Architecture – ActiveGates

Dynatrace Training Module

Agenda

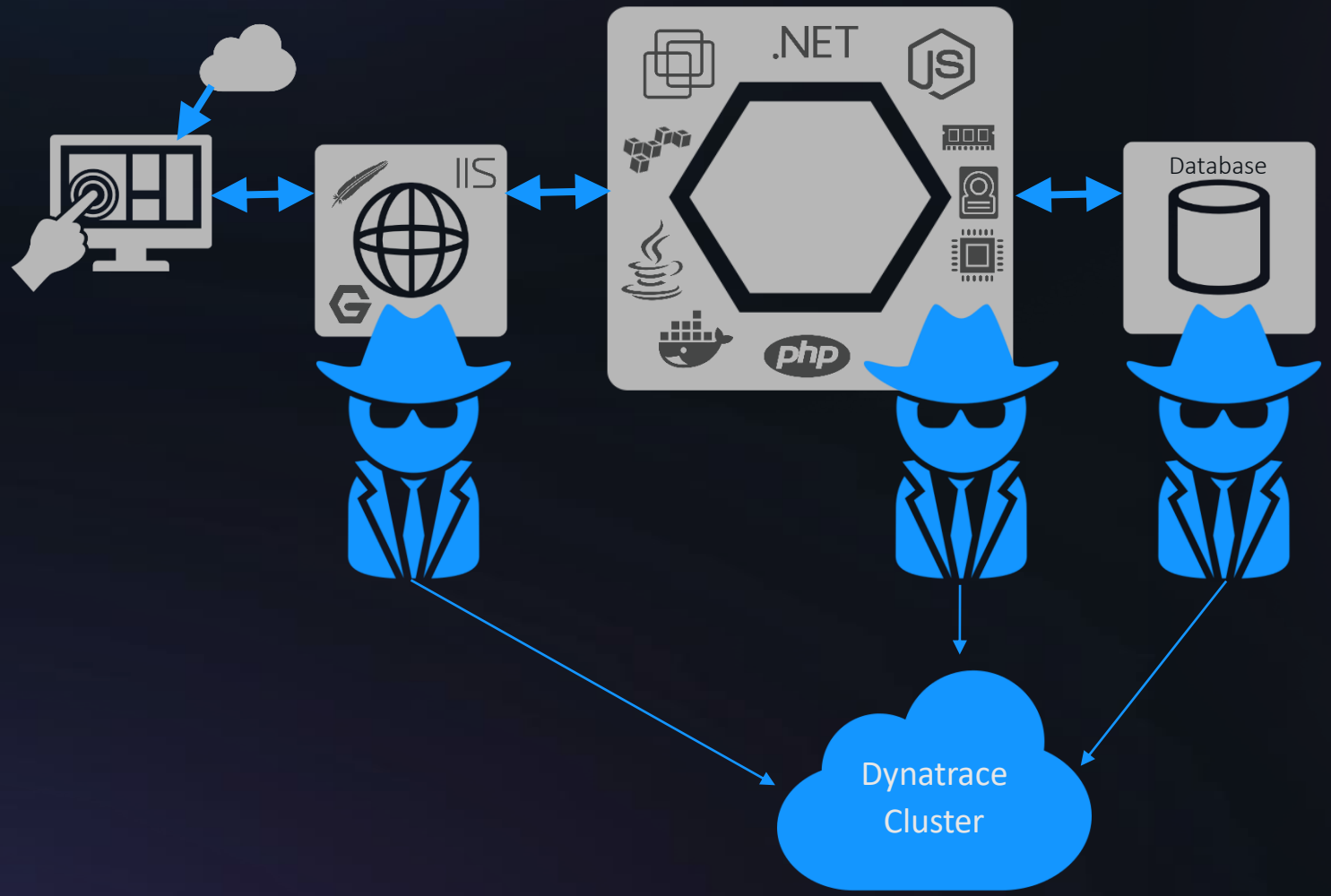
- ActiveGates
  - Network Zones
- Additional Features
- SaaS
- Managed

ActiveGates

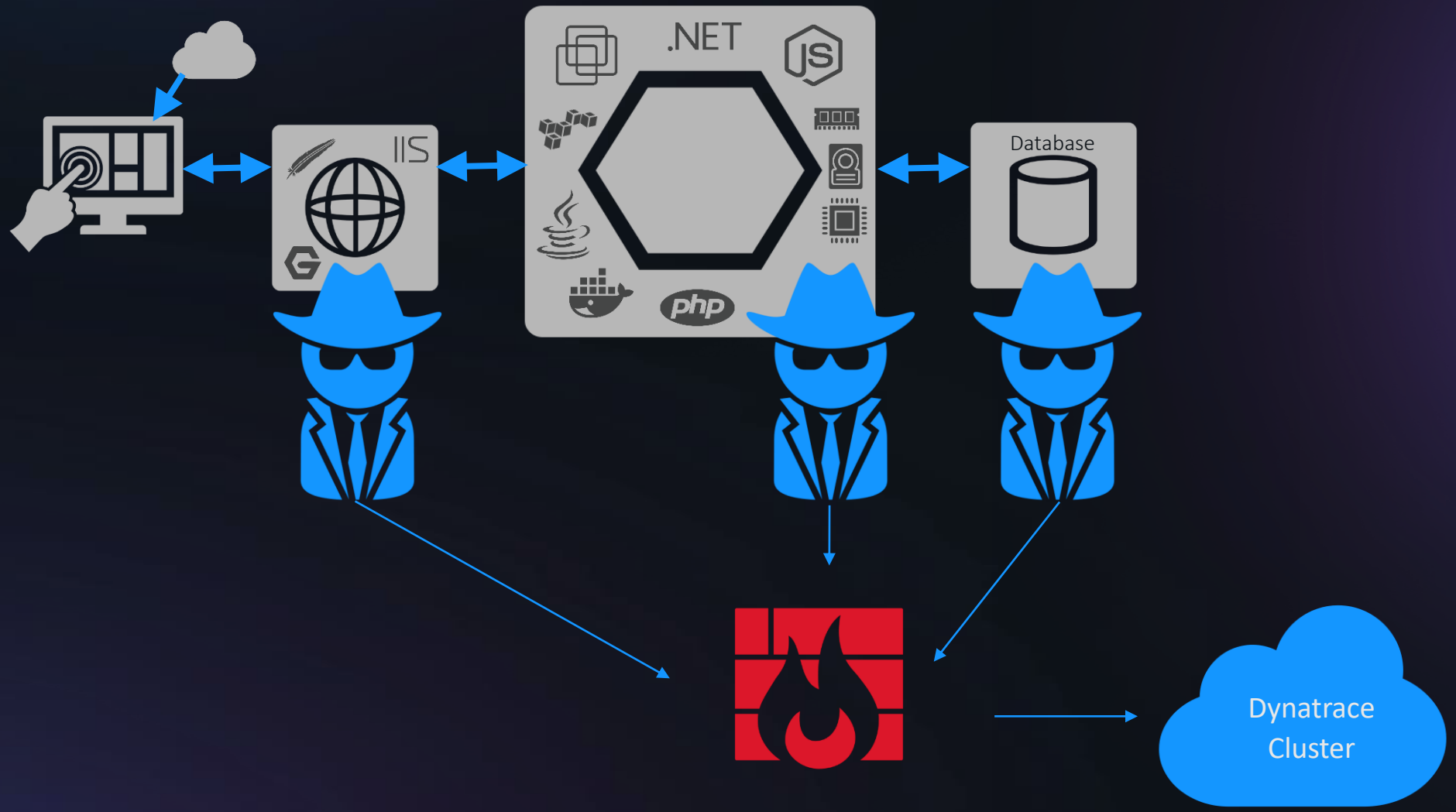
What is an ActiveGate?

