

Effortlessly Deploying a PI System in Azure or AWS

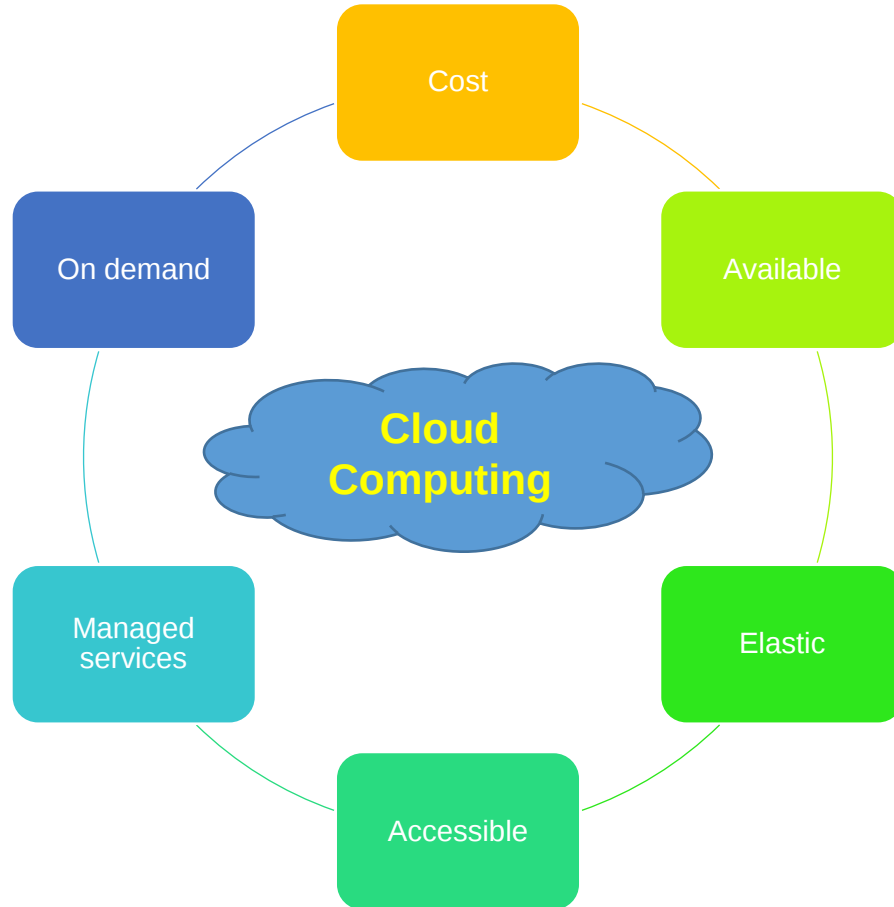
Eugene Lee
Technology Enablement

Valentin Ivanov
Cloud Architect

Agenda

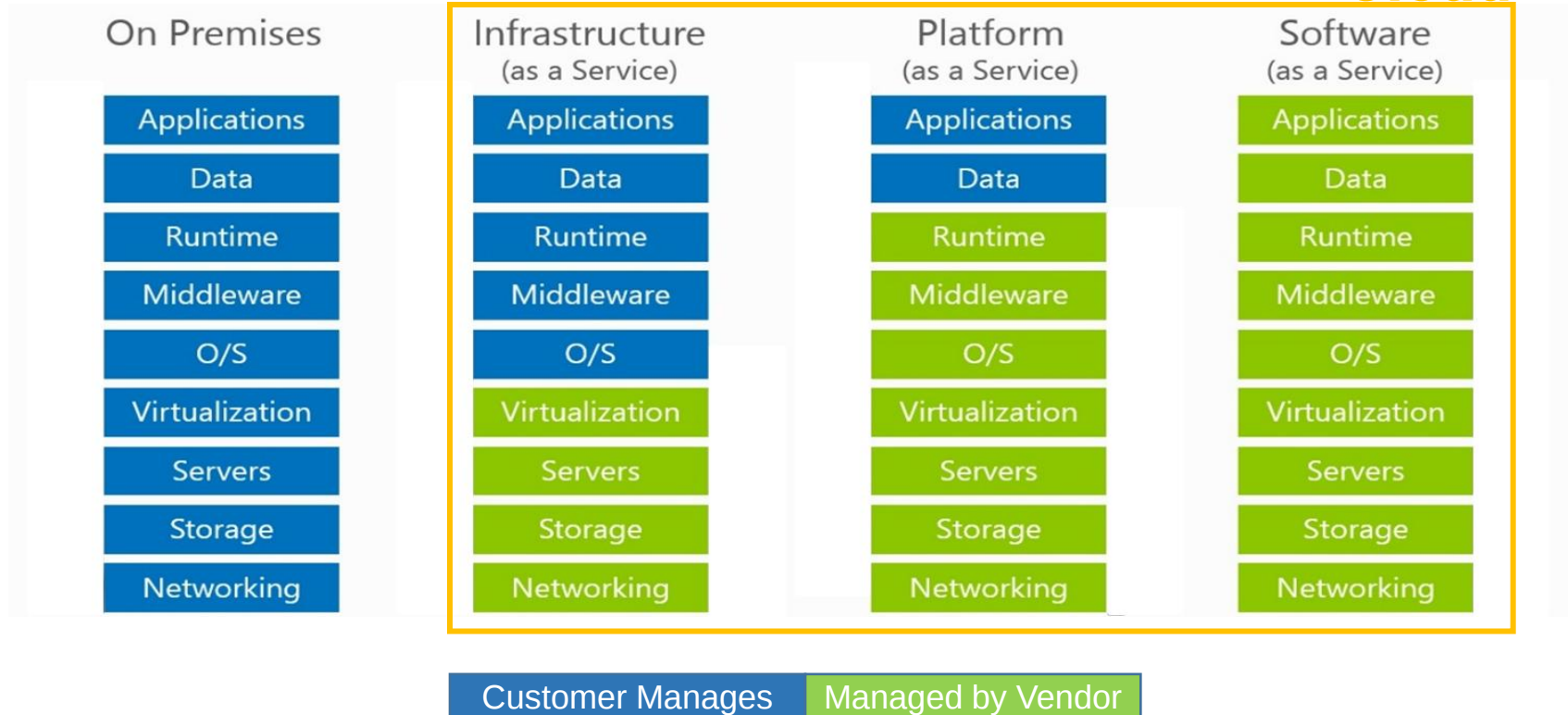
- Introduction
- Concepts
- Demo flow
- Azure Demo
- AWS Demo
- Conclusion

Introduction



How to run your app?

Cloud

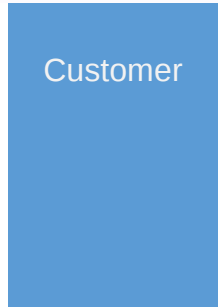


Velocity vs Flexibility Trade-off



OSIsoft Offerings at Each Level

