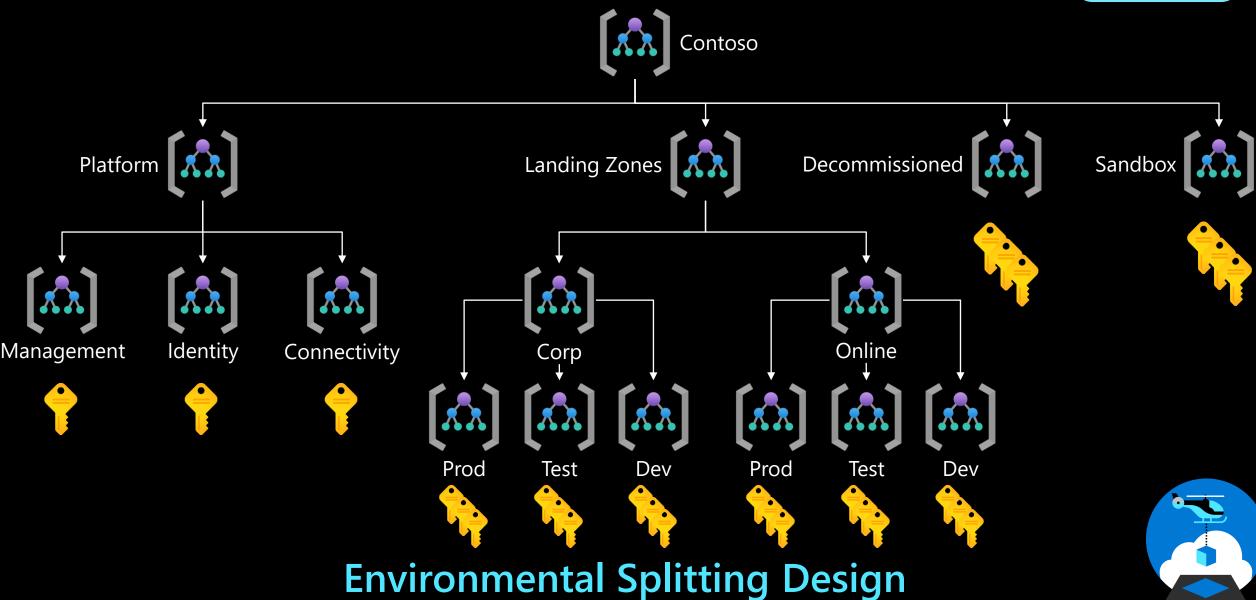
ESLZ Custom Policies Moving To Built-In – Overtime!

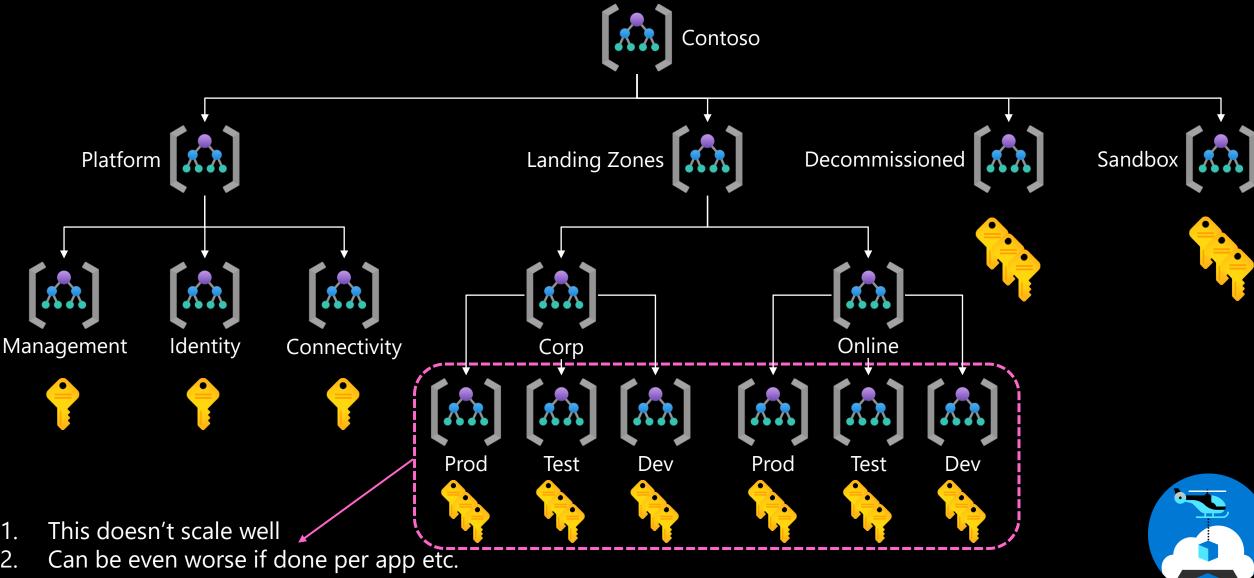
Azure Governance and Deployments Quarterly Customer Panel:

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

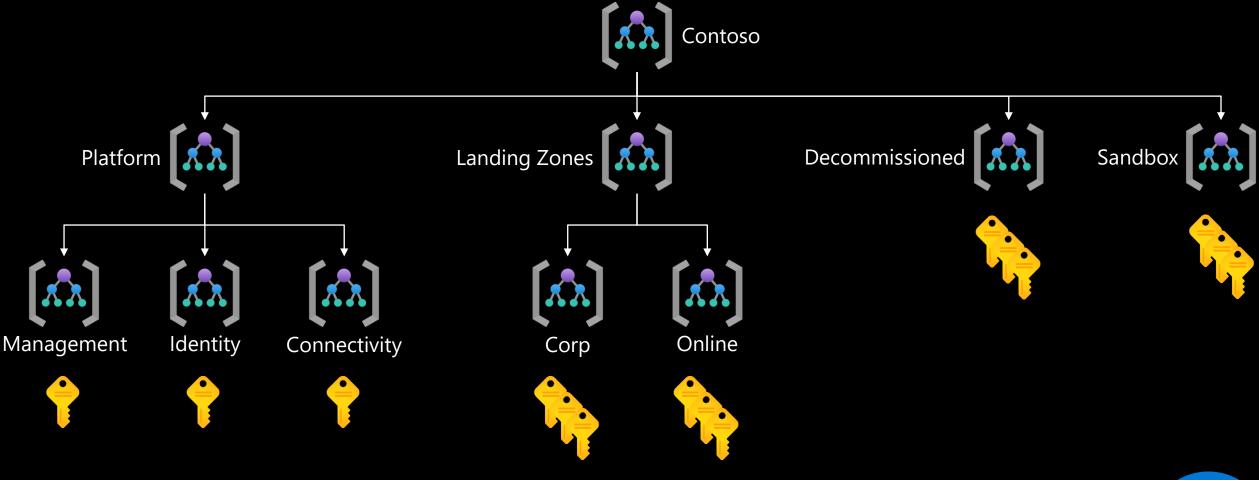
ESLZ Roadmap

- Terraform Module (caf-enterprise-scale) <u>v0.4.0</u> out now
 - Please read <u>release notes</u> and <u>upgrade notes</u>
 - Hub Connectivity resource deployment Hub & Spoke only, first!
 - Policy assignment upstream proivder changes in 'azurerm' provider v2.66.0 see PR #12349
 - Wiki updates and YouTube series (coming soon) subscribe to the IT Ops Talk YouTube Channel
- Bicep Templates for ESLZ tracking for around October 2021
- Brownfield Gudiance Enhancements EO CY2021