- Proxy between the OneAgent and Dynatrace Cluster

Hosts with Direct Access



Hosts without Direct Access



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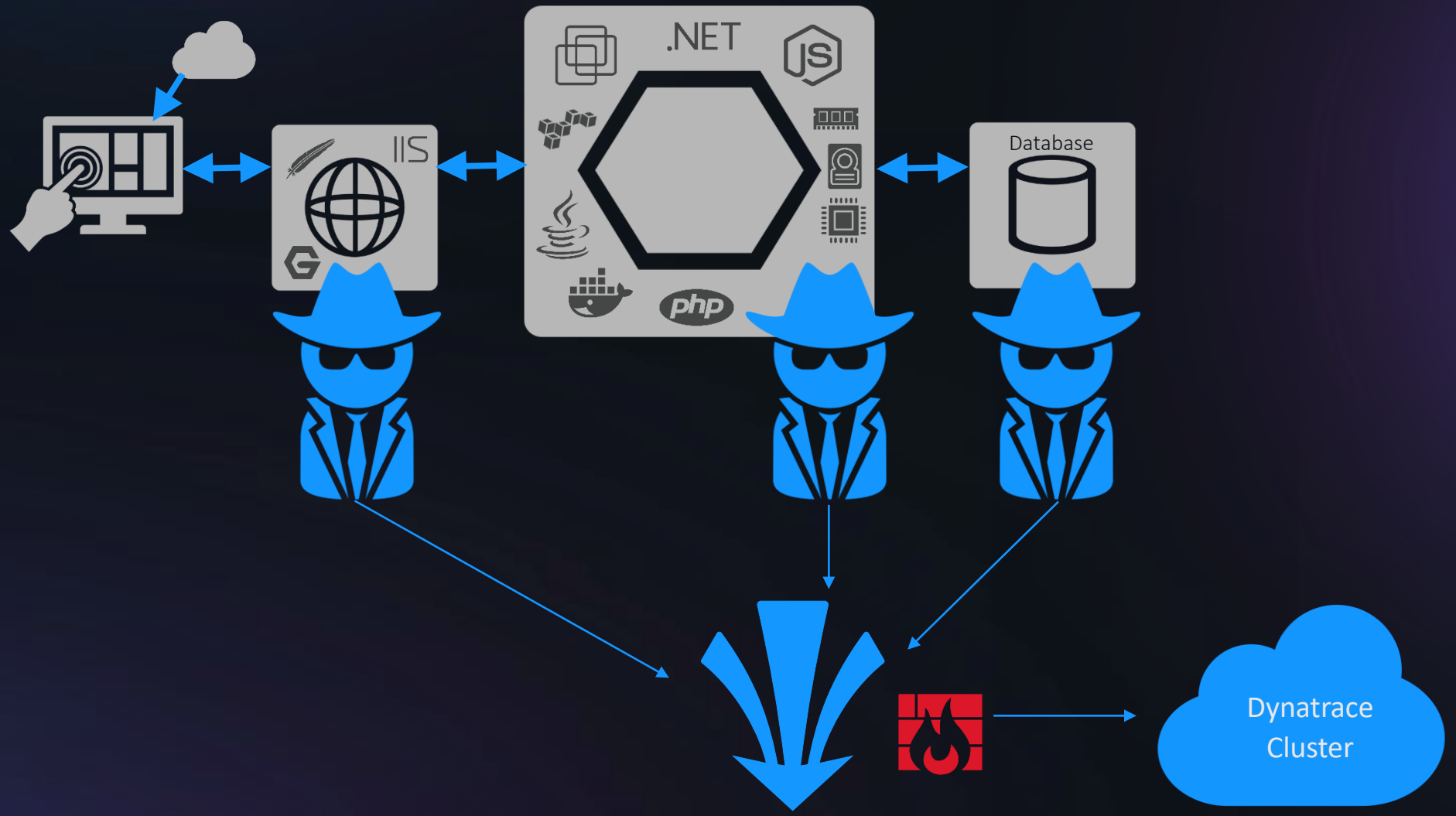

What is an ActiveGate?

- Proxy between the OneAgent and Dynatrace Cluster
  - Reduce firewall changes
  - Compress traffic between datacenters and the Dynatrace Cluster
- The only component that needs direct access to the Cluster

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- Proxy between the OneAgent and Dynatrace Cluster
  - Reduce firewall changes
  - Compress traffic between datacenters and the Dynatrace Cluster
- The only component that needs direct access to the Cluster
- No extra configuration: install where all agents can access it and setup is handled automatically!