On Premises

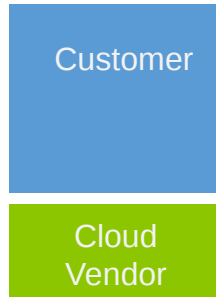


Integrate with other
cloud platforms

Achieved TODAY with...

**PI Server +
PI Integrators**

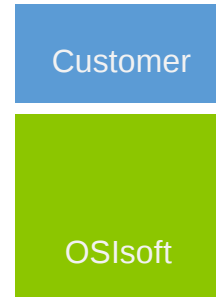
Infrastructure (as a Service)



Make PI System
"Cloud Ready"

**Best Practices,
Quick Starts,
Scripts**

Platform (as a Service)



Offer a **Platform for**
Customer & Partner **Apps**

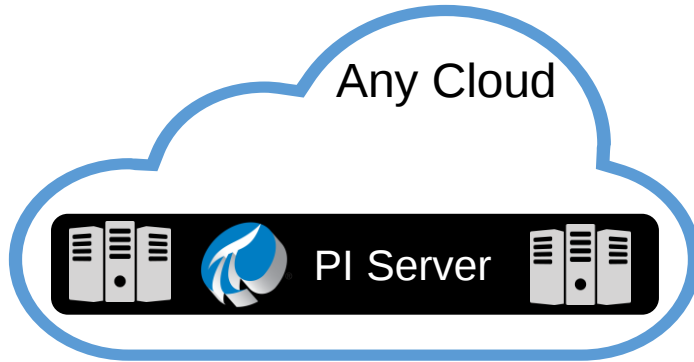
Achieved TOMORROW with...

