XV EDITION WIT WARSAW IT DAYS

Mastering Bicep – Infrastructure as Code for Azure

Freek Berson – Esther Barthel

MAIN ORGANIZER: ACADEMIC PARTNERS

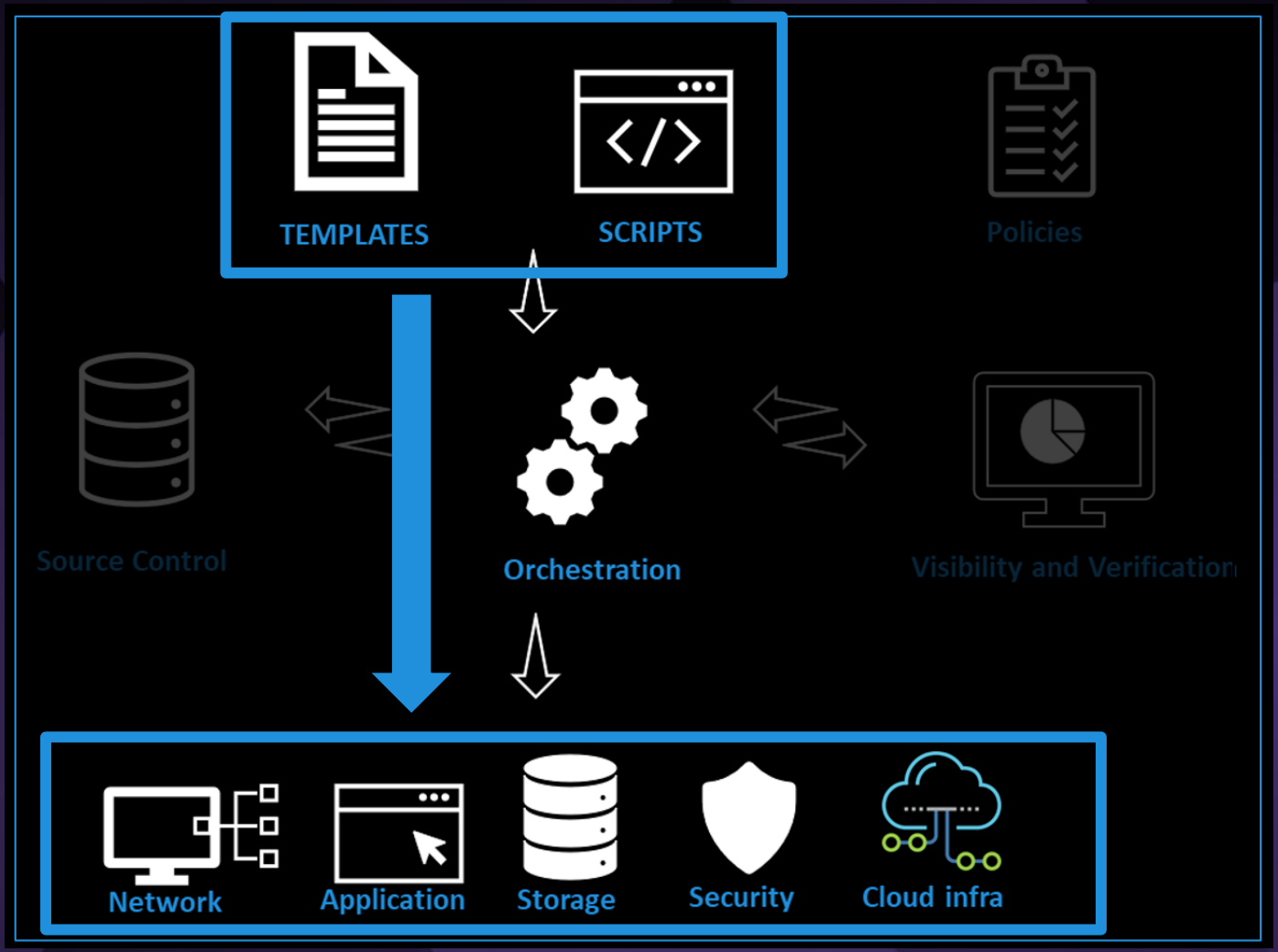
ORGANIZING COMMITTEE: dozens of organizations from the IT / da ta science sector (full list on the event website)

