Azure ARGh!

What can you do with Azure Resource Graph

Mika Vilpo

IT Geek Building Clouds

@Elisa Oyj

Like to talk about identity, automation and serverless

25+ years in IT and 15+ years in cloud

Spending free time as Red Cross volunteer in disaster management, first aid and search & rescue
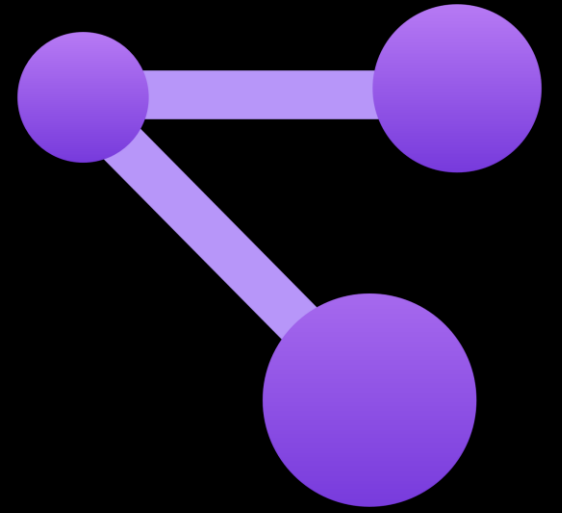
mika.vilpo@elisa.fi

@mikavilpo 𝕏 in

Azure Resource Graph

Query all your resources in the Azure

ARG sees all the resources you have access
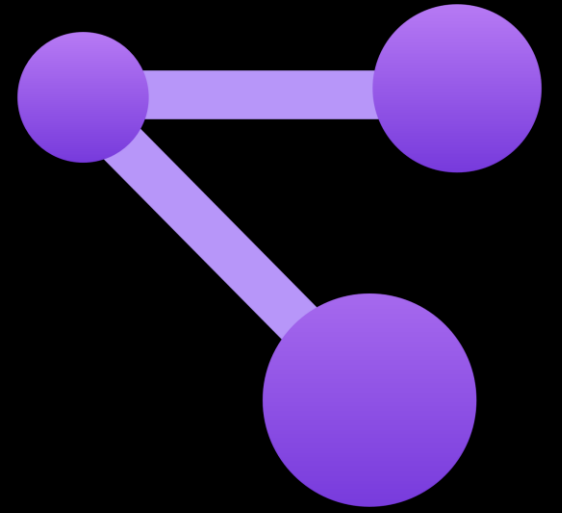- Azure Arc
- Lighthouse

Azure Resource Graph

Subset of KQL

Portal, Cli, PowerShell, REST

Multiple tables, start from `resources`

It is super fast!

Snapshot of current configuration

Q: Can you list how many VMs, SQL servers and other resources are in customers environment? List should be based on resource group and subscription.

Sure.

Sure.

```
resources
| summarize
    UniqueResourceTypes = dcount(type),
    VirtualMachineCount = countif(type == "microsoft.compute/virtualmachines"),
    SQLServerCount = countif(type in
("microsoft.sql/servers","microsoft.sql/managedinstances","microsoft.sqlvirtualmachine/sql
virtualmachines"))
by resourceGroup, subscriptionId
| join kind=inner (
    resourcecontainers
    | where type == 'microsoft.resources/subscriptions'
    | project subscriptionId, subscriptionName = name)
    on subscriptionId
| project subscriptionName, subscriptionId, resourceGroup, UniqueResourceTypes,
VirtualMachineCount, SQLServerCount
```

Sure.