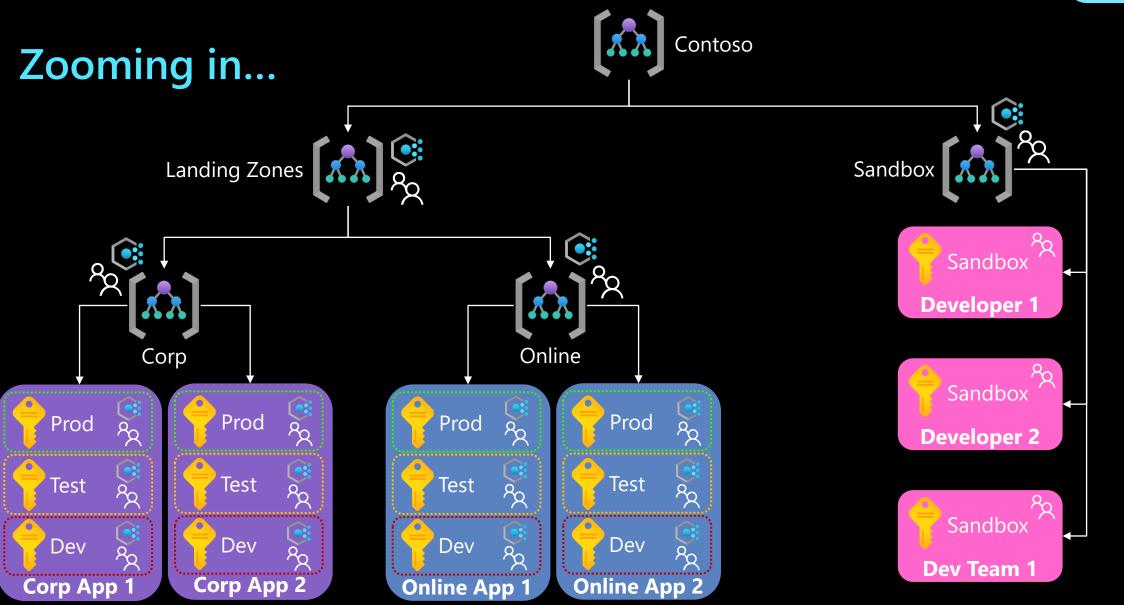


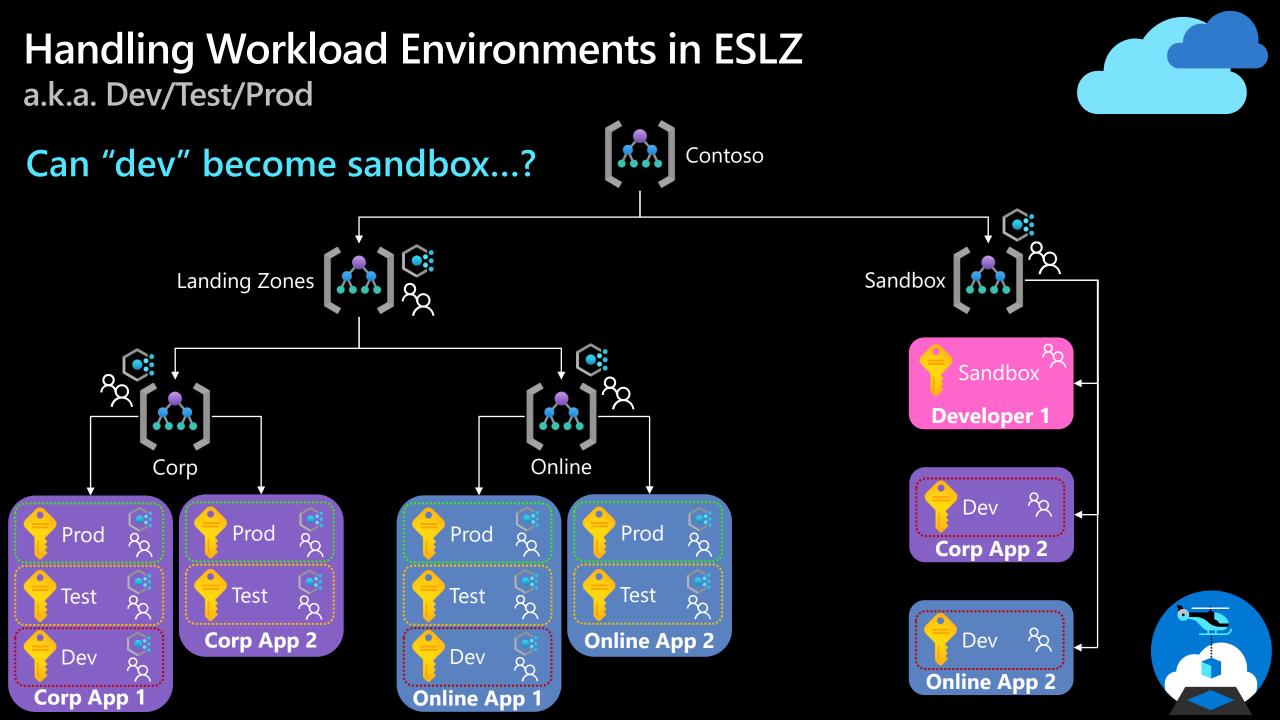
3. What is the difference between environments?



