





# The Three Amigos fighting compliance with Azure Stack

# Session objectives

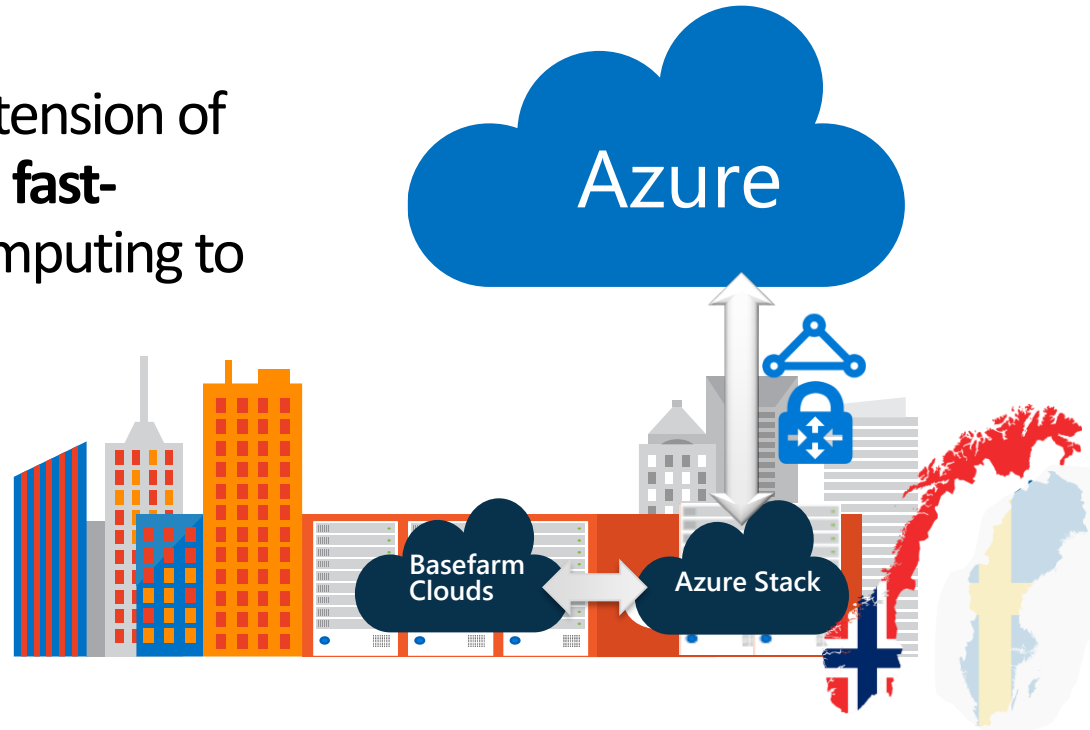
- Better understand of how Azure Stack can help you start your cloud journey while staying compliant and meeting your technical challenges
- How does the different roles (Three Amigos) relate to the Azure Stack
- What are the relevant scenarios for using Azure Stack