Calculates an estimate of the number of distinct values that are taken by a scalar expression in the summary group.

```
resources
| summarize
    UniqueResourceTypes = dcount(type),
    VirtualMachineCount = countif(type == "microsoft.compute/virtualmachines"),
    SQLServerCount = countif(type in
("microsoft.sql/servers","microsoft.sql/managedinstances","microsoft.sqlvirtualmachine/sql
virtualmachines"))
by resourceGroup, subscriptionId
| join kind=inner (
    resourcecontainers
    | where type == 'microsoft.resources/subscriptions'
    | project subscriptionId, subscriptionName = name)
    on subscriptionId
| project subscriptionName, subscriptionId, resourceGroup, UniqueResourceTypes,
VirtualMachineCount, SQLServerCount
```
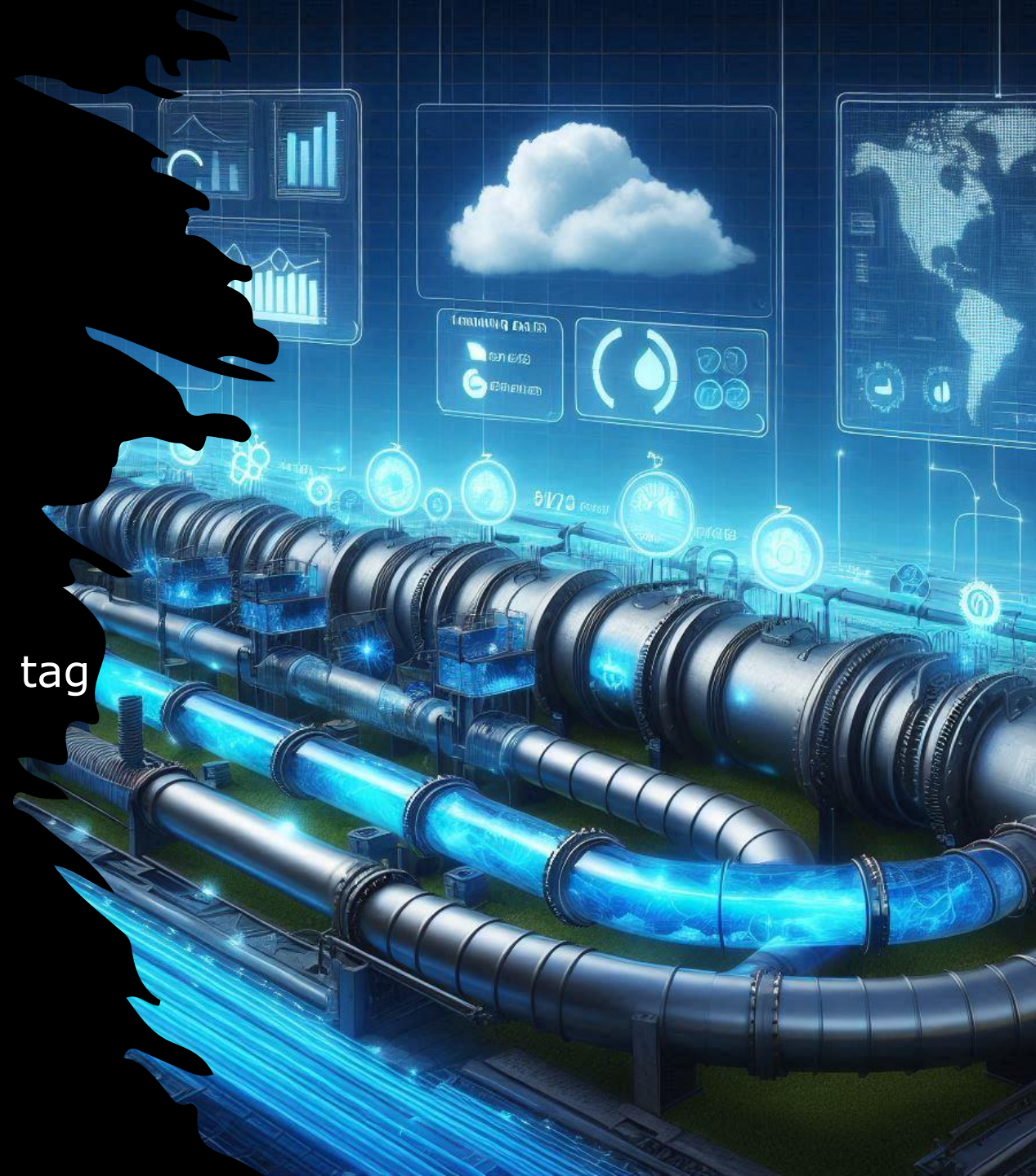
Monitoring