ESLZ Conceptual Architecture







Handling Workload Environments in ESLZ a.k.a. Dev/Test/Prod – Key Takeaways

- Management groups should align to workloads/archetypes
- There should be no difference in policies between environment type
 - Why create something that works in dev that then won't work in production?
- Splitting by environment does not scale well
 - Do you then group by application as well?
 - N x 3 at least for each app! = 20 apps = 60 Management Groups!
- Sandbox should be utilised for true "dev" purposes
- Empower application owners via subscription democratisation
 - With empowerment comes responsibility for the app owners for things like cost, SKU usage etc.



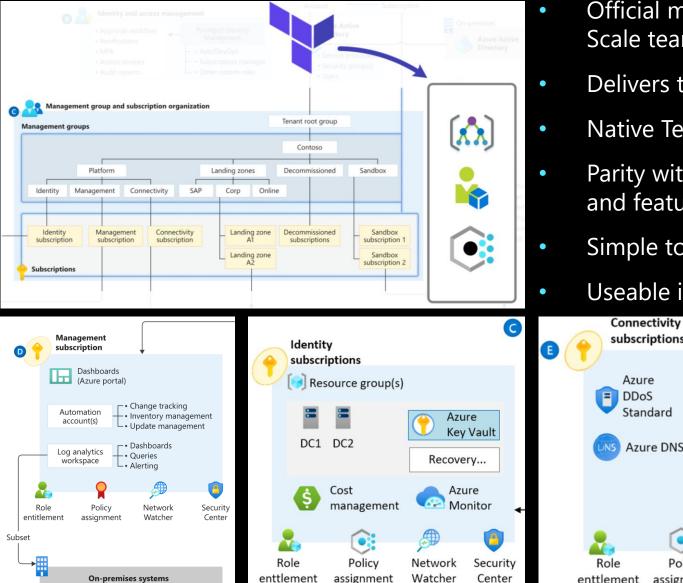
ESLZ Bicep Options



- Coming soon! currently tracking for October 2021
- Using the latest bicep features available in v0.4+
- Will initially deliver a Hub & Spoke topology (a.k.a. Adventure Works)
 - Will look to add others soon after
- Will be modular from the start
- Instructions on how to sequence and deploy will be provided
 - Will also provide orchestration template to sequence for you like the "Deploy To Azure" button today
- Some Policy elements, likely to stay in JSON for reusability



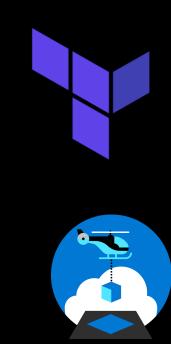
Terraform Modules CAF-Enterprise-Scale



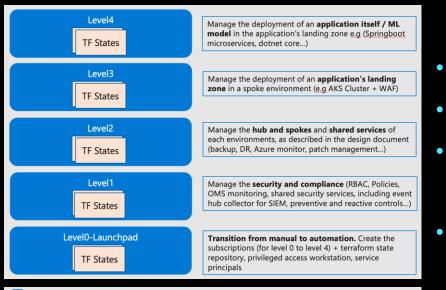
CAF-Enterprise-Scale

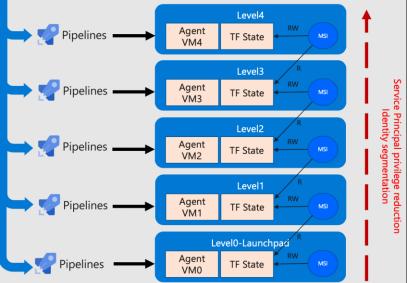
- Official module authored and maintained by the Enterprise Scale team
- Delivers the components included in Enterprise Scale
- Native Terraform and can be run anywhere Terraform can be
- Parity with other Enterprise Scale implementation options and features
- Simple to use, fully customisable if desired
- Useable in any operational approach





Terraform Modules CAF-Terraform-LandingZones





CAF-Terraform-LandingZones

- Module created by Microsoft CSAs in Singapore (Arnaud & Laurent)
- Uses a custom container called "Rover" for deployment
- Has various "Levels" (0 to 4)
 - Separate state file and pipeline for each level
- Focus is towards workloads and services that live in Landing Zones (see currently supported list <u>here</u>)
 - Uses the CAF-Enterprise-Scale Module to deploy Enterprise Scale components
- Leans towards a centralised operational approach
- More info on the docs <u>here</u>