# Agenda

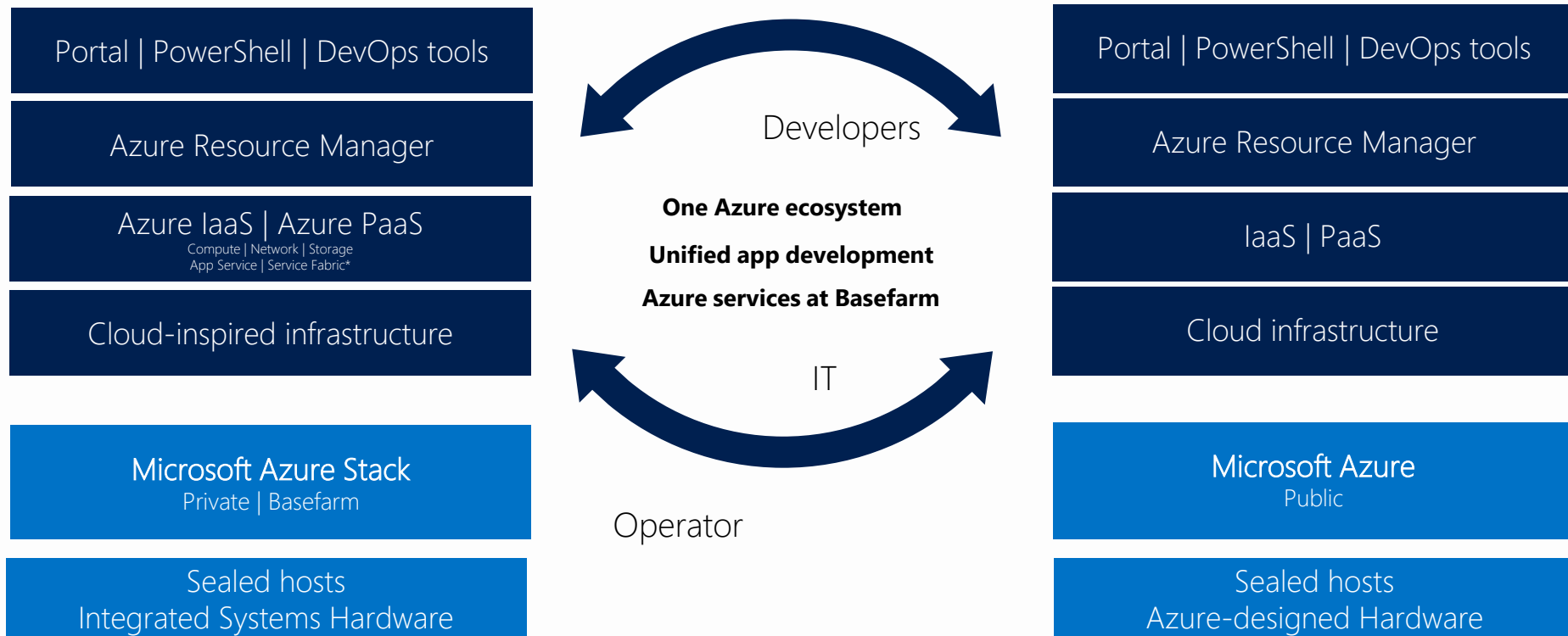
- What is Azure Stack, relevant scenarios and compliance
- The Stack Operator role and responsibility
- Modern applications - The Developer
- Infrastructure and tools – The IT Pro
- Wrap Up

# Azure Stack – A hybrid cloud platform product in a local/Basefarm datacenter

Microsoft Azure Stack is an extension of Azure, bringing the **agility and fast-paced innovation** of cloud computing to on-premises environments.



# One Consistent Platform



# Business and Technical Considerations

Regulations



Data  
sovereignty



Latency



Uncertainty



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Hybrid solution

**NIC**

# How is Azure Stack relevant to your organization and your industry

- Bank and Finance
  - Accounting systems
  - Regulatory requirements
  - GDPR storing of data inside EU
- Public Sector
  - Sensitive data (e.g. health data)
  - Archive material
  - Local security law
- Other industries
  - Oil & Gas, Energy - Sensitive data
  - Disconnected solutions (ships, oil rigs)
  - Latency challenges in hybrid scenarios (retail and production industries)



# When to Use What

Scenario/type of application	On-Prem Cloud	Azure Stack	Public Cloud
Legacy application (VMs), no compliance issues, cloud strategy	X		X
Legacy application (VMs), compliance issues, cloud strategy	X	X	
Application Modernization, IaC, compliance or latency issues	(x)	X	(X)
Application Modernization, IaC, no compliance or latency issues			X



Operator

# AzureStack delivery and deploy



**NIC**

# The right way to think about Azure Stack

## *What it is*

First consistent Hybrid Cloud Platform

Integrated system with IaaS & PaaS

Regularly updated for Azure-consistency

Truly open and flexible (just like Azure)