*OSIsoft Cloud Services
(OCS)*

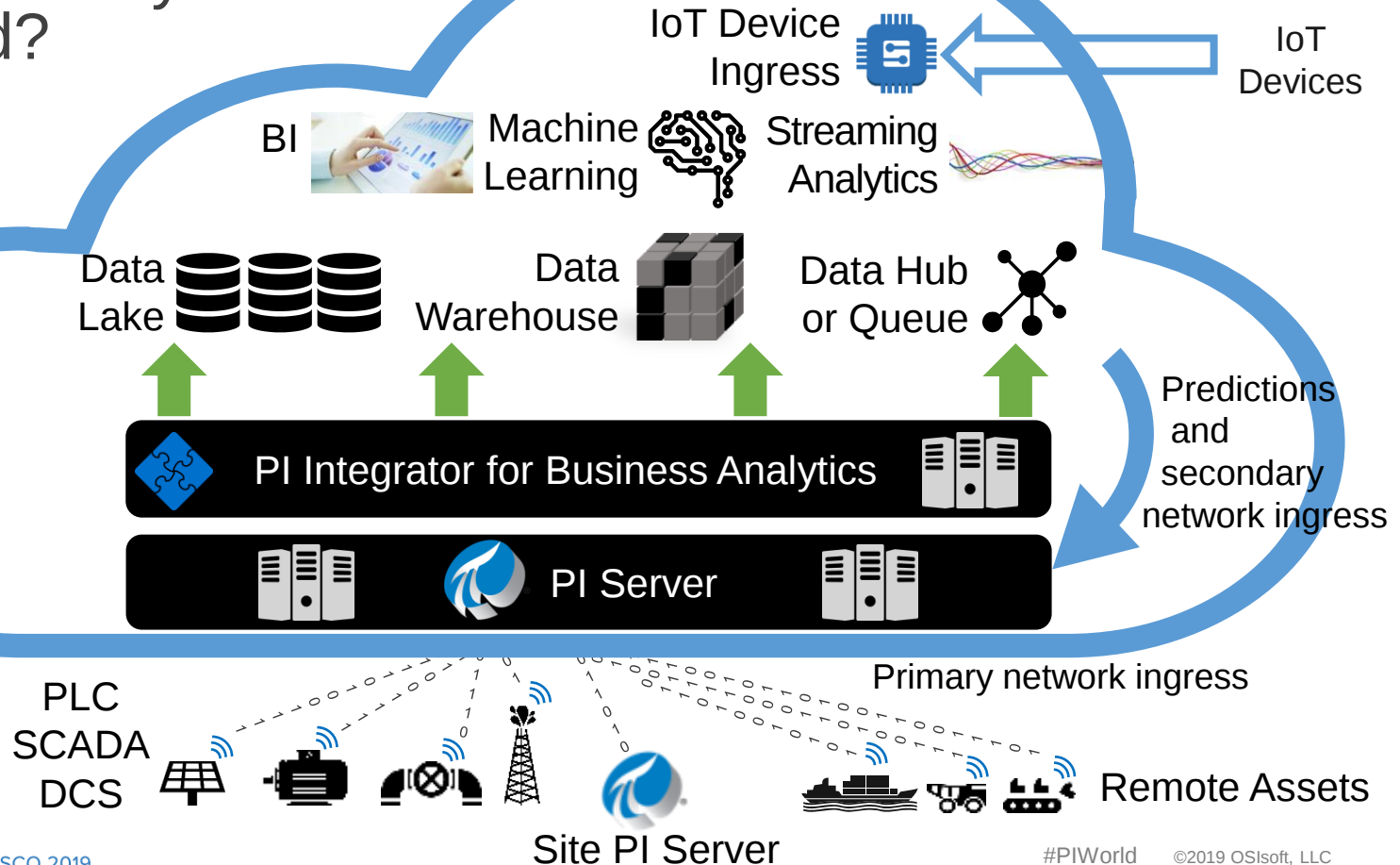
Software (as a Service)



Deliver native, multi-
tenant, & complementary
Cloud Services



Why have a PI System in the Cloud?