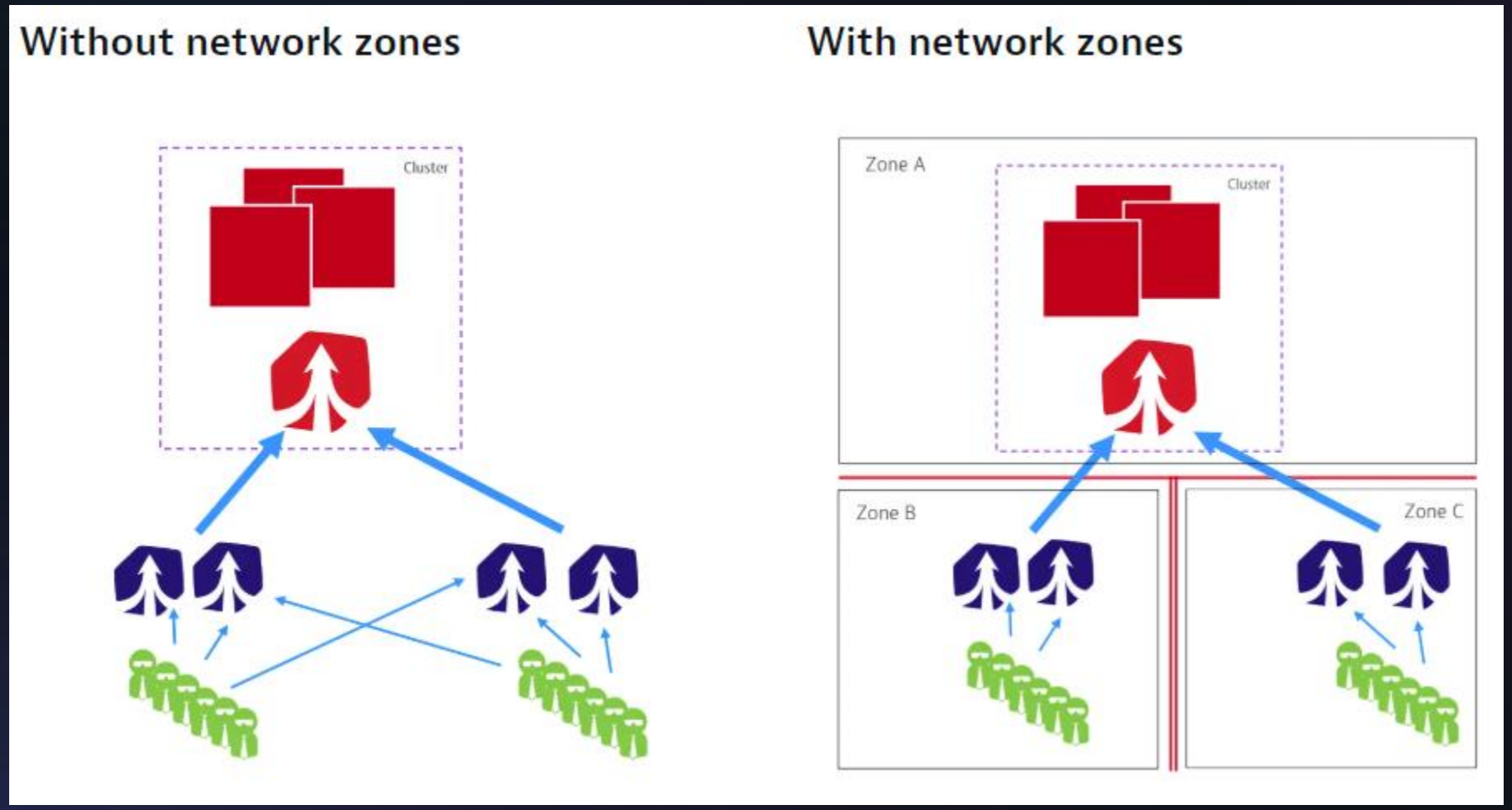
Agent – ActiveGate load balancing and failover

- Agents are aware of all endpoints they can send data to
- Round robin distribution
- Every 5 mins a check is done to see if agent needs to switch AG
- Every agent needs to determine if an AG is unavailable to itself
- No location awareness → Use **Network Zones** optimize traffic flow
  - https://www.dynatrace.com/support/help/shortlink/network-zones

Why would I need a Network Zone?

- Multi-datacenter, hybrid cloud deployments are increasingly common, especially among larger deployments
- Without Network Zones agent traffic is load balanced among all ActiveGates a OneAgent can connect to, regardless of location
- Network Zone Use Cases
  - Optimize traffic flow from OneAgents to ActiveGates
  - Eliminate unnecessary cross-datacenter traffic
  - Take full advantage of the compression offered by ActiveGates

Why would I need a Network Zone?



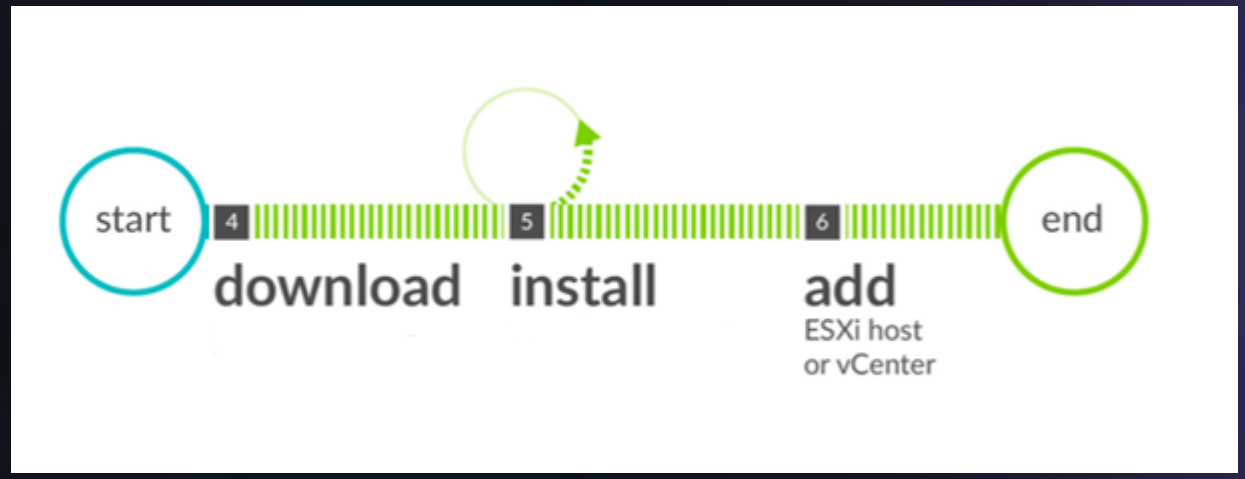
How to Set the Network Zone

- Determine Network Zone Naming: https://www.dynatrace.com/support/help/shortlink/network-zones-basics#naming-pattern
- An ActiveGate can be assigned to a Network Zone at the time of installation
  - Installers allow you to set the Network Zone on the command-line
    - --set-network-zone=My.Network.Zone
    - https://www.dynatrace.com/support/help/shortlink/network-zones-new-installation-deploy#h1-install-activegates
- Alternatively, the ActiveGate configuration can be changed after installation.
  - Modify the "custom.properties" file in the ActiveGate configuration directory: https://www.dynatrace.com/support/help/shortlink/sgw-files#directory-locations
  - Add the necessary settings: https://www.dynatrace.com/support/help/shortlink/sgw-configure#section-connectivity-
- You can configure one or more alternative network zones in the UI to serve as backup zones
- OneAgents are still aware of all ActiveGate and Cluster endpoints and will automatically failover if necessary