## *What it isn't*

Virtualization-replacement play

DIY infrastructure

Static system you deploy & forget

.NET/Windows only

# Security principles

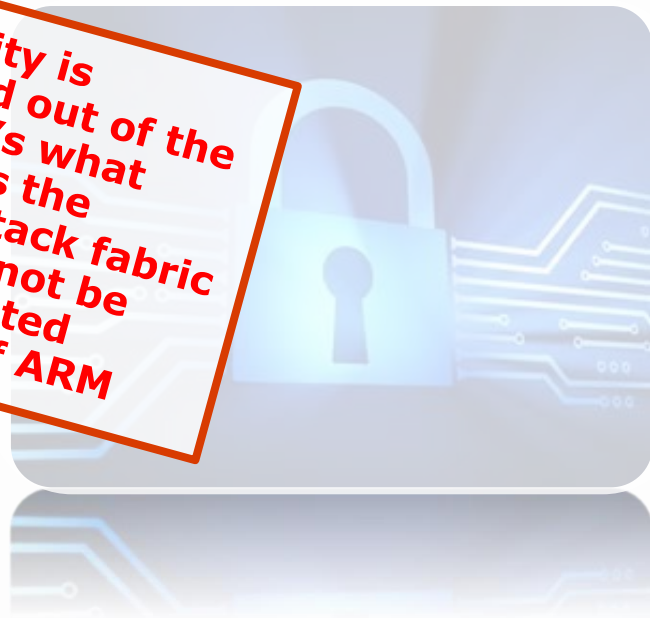
## Assume Breach

- Constrained admin
  - Least privilege, RBAC
  - Just enough administration
- Application whitelisting
- Network whitelisting
- Customized auditing

## Hardened by default

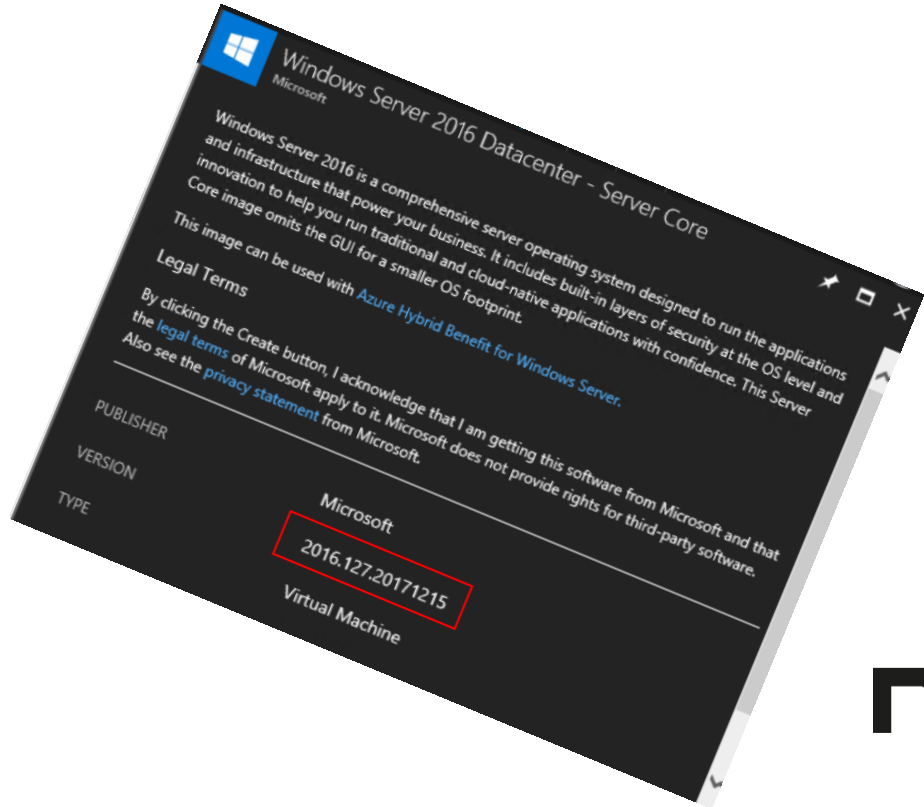
- Data-at-rest encryption
- Security OS baseline
- Disabled legacy protocols (e.g. NTLM)
- Customized AV configurations