Agenda

- Brief introduction to IaC & Bicep
- Demos
  - - Transitioning from an ARM Template background
  - - Modules
  - - Deployment Stacks

Infrastructure as Code (IaC)

"..the process of **provisioning infrastructure resources** similar to how software is deployed."



ARM Template

Template format

In its simplest structure, a template has the following elements:

JSON Copy

```
{
  "$schema": "https://schema.management.azure.com/schemas/2019-04-01/deploymentTemplate.json#",
  "contentVersion": "",
  "apiProfile": "",
  "parameters": {  },
  "variables": {  },
  "functions": [  ],
  "resources": [  ],
  "outputs": {  }
}
```

ARM Template complexity

```
605                 "hostPoolArmPath": "[resourceId('Microsoft.DesktopVirtualization/hostPools', format('{0}-REMOTEAPP', parameters('hostpoolName')))]"
606               },
607               "dependsOn": [
608                 "[resourceId('Microsoft.DesktopVirtualization/hostPools', format('{0}-REMOTEAPP', parameters('hostpoolName')))]"
609               ]
610             },
611             {
612               "type": "Microsoft.DesktopVirtualization/workspaces",
613               "apiVersion": "2019-12-10-preview",
614               "name": "[parameters('workspaceName')]",
615               "location": "[parameters('AVDbackplanelocation')]",
616               "properties": {
617                 "friendlyName": "[parameters('workspaceNameFriendlyName')]",
618                 "applicationGroupReferences": [
619                   "[resourceId('Microsoft.DesktopVirtualization/applicationGroups', parameters('appgroupName'))]",
620                   "[if(parameters('createRemoteAppHostpool'), resourceId('Microsoft.DesktopVirtualization/applicationGroups', format('{0}-REMOTEAPP', parameters('appgroupName'))), '')]"
621                 ]
622               },
623               "dependsOn": [
624                 "[resourceId('Microsoft.DesktopVirtualization/applicationGroups', parameters('appgroupName'))]",
625                 "[resourceId('Microsoft.DesktopVirtualization/applicationGroups', format('{0}-REMOTEAPP', parameters('appgroupName')))]"
626               ]
627             }
628           ]
629         }
630       },
631       "dependsOn": [
632         "[subscriptionResourceId('Microsoft.Resources/resourceGroups', format('{0}BACKPLANE{1}', parameters('resourceGroupProdPrefix'), parameters('resourceGroupPostfix')))]"
633       ]
634     },
635     {
636       "type": "Microsoft.Resources/deployments",
637       "apiVersion": "2020-06-01",
```

What is Bicep?

*".. Bicep is a **Domain Specific Language** (DSL) for deploying Azure resources declaratively. It aims to **drastically simplify the authoring experience** with a cleaner syntax and better support for modularity and code re-use. Bicep is a transparent abstraction over ARM and ARM templates."*