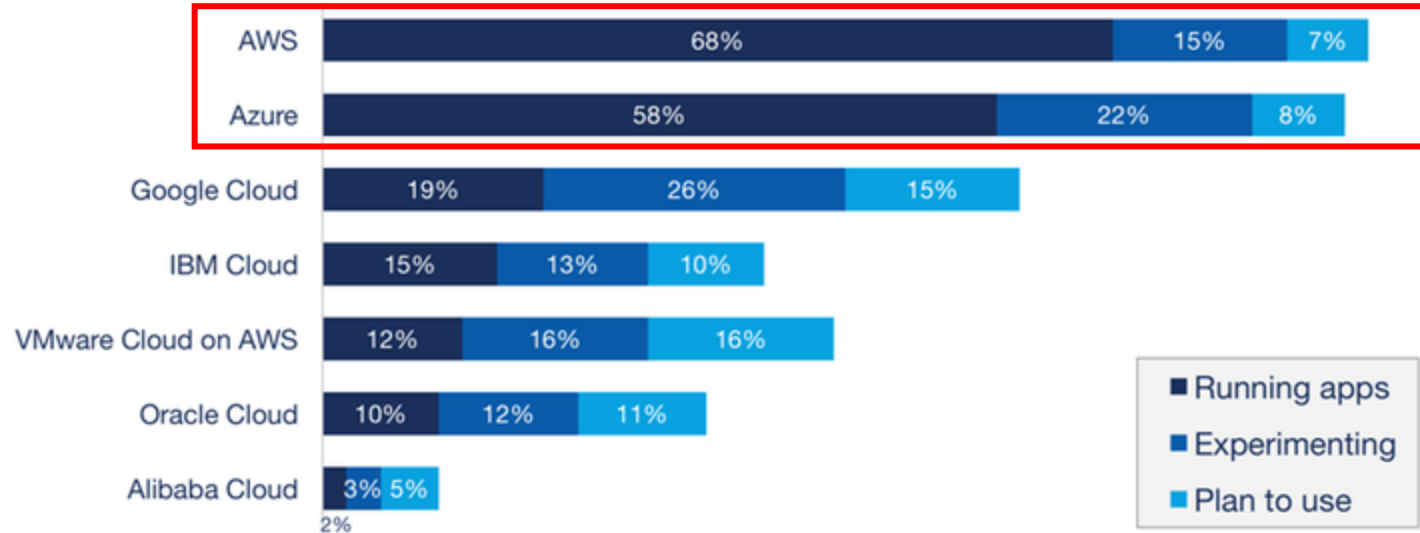


Cloud deployment options

Manual	Automated
➤ Intuitive ➤ Not easily reproducible ➤ Steps can be forgotten or reordered ➤ Not scalable	➤ Steeper learning curve ➤ Reproducible ➤ Machine always follows instruction ➤ Scalable Recommended!