**Security is applied out of the box. It's what hardens the Azure Stack fabric so it cannot be manipulated outside of ARM**

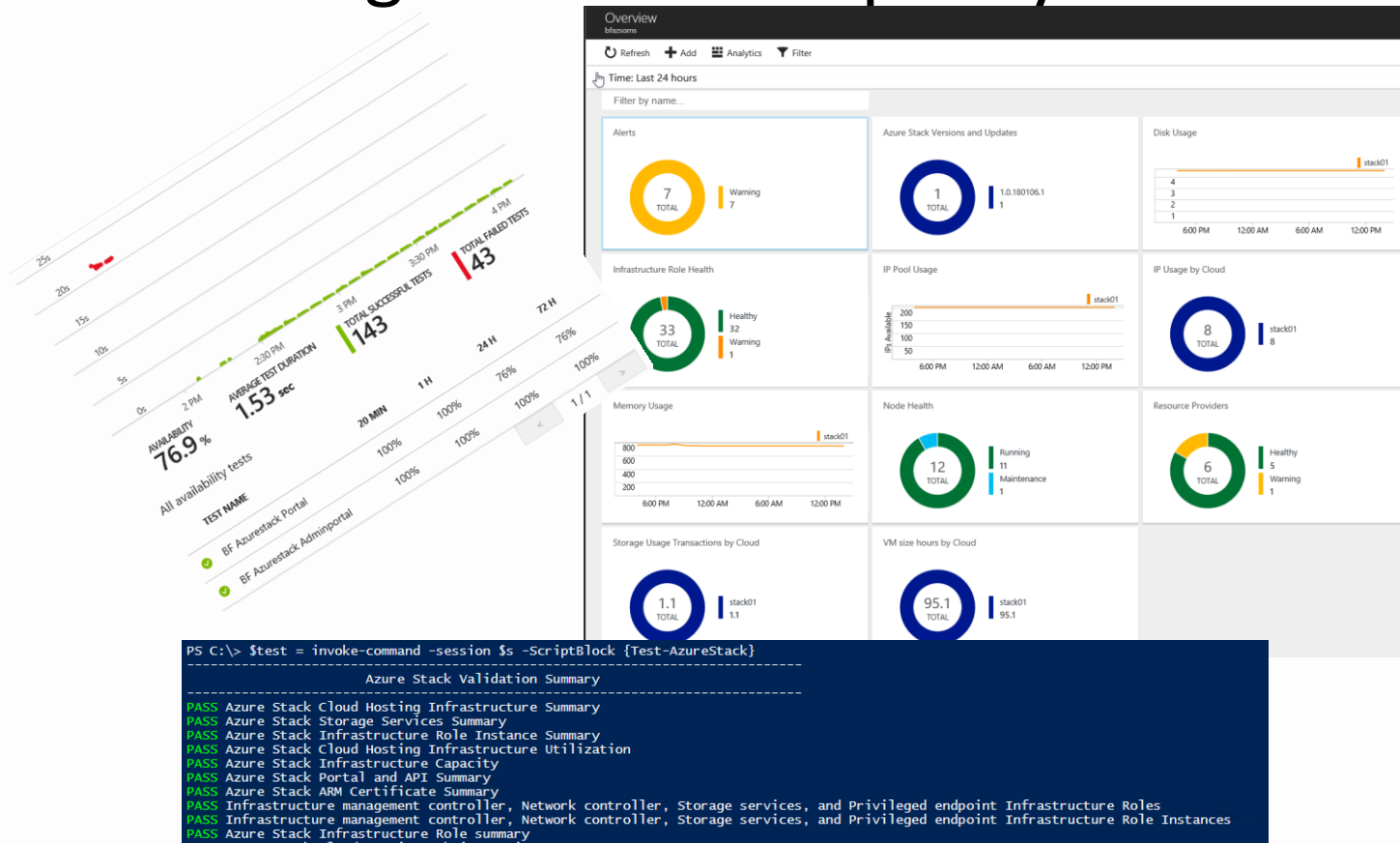


# Subscriptions Plans and Marketplace

- Plans
- Offers
- Quotas
- Marketplace syndication

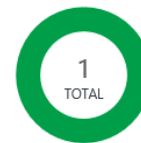


# Monitoring status and capacity



# Updates and Support

Azure Stack Analytics



Microsoft Azure Stack - Administration | oslo> | Update run details

Search resources

oslo  
Updates  
↑ Update now

Essentials ^

State  
In progress  
Current stamp version  
1.0.171201.3

Last updated  
January 23, 2018 12:05:23 PM CET  
Current OEM version  
1.0.1710.2

