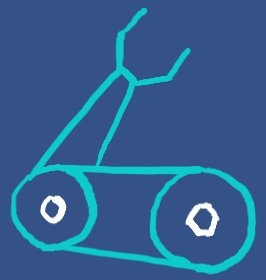
To Bicep or to Terraform - That is the Question





Heini Ilmarinen

DATA SATURDAYS HOLLAND

Thank you sponsors!















```
{
  "$schema": "https://schema.management.azure.com/
schemas/2019-04-01/deploymentTemplate.json#"
  "contentVersion": "1.0.0.0"
  "parameters": {
      "storageAccountName": {
          "defaultValue": stheinridemo",
          "type": "String"
      }
  },
  "variables" :{}
  "resources":[
      {
          "type": "Microsoft.Storage/storageAccounts"
          "apiVersion": "2021-04-01"
          "name": "[parameters('storageAccountName')]"
          "location": "westeurope"
```

```
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```



Azure
Data
Factory

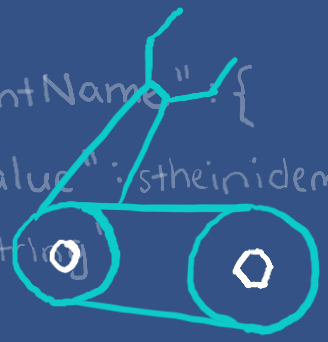


Azure
Data Lake



Azure SQL

```
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  "$schema": "https://schema.management.azure.com/
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  "contentVersion": "1.0.0.0"