- Alert rules can trigger based on ARG query

- Queries done using Managed Identities

- Trick: Create query in Log Analytics workspace using arg(""). to tell Kusto that you want to use ARG resources
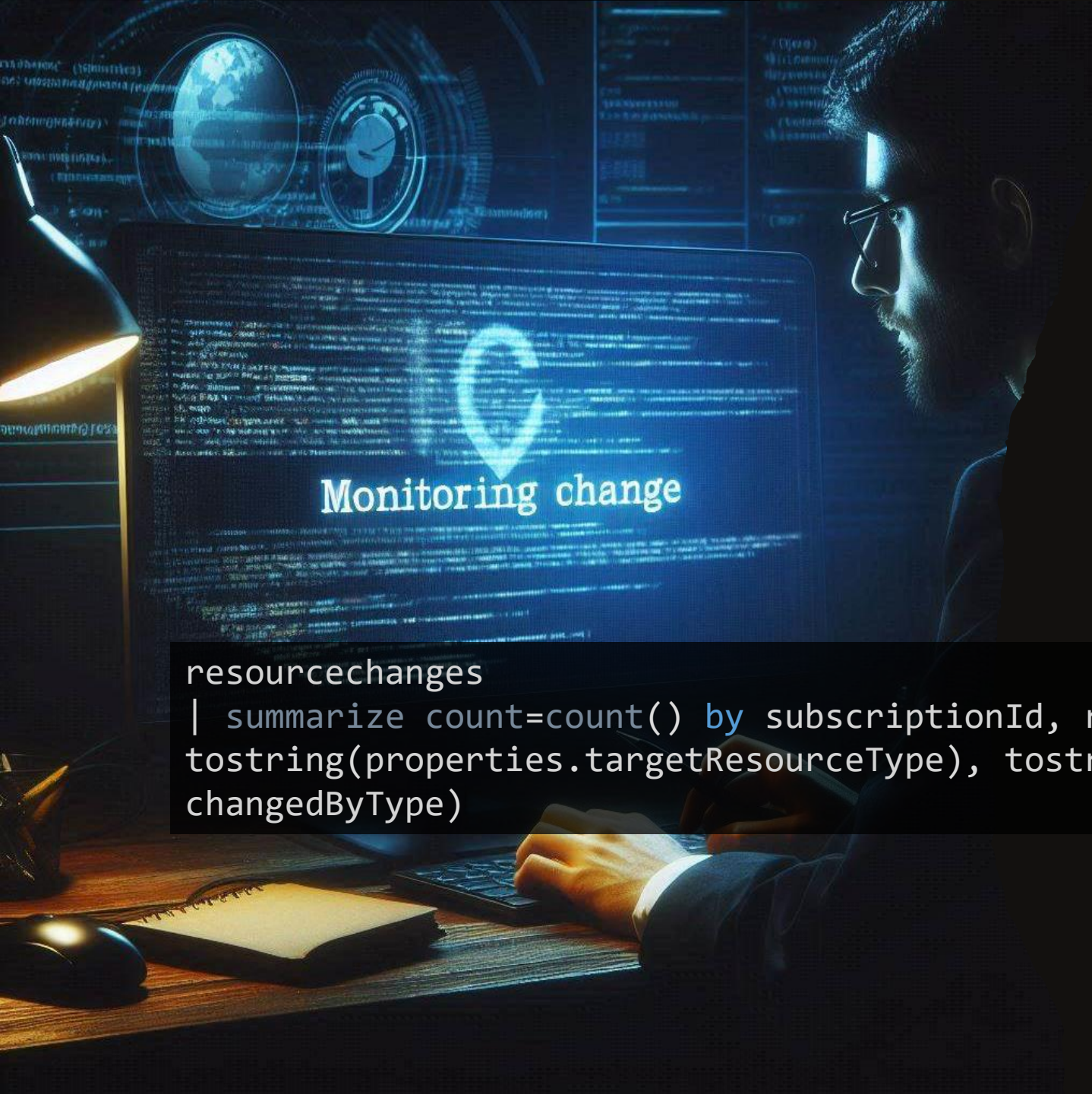
Enrich alerts

Combine information from Log Analytics
workspace and Resource Graph

Log monitoring should only alert
    if server has `Environment:Production` tag
    or if it is missing `Maintenance` tag

Change feed

`resourceChanges`

`resourceContainerChanges`

Monitoring/alerting

Start automation based on resource change .. to update ITSM?

```
resourcechanges
| summarize count=count() by subscriptionId, resourceGroup,
tostring(properties.targetResourceType), tostring(properties.changeAttributes.
changedByType)
```

Caveats

Resource Limits

KQL is Case Sensitive.
AzUrE iS NoT.

Caveats

```
resources
| project Owner = tags.Owner
| where isnotnull(Owner)
| count

resources
| project Owner = tags.owner
| where isnotnull(Owner)
| count
```

Azure Copilot

Can craft KQL queries (or uses those in background)

Evolving continuously

"create me dark themed picture of azure copilot"

Now is
your turn

Azure Portal → Azure Resource Graph
Explorer → Get started samples

Learn KQL

Q & A