Filter by name Available updates

PUBLISHER	NAME	STATE	PREREQUISITE	SIZE (MB)	DATE INST/
Microsoft	MAS - 1.0.180106.1	Installing	1.0.171122.1	1978	---

Update runs: MAS - 1.0.180106.1

STATE	TIME STARTED	DURATION (HH:MM)
In progress	January 23, 2018 12:05:23 PM CET	02:56

Update run details  
bab9246-d412-4e67-b403-bb5742867711

Refresh Download full logs Resume

20 Succeeded 0 Errors 2 In progress

In progress

- Cloud Update  
Perform cloud update.
- Update Node Sets  
Live Update all nodes in a node set.

Checking update run progress  
Update run is successful

```
Unnamed step Success 11:38:14
  Pre-engine Update Success 00:29:22
    PreUpdate Cloud Success 00:13:02
      Update SeedRing SF Runtime Success 00:00:24
      Update SeedRing ECE Success 00:15:48
    Engine Update Success 00:08:12
      PreUpdate Cloud Success 00:05:55
      Update SeedRing SF Runtime Success 00:00:27
      Update SeedRing ECE Success 00:01:44
    Cloud Update Success 02:18:41
      Update Domain Success 00:03:00
      Check Cloud Health Success 00:16:40
      PreUpdate OEM. Success 00:00:07
      (DEP) Generate Code Integrity Policy Success 00:00:33
      Update OEM S2D whitelist. Success 00:00:08
      (FBI) Create new Storage Accounts Success 00:01:24
      NC Auto Update Disable Success 00:01:38
      Install Update. Success 00:52:52
      (DEP) Generate base images for hosts and virtual machines. Success 00:22:05
      (DEP) Generate host image. Success 00:19:39
      Update PrivilegedEndpoint whitelist Success 00:04:19
      Update Defender Success 00:00:57
      Update Node Sets Success 00:23:14
      Update SeedRing IBC Success 00:09:11
      Restart Storage Hosts Success 04:37:47
      Restart CA. Success 00:06:06
      Restart NC. Success 01:56:57
      Restart SQL. Success 00:14:07
      Restart SLB. Success 00:01:15
      Restart ACSFabric and Gateway Success 00:45:38
```