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          "name": "[parameters('storageAccountName')]"
          "location": "westeurope"
```



Bicep



Terraform



Azure Data Factory



Azure Data Lake



Azure SQL



Heini Ilmarinen

Co-founder @ Bruvo

Microsoft MVP

Third of the Knee-deep in Tech podcast

Passionate about architecture

Math nerd at heart

... and a serial doodler

KNEE-DEEP IN TECH

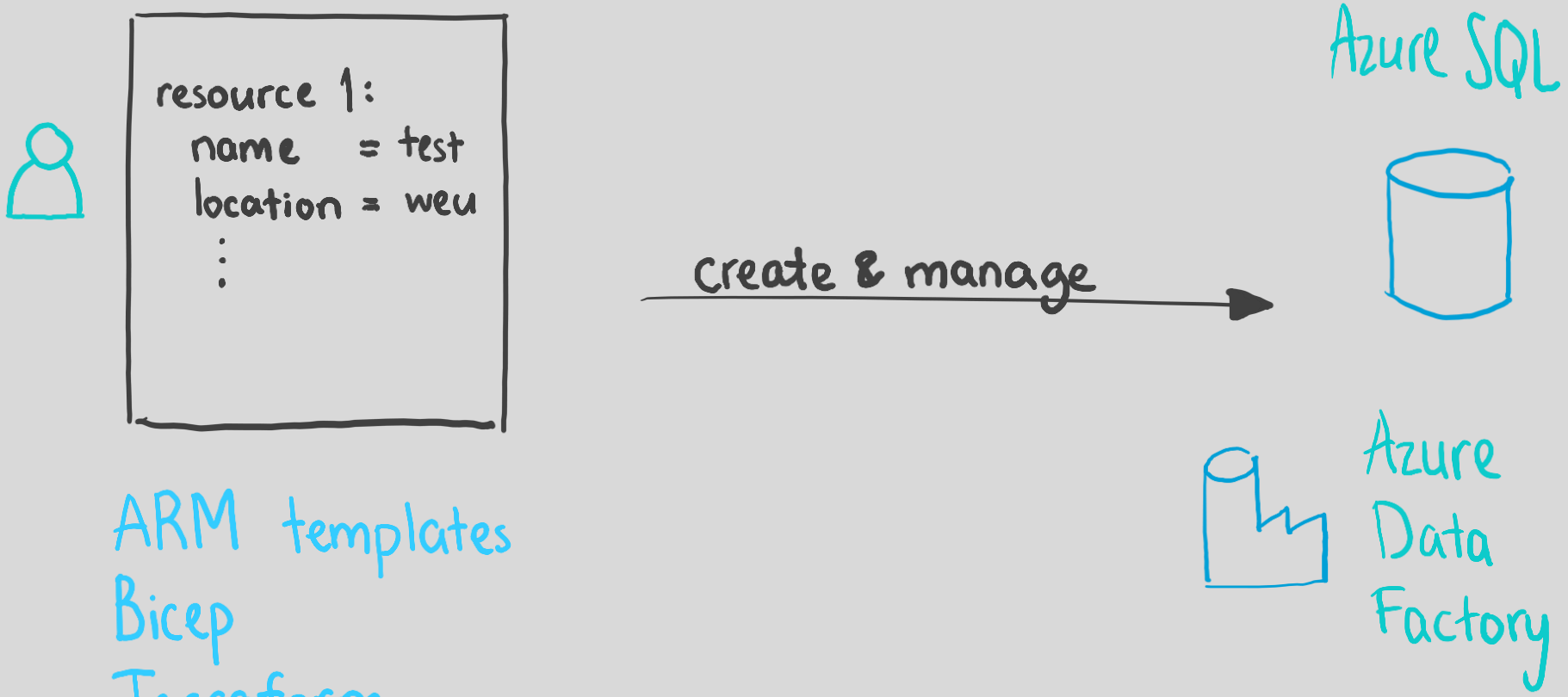
Bruvo

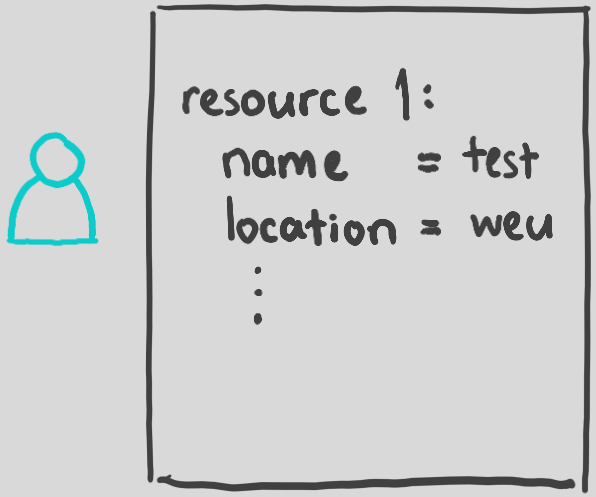
Intro to Infrastructure as Code

Bicep vs. Terraform

Choosing the tool

Intro to Infrastructure as Code


resource 1:
name = test
location = weu
create & manage
Azure SQL
Azure
Data
Factory
ARM templates
Bicep
Terraform
Pulumi



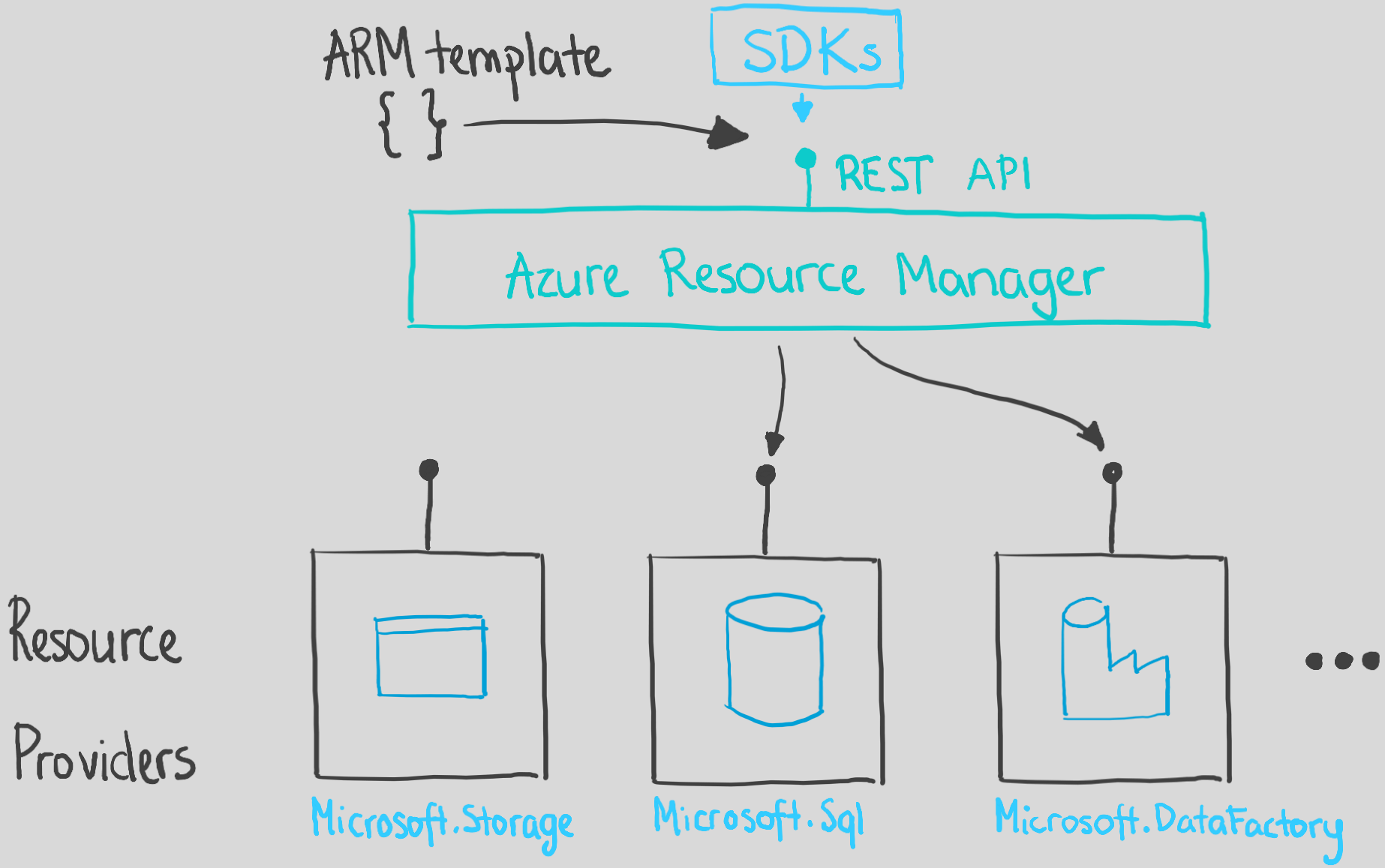
ARM templates
Bicep
Terraform
Pulumi

Declarative

Idempotent

Benefits of Infrastructure as Code

- Documentation
- Repeatability
- Version control


ARM template
{ }
SDKs
REST API