Steps to Install the ActiveGate

1. What's the purpose of this ActiveGate?

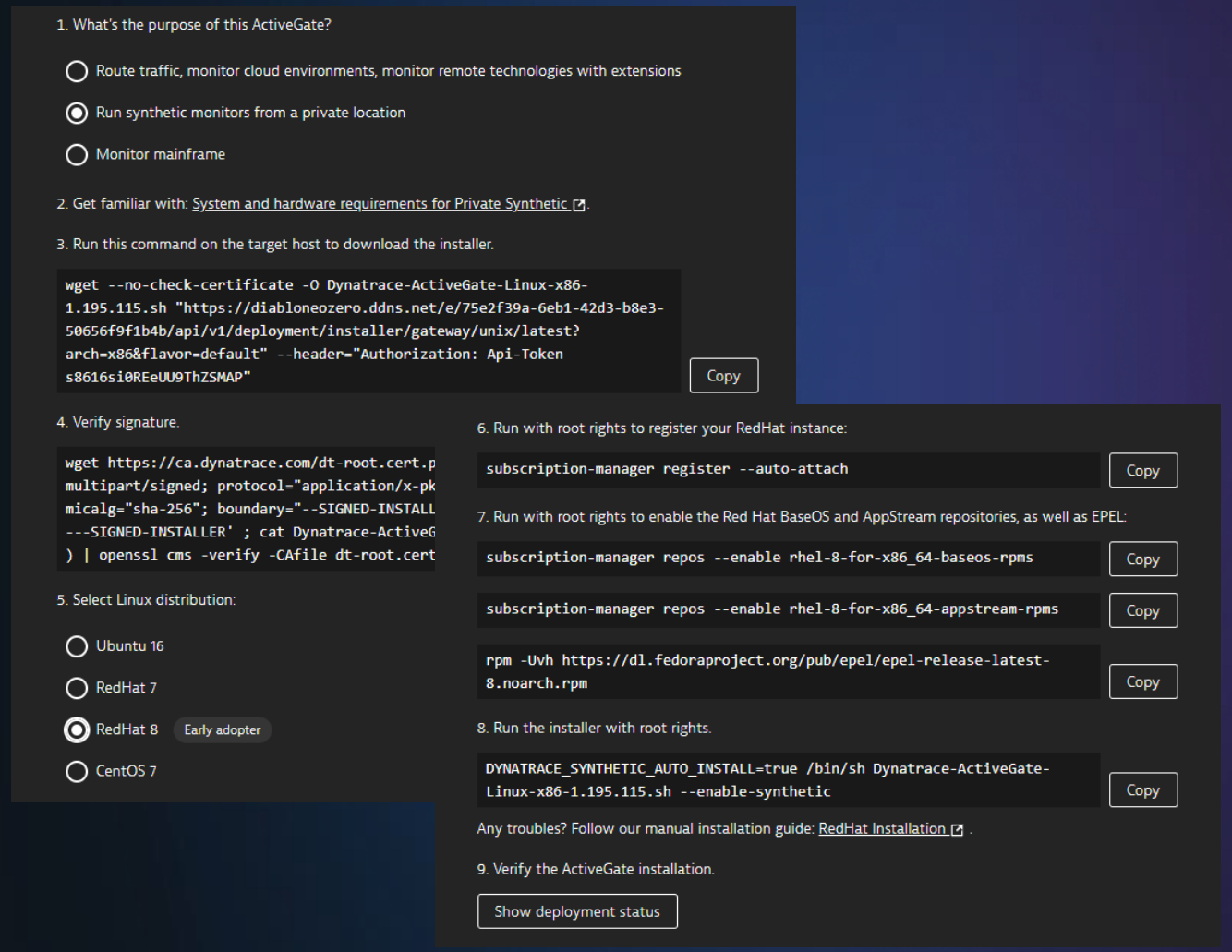
- (●) Route OneAgent traffic to Dynatrace, monitor cloud environments, or monitor remote technologies with extensions
- ( ) Run synthetic monitors from a private location
- ( ) Route z/OS traffic to Dynatrace



1. Select the purpose of the Environment ActiveGate
2. Download the Installer - Windows or Linux OS
3. Run the installer on the host(s) where the ActiveGate(s) will run

Synthetic monitoring mode

- A step-by-step workflow for deploying synthetic locations presents all the commands necessary by OS
  - Ensure fast, consistent and reliable private synthetic monitoring location deployments across supported operating systems



Utilizing a Proxy

- Agents can communicate to the AG through a proxy
  - Pass during the installer as a command line argument
- AG can communicate to the Cluster through a proxy
  - Edit the ‘custom.properties’ file
- AG can communicate with monitored cloud and virtualization platforms through a proxy
  - Edit the ‘custom.properties’ file (ActiveGate version 1.207 and later)
  - Use case examples: AWS, Azure, Cloud Foundry, Kubernetes, VMware

Additional Features

Additional Features

- There are several features that use ActiveGates
- We are going to discuss those features and the types of ActiveGates you will need to use them

Additional Features

- OneAgents
- API Monitoring
- PaaS Integration
- Agentless RUM
- Mobile Monitoring
- Synthetic Monitoring
- Mainframe Monitoring
- ActiveGate Extensions

OneAgents

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API Monitoring

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PaaS Integration

Azure

CLOUD FOUNDRY

Google Cloud Platform

IBM Bluemix

HEROKU

OPENSHIFT

kubernetes

Additional Features

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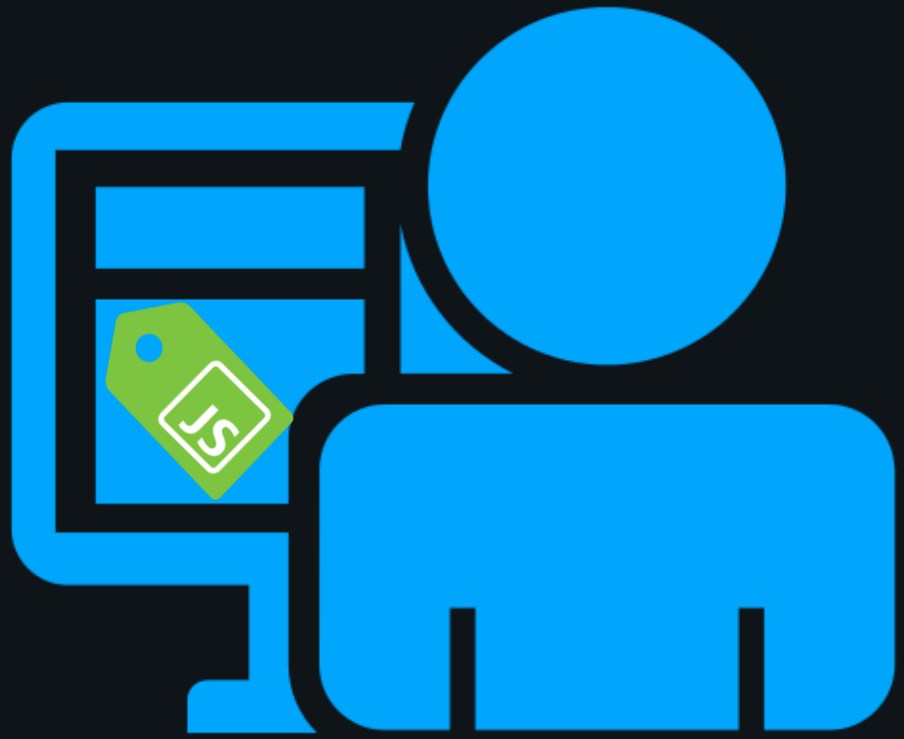
Agentless RUM