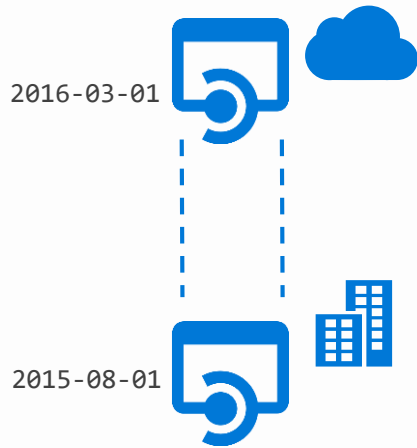
# Operator Demo



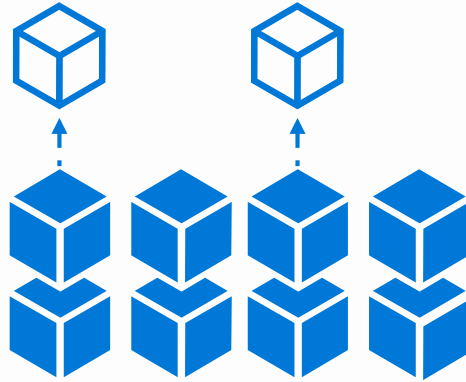
Developer

# How are Azure Stack services different?

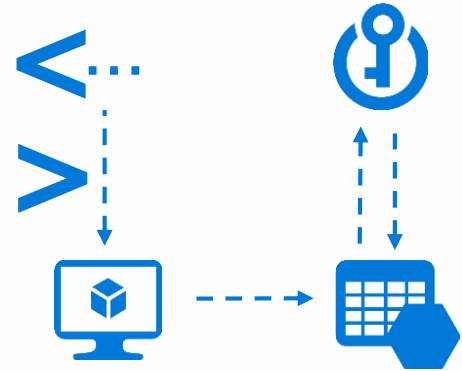
Azure services on Azure Stack can sometimes contain differences due to the following reasons:



API version



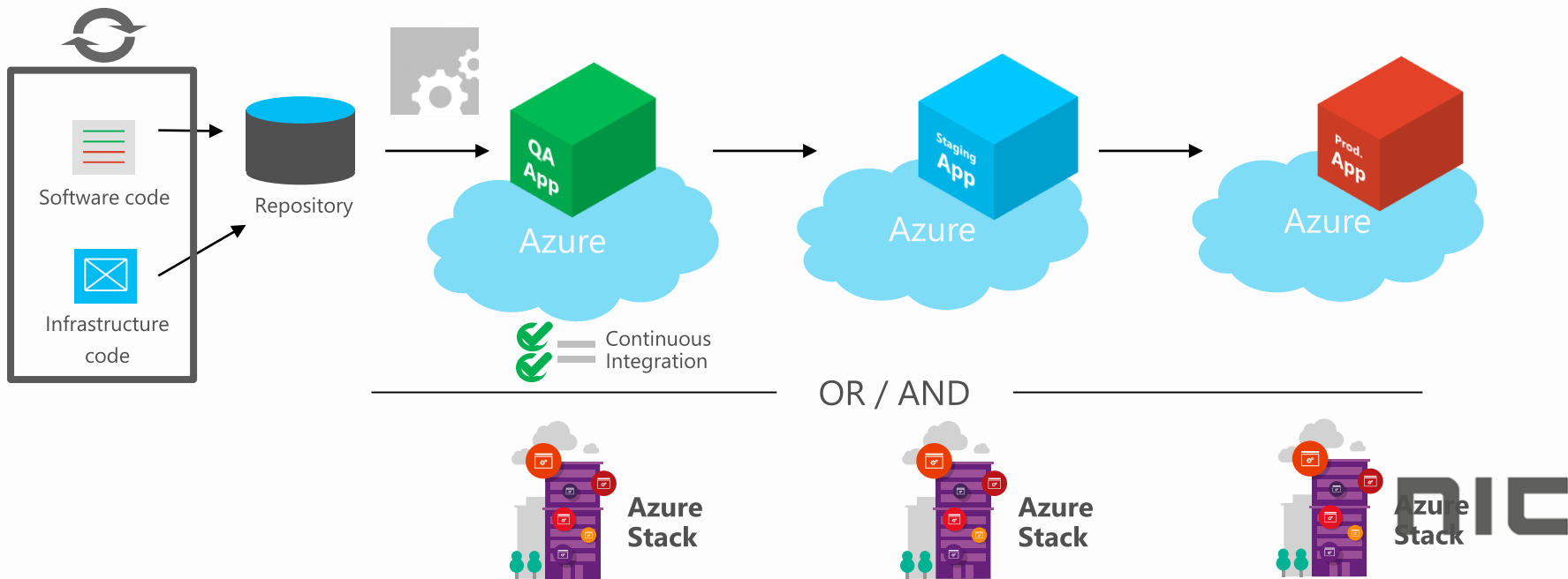
Scale



Dependencies

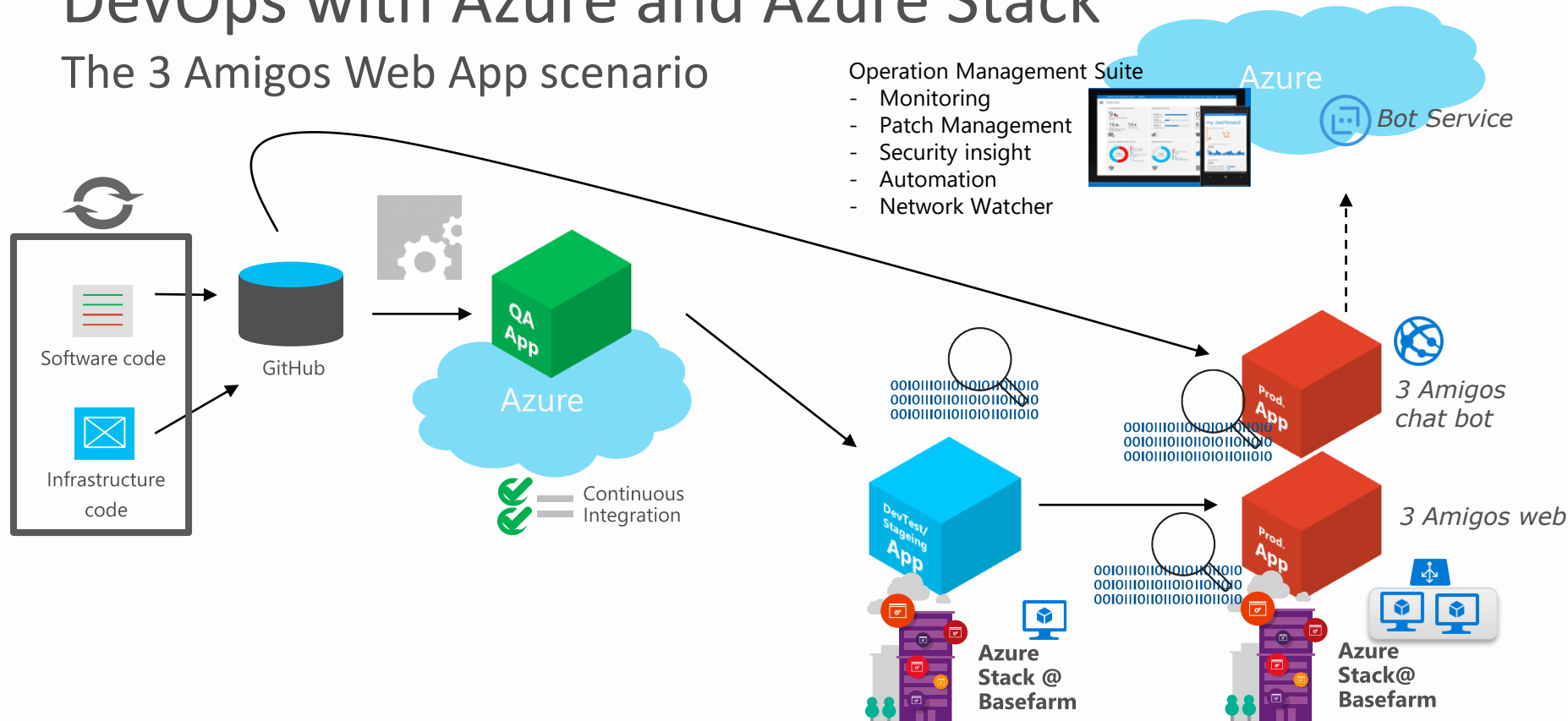
# DevOps with Azure and Azure Stack

- Application infrastructure defined as code: **fewer errors**
- Fast deployment time: **software delivers more value to end users**
- Requirements can freely dictate Azure/Azure Stack: **all apps leverage a DevOps workflow**