Azure Resource Manager
Resource Providers
Microsoft.Storage
Microsoft.Sql
Microsoft.DataFactory
...

2 resource types cannot be exported yet and are not included in the template. See error details. →

To export related resources, select the resources from the Resource Group view then select the "Export template" option from the tool bar.

Include parameters

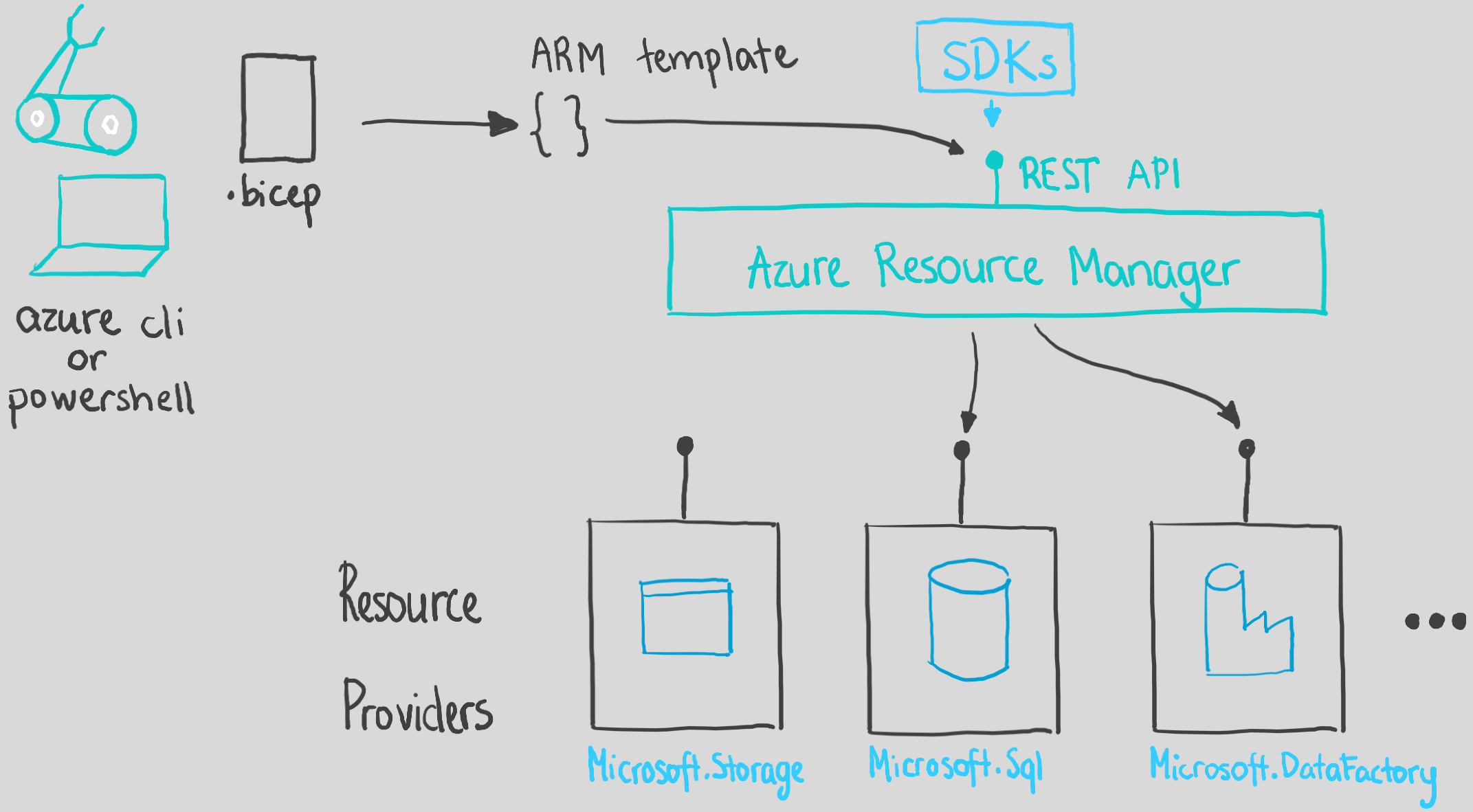
Template | Parameters | Scripts

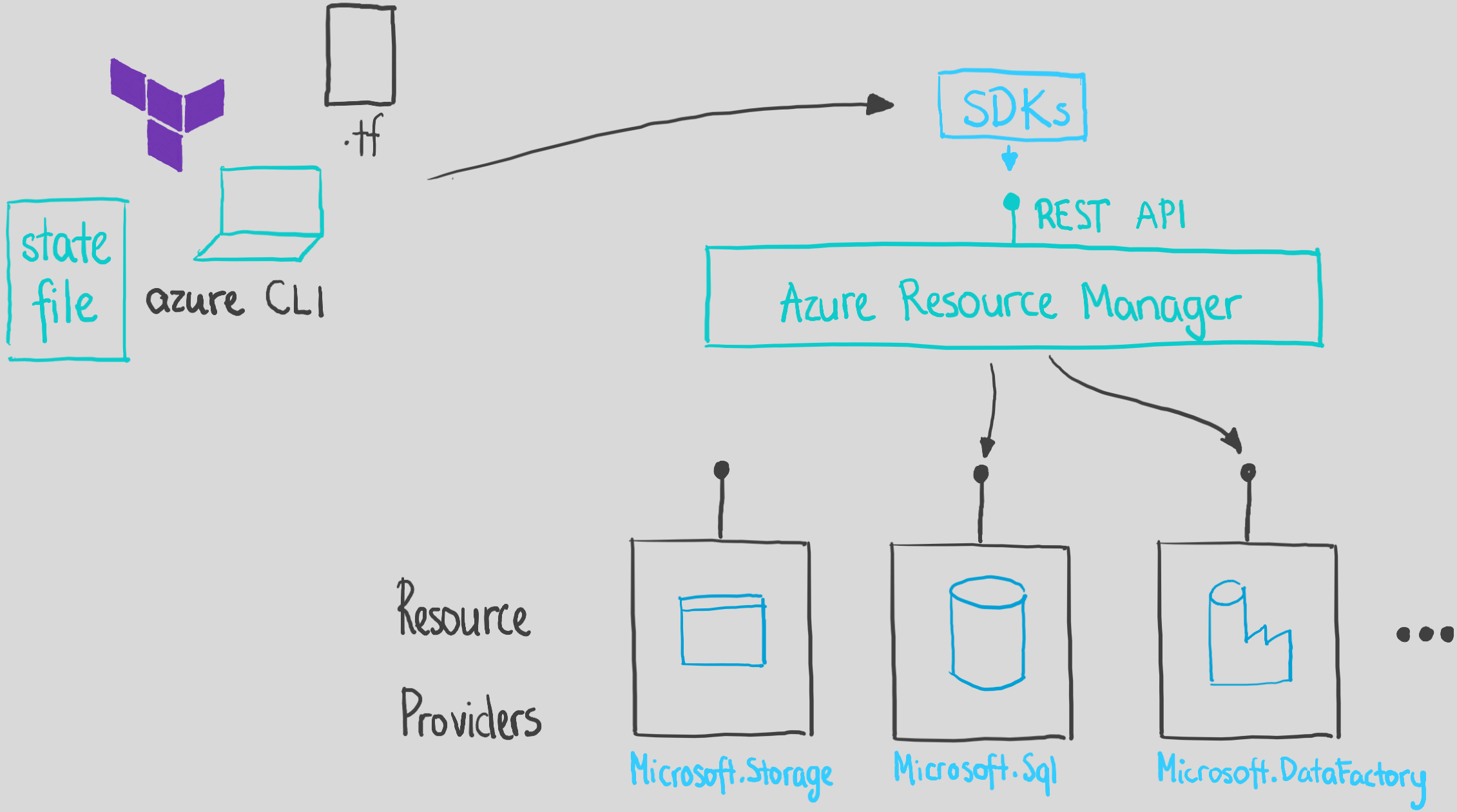
- Parameters (3)
- Variables (0)
- Resources (43)
  - [parameters('servers_sql_heinin (Microsoft.Sql/servers)
  - [parameters('storageAccounts_s (Microsoft.Storage/storageAccc
  - [concat(parameters('servers_sql '/CreateIndex')] (Microsoft.Sql/servers/advisors)
  - [concat(parameters('servers_sql '/DbParameterization')] (Microsoft.Sql/servers/advisors)
  - [concat(parameters('servers_sql '/DefragmentIndex')] (Microsoft.Sql/servers/advisors)
  - [concat(parameters('servers_sql '/DropIndex')]

```