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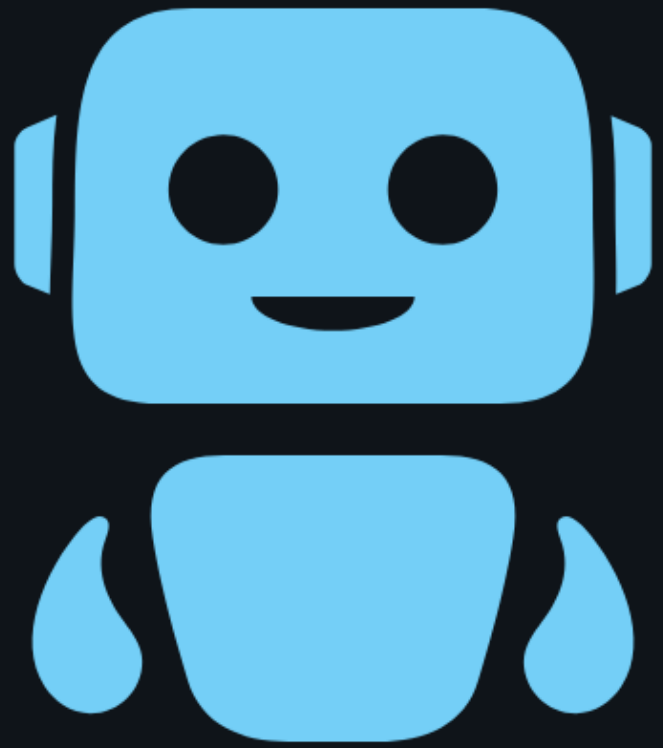

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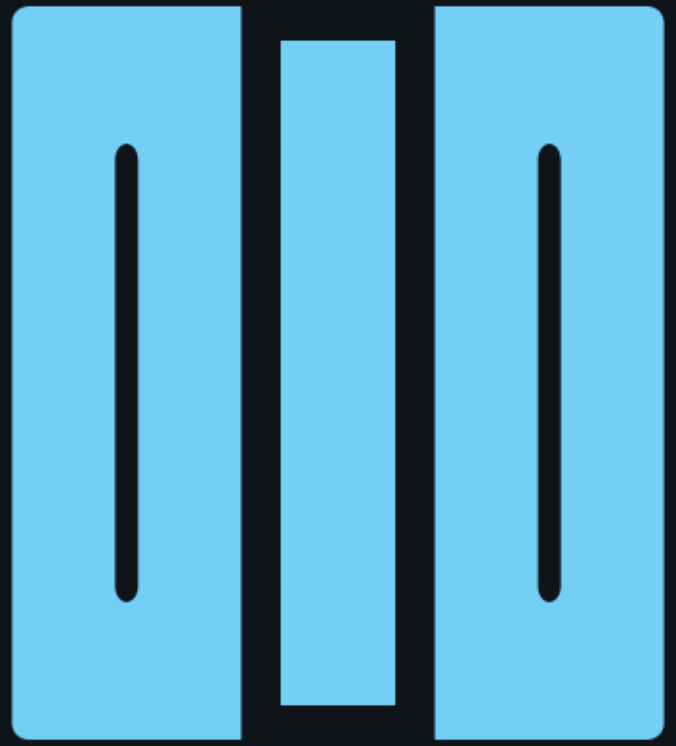
ActiveGate Extensions

Mainframe Monitoring



Additional Features

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Mobile Monitoring

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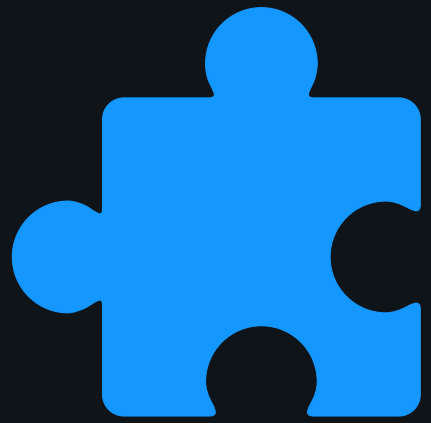
Mainframe Monitoring

ActiveGate Extensions

ActiveGate Extensions



SNMP traps

VCenter alarms

paloalto NETWORKS®

ActiveGates – SaaS

Do I need an ActiveGate?

Install an ActiveGate if you need to:

- Monitor virtualization and cloud platforms
- Limit the number of firewall changes
- Introduce load balancing for monitoring data within a large deployment
- Lower network bandwidth through compression and bundling of traffic
  - ~30% reduction in network traffic
- Deploy ActiveGate Extensions
- Create a private Synthetic location

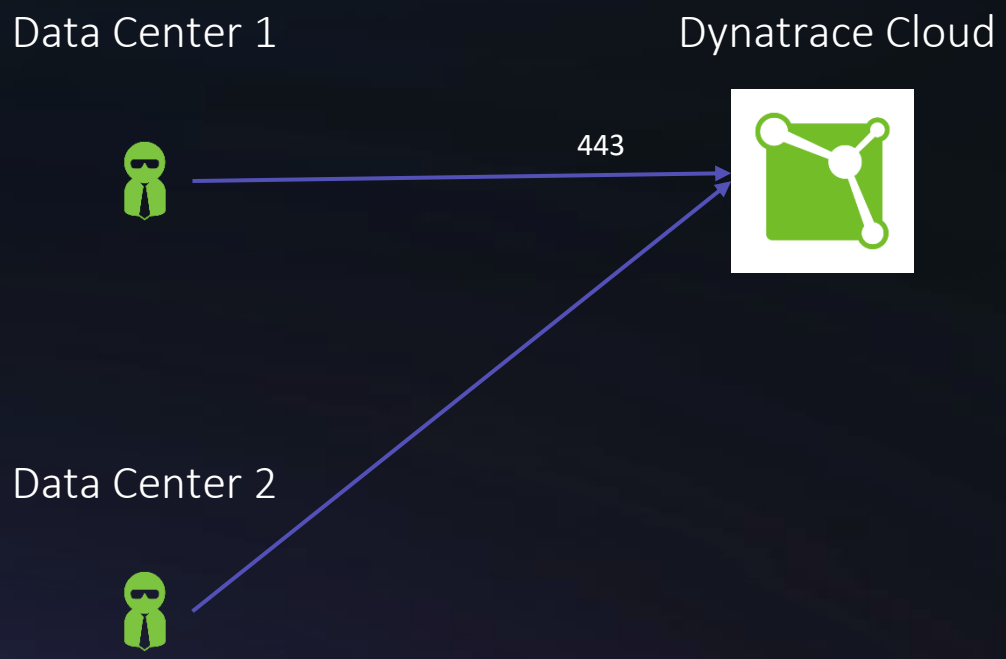
Recap – Do I need an ActiveGate?