# DevOps with Azure and Azure Stack

## The 3 Amigos Web App scenario



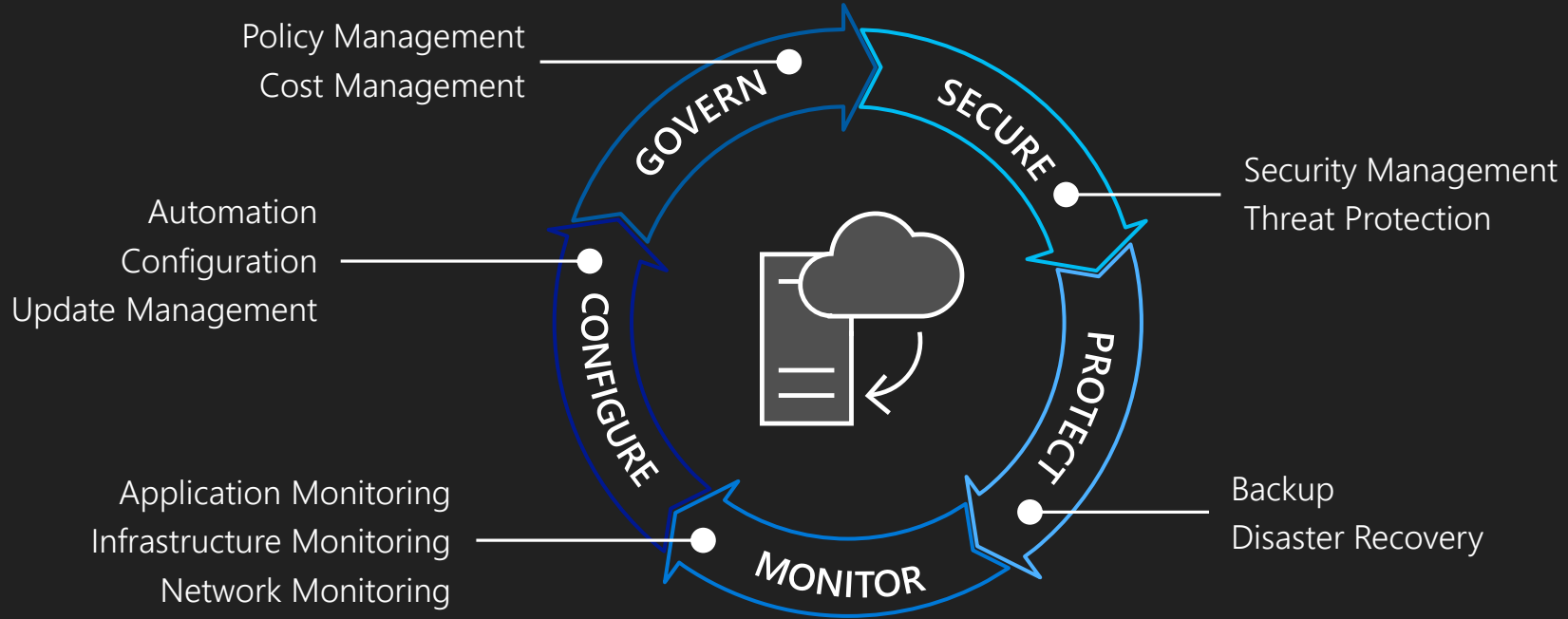


# Developer Demo



IT Pro

# Full stack of cloud management capabilities





# Operations Management



The image shows a tilted screenshot of a dark-themed window titled "Operation details". Inside the window is a table with two columns. The left column contains labels for various operation attributes, and the right column contains their corresponding values. The window has standard Windows window controls (minimize, maximize, close) in the top right corner.

Operation details	
OPERATION ID	73DC74D3E85FAA34
TRACKING ID	96cf7b8f-6e1a-40b1-9545-9684e75ef3db
STATUS	Created
PROVISIONING STATE	Running
TIMESTAMP	1/29/2018 2:46:10 PM
DURATION	45 seconds
TYPE	Microsoft.Compute/virtualMachines/extensions
RESOURCE ID	/subscriptions/a7c78205-7814-404a-abec-645f494fae8e/resource
RESOURCE	klasmus/MicrosoftMonitoringAgent



IT Pro Demo

# Summary

- What is AzureStack and what is the purpose
- What does the AzOperator do
- Dev doing stuff in Stack
- Ops securing and fix the deployments

Tech Meetup/Hands-on labs – 14. March – Teknologihuset



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