20            "type": "Microsoft.Sql/servers",
21            "apiVersion": "2021-02-01-preview",
22            "name": "[parameters('servers_sql_heinin_test_name')]",
23            "location": "westeurope",
24            "kind": "v12.0",
25            "properties": {
26                "administratorLogin": "heini",
27                "version": "12.0",
28                "publicNetworkAccess": "Enabled",
29                "restrictOutboundNetworkAccess": "Disabled"
30            }
31        },
32        {
33            "type": "Microsoft.Storage/storageAccounts",
34            "apiVersion": "2021-04-01",
35            "name": "[parameters('storageAccounts_stheinitesti_name')]",
36            "location": "westeurope",
37            "sku": {
38                "name": "Standard_GRS",
39                "tier": "Standard"
40            },
```

Intro to Infrastructure as Code

Bicep vs. Terraform


azure cli
or
powershell
.bicep
ARM template
{ }
SDKs
REST API
Azure Resource Manager
Resource
Providers
Microsoft.Storage
Microsoft.Sql
Microsoft.DataFactory
...


.tf
SDKs
state file
azure CLI
REST API
Azure Resource Manager
Resource Providers
Microsoft.Storage
Microsoft.Sql
Microsoft.DataFactory

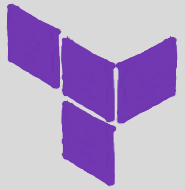
Bicep/ARM



Azure native

Bicep DSL/JSON

Terraform



State

Many providers

Uses Azure GO SDK

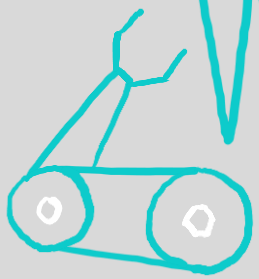
HCL

Bicep/ARM		Terraform
	Resource state	State file
Default resource group	Scope	Open
What if	Changes	Plan
Import	Existing resources	Aztfy
Available right away	Preview features	AzAPI provider

Intro to Infrastructure as Code

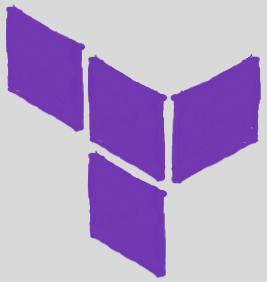
Bicep vs. Terraform

Choosing the tool



Why Bicep ?

- Azure native
- No state file



Why Terraform ?

- Supports many providers
- Maturity

Intro to Infrastructure as Code

Bicep vs. Terraform

Choosing the tool

Stick to IaC

Decide how far you go

Start automating

Rate This session





Thank you!

Heini Ilmarinen