Capability	Environment ActiveGate
AWS integration	Yes
VMWare integration	Yes
Azure integration	Yes
Cloud Foundry integration	Yes
VMware integration	Yes
Kubernetes/OpenShift integration	Yes
Private Synthetic location	Yes
Memory dump storage	Yes
Mainframe CICS/IMS	Yes
ActiveGate Extensions	Yes

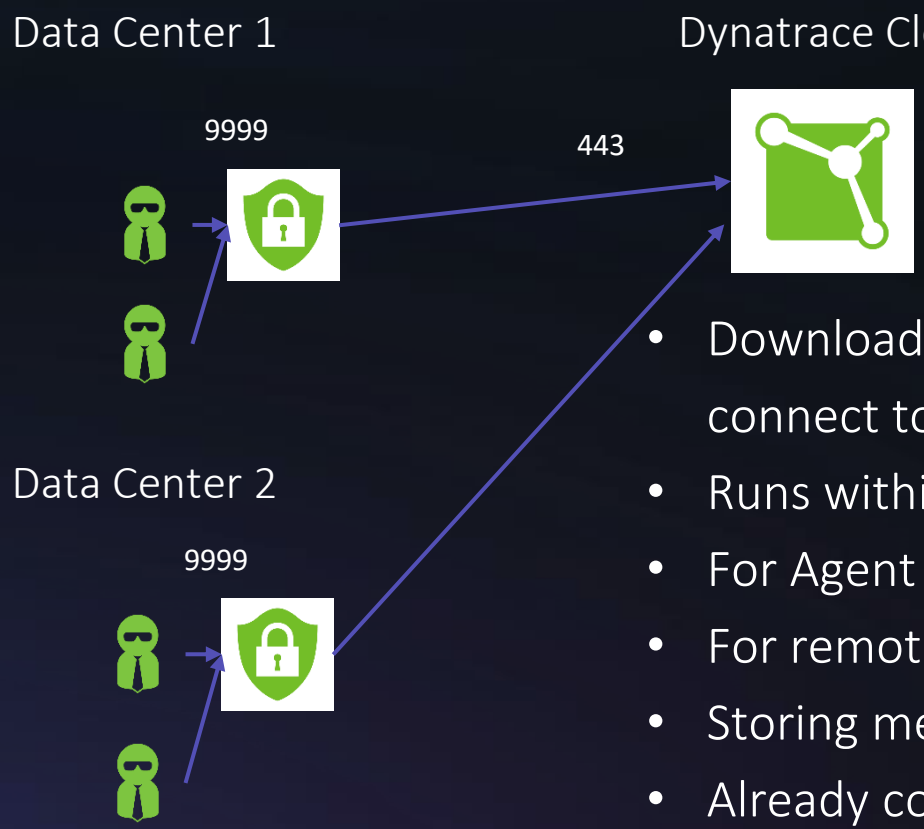
^ You must install and configure an Environment ActiveGate if you want to monitor either or both of the following:

- More than 2,000 AWS resources (AWS service instances)
- AWS Supporting Services: https://www.dynatrace.com/support/help/technology-support/cloud-platforms/amazon-web-services/supporting-services/

SaaS – Without Environment ActiveGate



SaaS – With Environment ActiveGate



- Download installer from environment, agents can only connect to environment where downloaded from
- Runs within your data center
- For Agent traffic bundling
- For remote plugin execution
- Storing memory dumps
- Already connected Agents automatically reroute through AG when found

Environment ActiveGate for multiple environments

- It is possible to set up a single Environment ActiveGate in support of multiple SaaS environments
  - Configure the ‘multitenant.properties’ to include each environment
  - Environments must be on the same SaaS cluster

ActiveGate – Managed

Do I need an ActiveGate?

Install an ActiveGate if you need to:

- Monitor virtualization
- Limit the number of firewall changes
- Introduce load balancing for monitoring data within a large deployment
- Lower network bandwidth through compression and bundling of traffic
  - ~30% reduction in network traffic
- Capture agentless RUM, Mobile RUM and Synthetic traffic
- Deploy ActiveGate Extensions

Recap – Do I need an ActiveGate?

Capability	Cluster ActiveGate	Environment ActiveGate
Agentless/Mobile RUM	Yes	
External Synthetic Monitors	Yes	
AWS integration	Only if monitoring more than 2000 AWS services ^	
Azure integration	Yes	Yes
Cloud Foundry integration	Yes	Yes
VMware integration	Yes	Yes
Kubernetes/OpenShift integration	Yes	Yes
Private Synthetic location	Yes	Yes
Memory dump storage	Yes	Yes
Mainframe CICS/IMS		Yes
ActiveGate Extensions		Yes

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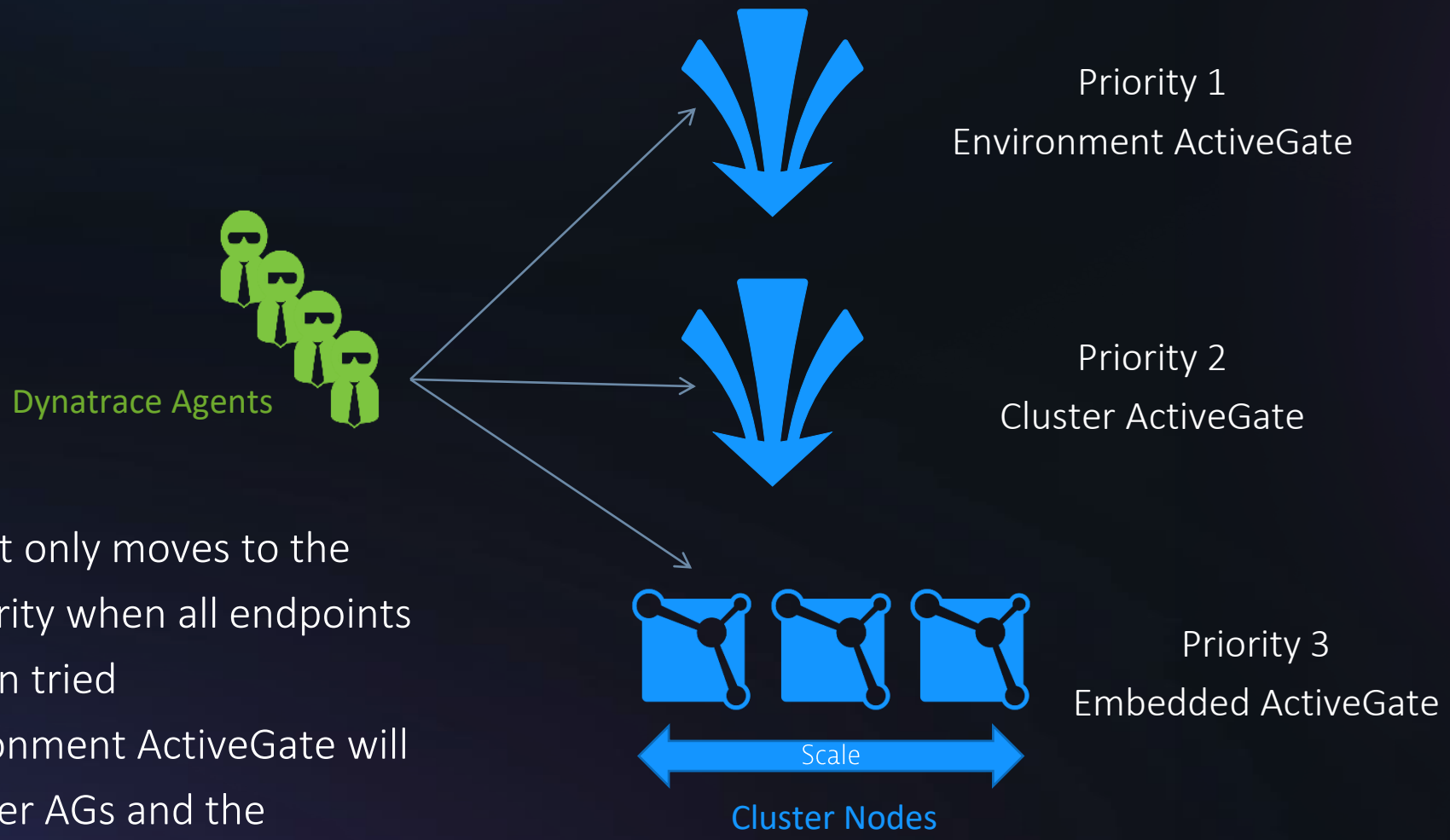
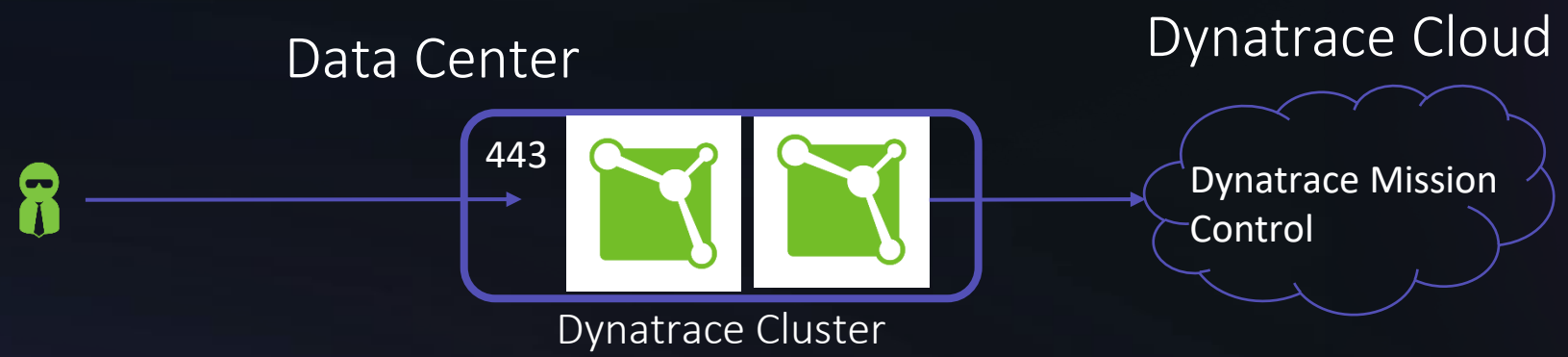
ActiveGate Priority