•







We Want You!

https://aka.ms/EnterpriseScale

Create an issue/feature request:

To contribute to ESLZ

- Create issues, bugs and feature requests
- Tell us where we can improve existing guidance or provide new guidance

				Pull requests Issue	↓ + • (1) • O Umwatch • 74 ★ Unstar 777 ¥ Fork 478		
pdate docs/wiki:			R Azure / Enterprise-Scale				
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- contract see See 1 Pull requests 14 🖓 Discussions 🕜 Actions 🕅 Projects 1 🛄 Wiki 🕜 Security 🗠 Insights 🛞 Settings				jtracey93 Jack Tracey FTE add EA	docs update (#749)	✓ cef2c7a 14 hours ago 😗 403 commits	The Enterprise-Scale architecture provides prescriptive guidance coupled
				💼 .github	Update CODEOWNERS (#732)	15 days ago	with Azure best practices, and it follows design principles across the critical
	Home	Edit New Page		docs	add EA docs update (#749)	14 hours ago	design areas for organizations to define their Azure architecture
	github-actions edited this page on 9 Jun - 6 revisions			eslzArm	Update README.md (#741)	5 days ago	
				examples	Update link based on Page Link Bug Report 404 #739 (#744)	739 (#744) 5 days ago	∂ aka.ms/es/guides
	Enterprise-Scale Landing Zones User Guide	Pages 6		workloads	Network related details around routing and firewa	all for ARO in a priv 18 days ago	arm azure architecture enterprise-scale policy-driven
				gitattributes	Initial Commit	15 months ago	
	The Enterprise-Scale Landing Zones User Guide aims to provide comprehensive end-to-end documentation for the Enterprise- Scale deployment and configuration experience to accelerate both adoption and deployment.	Wiki content			Initial Commit	15 months ago	🛱 Readme
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	Navigation	What's New?				4 months ago	
	What's New?	What is Enterprise-Scale What is Enterprise-Scale		CODE_OF_CONDUCT.md	Initial Commit	15 months ago	Contributors 65
	What's New? What's Enterprise-Scale?	reference implementation? Pricing		LICENSE	Initial Commit	15 months ago	🍘 🌲 📵 🚳 🕞 🍪 🍪
	What is Enterprise-Scale reference implementation?	What if I already have an existing		README.md	new RI update (#684)	last month	
	• Pricing	Azure footprint How Enterprise-Scale Works		SECURITY.md	Initial Commit	15 months ago	36 👅 🦉 🧐
	 What if I already have an existing Azure footprint 	Enterprise-Scale works Enterprise-Scale design principles		SUPPORT.md	Update support.md to include Trey Research (#61	5) 2 months ago	+ 54 contributors
	How Enterprise-Scale Works Enterprise-Scale design principles	 Separating platform and landing zones 					
	Separating platform and landing zones	Enterprise-Scale Management		i≣ README.md		P	Languages
	Enterprise-Scale Management Group Structure	Group Structure What happens when you deploy					
	What happens when you deploy Enterprise-Scale?	Enterprise-Scale?		Enterprise-Scal	le - Reference Implementation		Bicep 100.0%
	Deploying Enterprise-Scale	Deploying Enterprise-Scale Pre-requisites	0:00/0:38		•		
	• Pre-requisites	Reference implementation	0.00/0:58				
	 Reference implementation deployment 	deployment					
	Validation post deployment (GitHub)	 Validation post deployment (GitHub) 					
	 Post deployment activities 	Post deployment activities					
	• Operating the Azure platform using AzOps (Infrastructure as Code with GitHub Actions)	 Operating the Azure platform 					
	Create subscriptions / landing zones using AzOps Create landing zones (subscription) using AzOps	using AzOps (Infrastructure as Code with GitHub Actions)					
	O Pre-requisites	Create subscriptions / landing zones					
	Enable Service Principal to create landing zones	using AzOps • Create landing zones					
	ARM template repository	(subscription) using AZOps					
	 Create a new landing zone (subscriptions) 	• Pre-requisites					
	 Create a new randing zone (subscriptions) 	 Enable Service Principal to create landing zones 					
		APM template repository					

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Q & A





Thank You!

https://aka.ms/ESLZCommunitySurvey