Enterprise Public Cloud Adoption

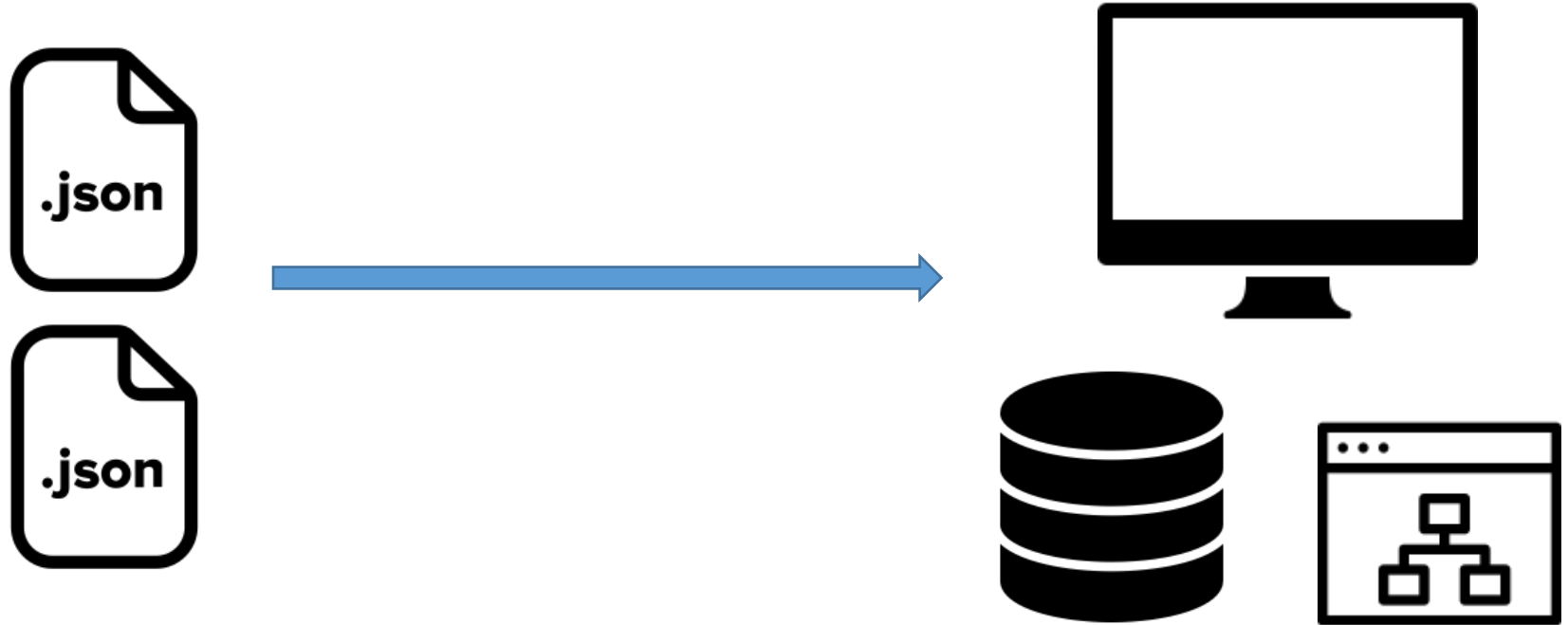
% of Respondents Running Applications



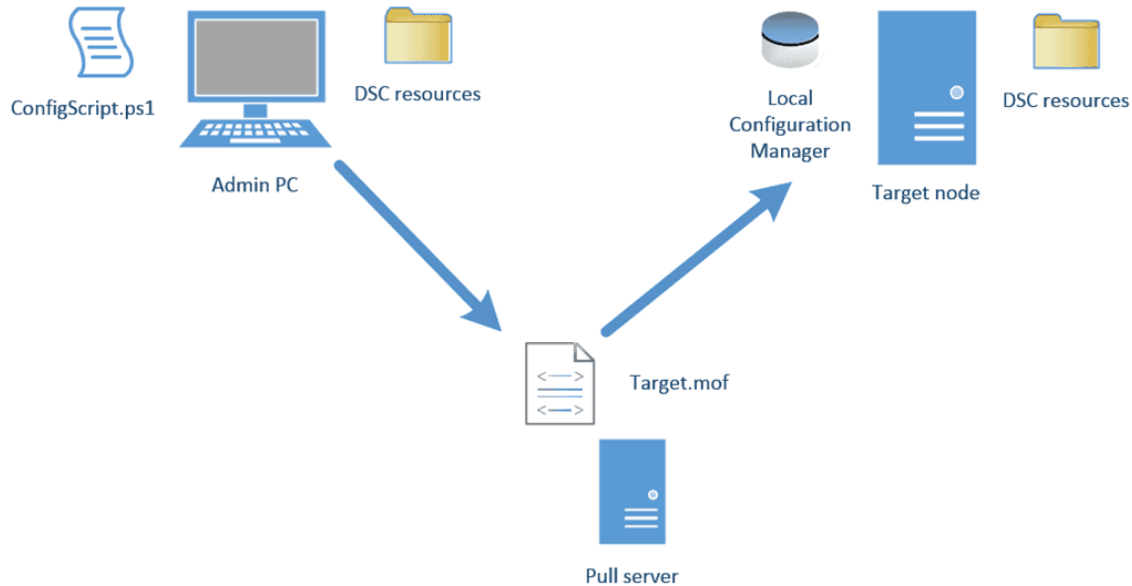
Source: RightScale 2018 State of the Cloud Report

Concepts

Infrastructure as code (IaC)