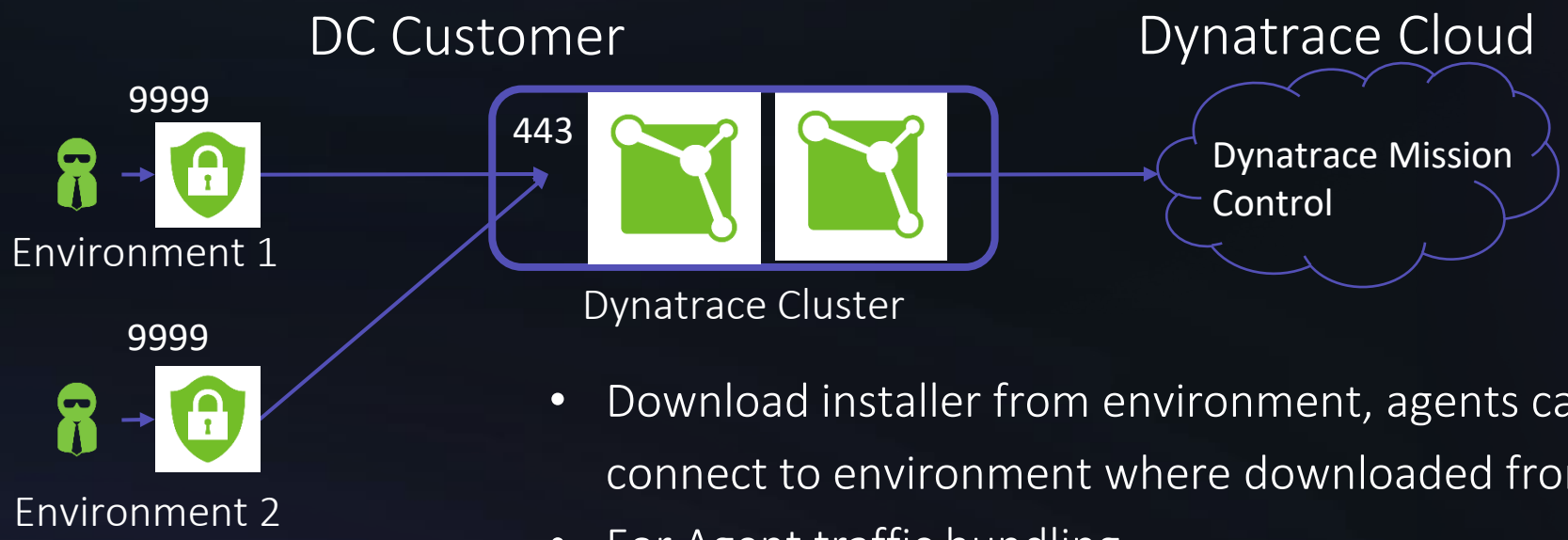


- The agent only moves to the next priority when all endpoints have been tried
- An Environment ActiveGate will use Cluster AGs and the Embedded AGs as endpoints