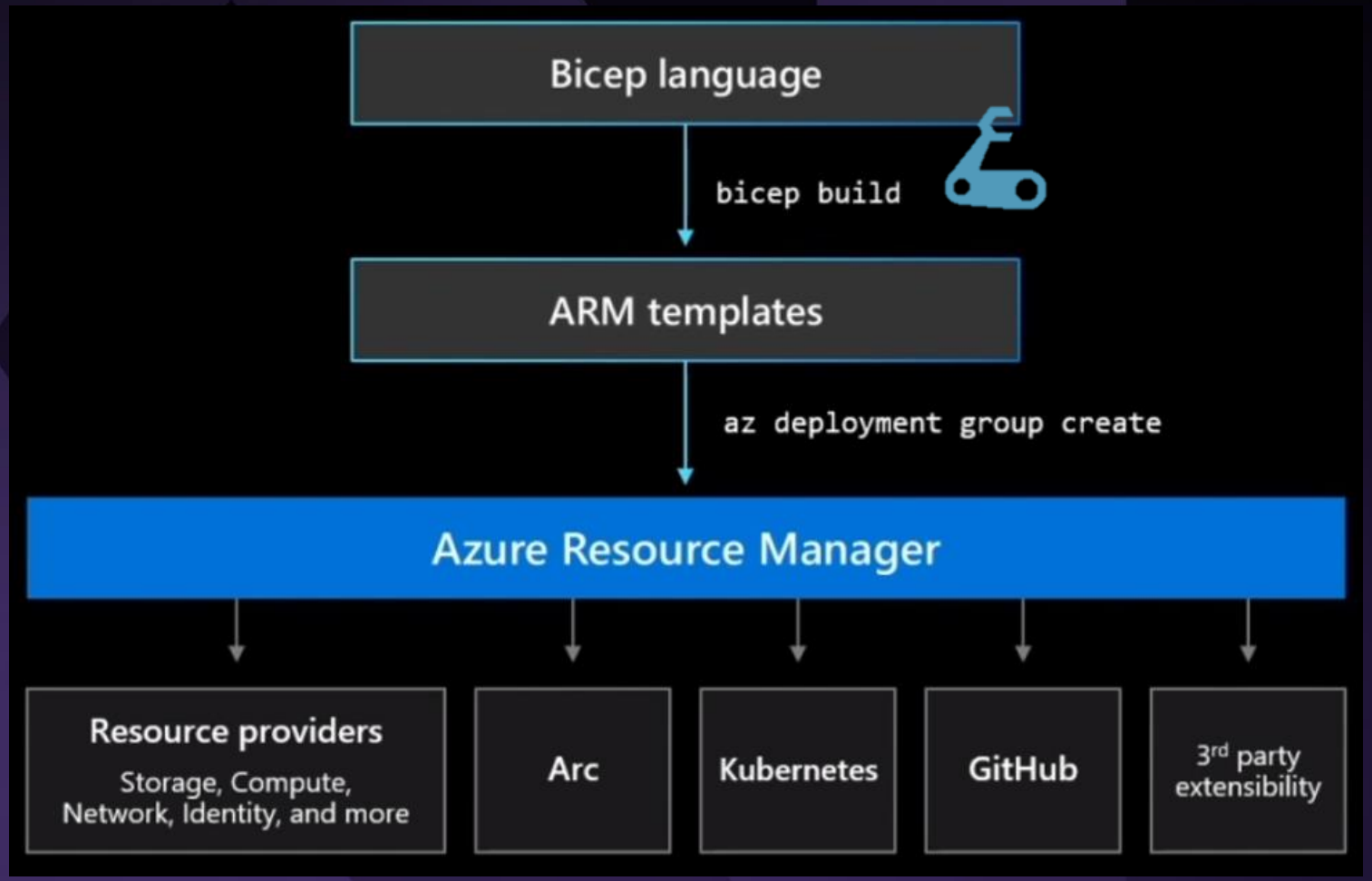
Where to position Bicep?