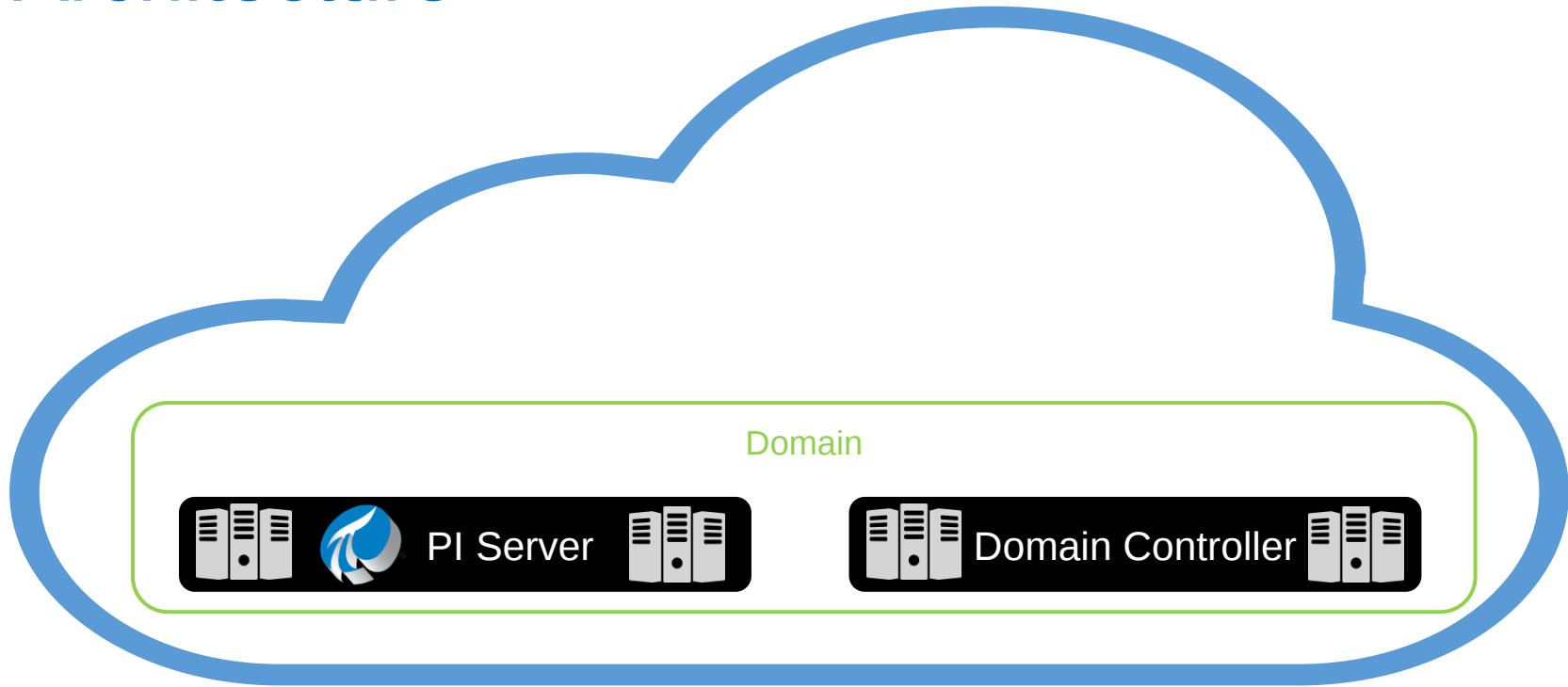


Desired State Configuration (DSC)



Demo flow

Architecture



Stage 1 (40 min)

- Build VMs with DSC scripts and Templates
- Azure uses ARM Templates
- AWS uses CloudFormation Templates
- Perform only with new updates

Stage 2 (3 min)

- Take snapshots of VMs
- Snapshots will be used for further deployments

Stage 3 (2 min)

- Deploy VMs from snapshots
- New set of templates
- Different from those in Stage 1
- Perform whenever new environment needed

Production not supported

DEMO

Azure & AWS Deployment

Azure Resource Manager

```
{
  "$schema": "https://schema.management...Template.json#",
  "contentVersion": "",
  "apiProfile": "",
  "parameters": { },
  "variables": { },
  "functions": [ ],
  "resources": [ ],
  "outputs": { }
}
```

Conclusion

- Automated deployment is more scalable and less risky
- Build VMs snapshots only with new updates
- Deploy from snapshots for regular use

Related Lab at PI World

- PI System Quick Start Templates for AWS
 - Day 3: PI Admin Lab

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Questions?

Please wait for
the **microphone**

State your
name & company



Please remember

TO DOWNLOAD
APP, SEARCH
OSISOFT





Format

```
Configuration DcsDemoWebsite {  
  Node ("NodeIpOrName") {  
    #Install IIS server role  
    WindowsFeature IIS {  
      Ensure = "Present"  
      Name = "Web-Server"  
    }  
    #Install ASP role  
    WindowsFeature AspNet45 {  
      Ensure = "Present"  
      Name = "Web-Asp-Net45"  
    }  
  }  
}
```

Resources

Modules

```
Import-DscResource -ModuleName PSDesiredStateConfiguration  
Import-DscResource -ModuleName cChoco -ModuleVersion 2.3.1.0  
Import-DscResource -ModuleName xPendingReboot -ModuleVersion 0.3.0.0
```

Both built-in and custom modules available

AWS CloudFormation

```
{  
  "AWSTemplateFormatVersion" : "",  
  "Description" : "",  
  "Metadata" : {  },  
  "Parameters" : {  },  
  "Mappings" : {  },  
  "Conditions" : {  },  
  "Transform" : {  },  
  "Resources" : {  },  
  "Outputs" : {  }  
}
```