Managed – Without Environment ActiveGate



Managed – With Environment ActiveGate



- Download installer from environment, agents can only connect to environment where downloaded from
- For Agent traffic bundling
- For Extensions execution
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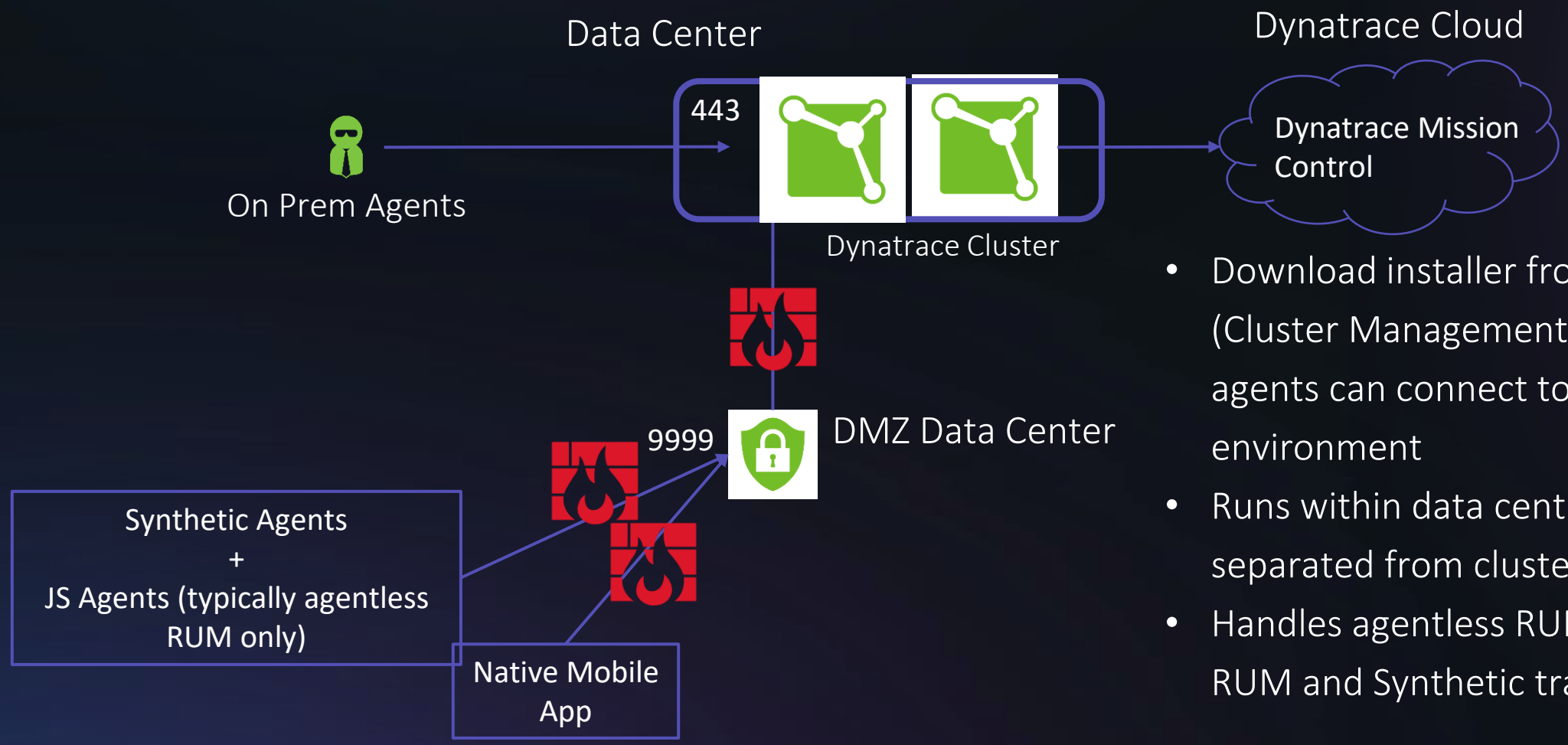
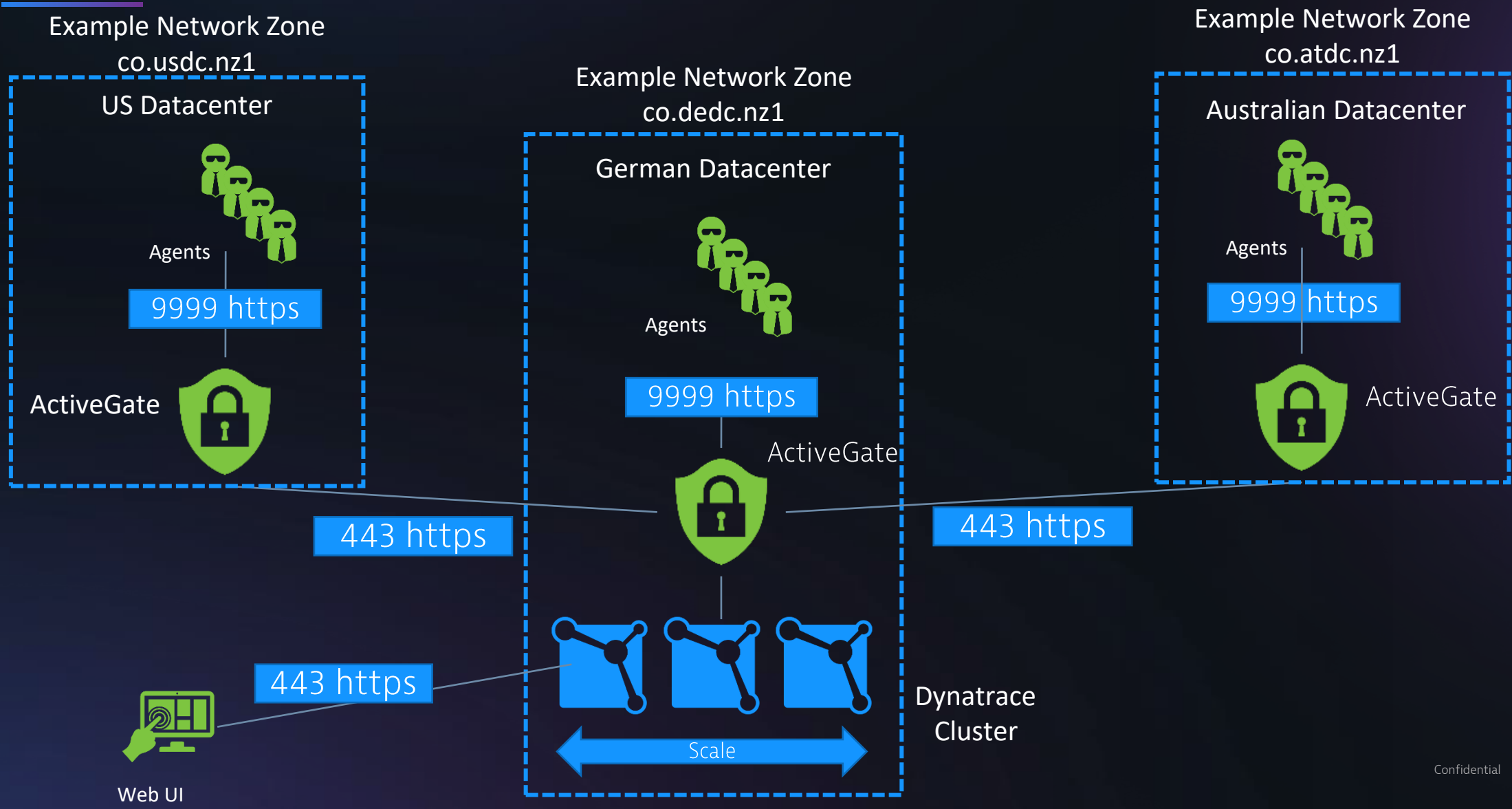
Managed – With Cluster ActiveGate



- Download installer from CMC (Cluster Management Console), agents can connect to any environment
- Runs within data center, must be separated from cluster node
- Handles agentless RUM, Mobile RUM and Synthetic traffic

Managed Architecture – Multi Datacenter Best Practice



Questions?

Simply smarter clouds