Intuitive
Easy to read and to author

Transpiles to ARM Templates
Leverage ARM template knowledge and investments

Modular
Abstract common blocks of code into reusable parts

Open Source
Transparency and community



Demo

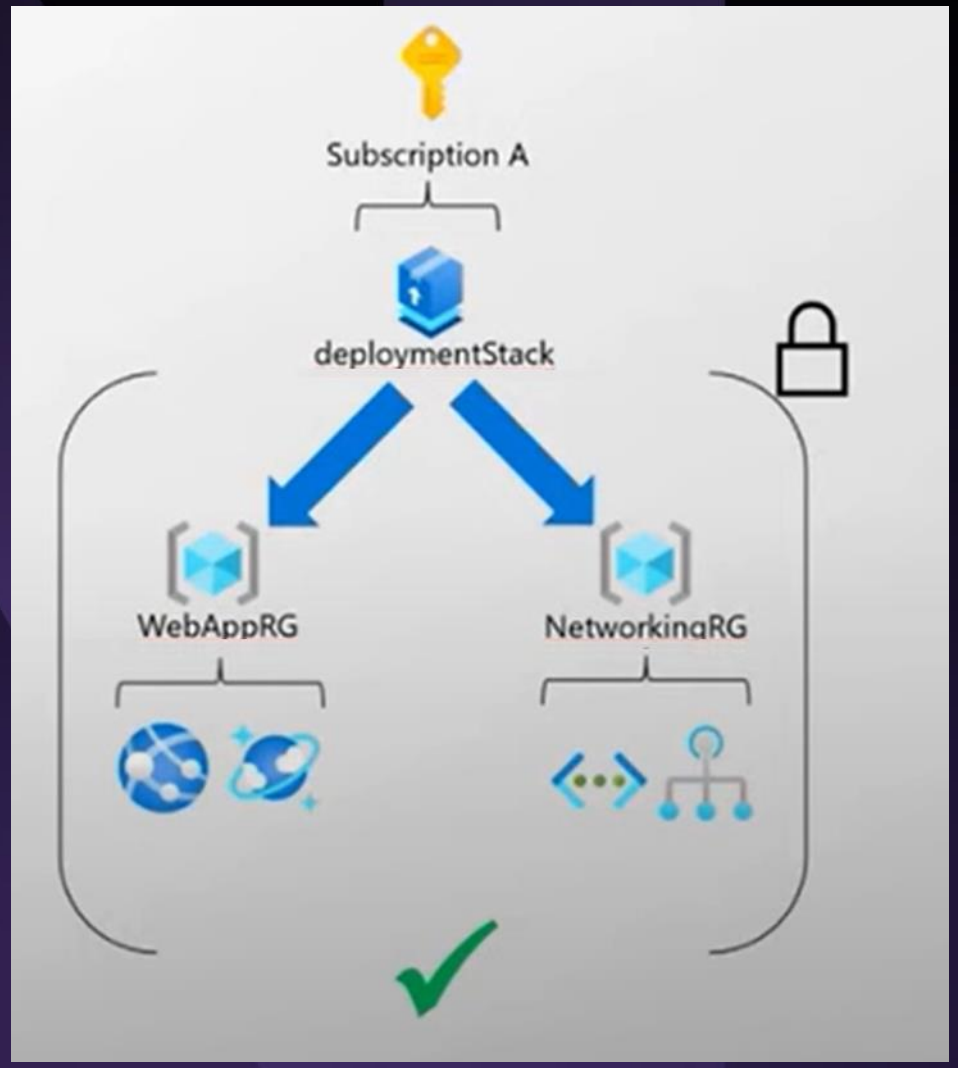
- Transitioning from an ARM Template background
- Modules & registries
- Deployment Stacks

Deployments Stacks

- Simplified provisioning and management of resources across different scopes

- Preventing undesired modifications to managed resources through deny settings

- Utilizing standard templates such as Bicep, ARM templates, or Template specs



Call to action!

- Bicep MS Docs:
  Aka.ms/bicep
- Bicep Monthly Community call
  surveymonkey.com/r/ARMnews
- Bicep GitHub location
  github.com/Azure/bicep
- Bicep Learning path
  docs.microsoft.com/en-us/azure/azure-resource-manager/bicep/learn-bicep

FEEDBACK

Mastering Bicep - Infrastructure as Code for Azure!

Freek Berson
Esther Barthel

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Thank you for watching!

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