Effortlessly Deploying a PI System in AWS

Valentin Ivanov Cloud Architect





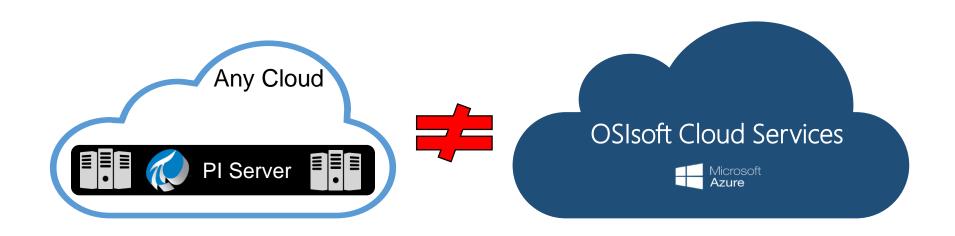
Agenda

- Introduction
- Concepts
- Demo Flow
- Demo
- Conclusion
- Q and A / Discussion



Introduction







How to run your app?

Cloud

On Premises

Applications

Data

Runtime

Middleware

O/S

Virtualization

Servers

Storage

Networking

Infrastructure (as a Service)

Applications

Data

Runtime

Middleware

O/S

Virtualization

Servers

Storage

Networking

Platform (as a Service)

Applications

Data

Runtime

Middleware

O/S

Virtualization

Servers

Storage

Networking

Software (as a Service)

Applications

Data

Runtime

Middleware

O/S

Virtualization

Servers

Storage

Networking

Customer Manages

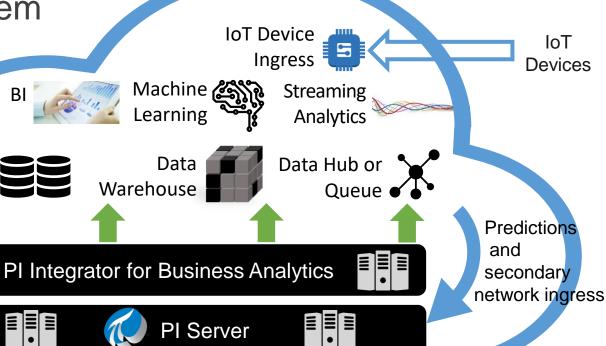
Managed by Vendor



Why have a PI System in the Cloud?

BI

Data





Warehouse

Learning

Data

Primary network ingress **PLC SCADA**



Remote Assets

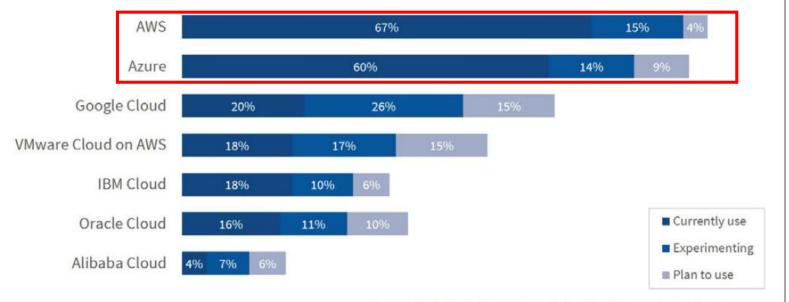
Cloud deployment options

Manual	Automated – Infrastructure as Code
 Pros Intuitive Fast to get started Cons Not easily repeatable Steps can be missed or reordered Not scalable 	 Cons Steeper learning curve Initial time investment Pros Easily repeatable Anyone can pick up and go Scalable Recommended



Public Cloud Adoption - Enterprise

% of Respondents



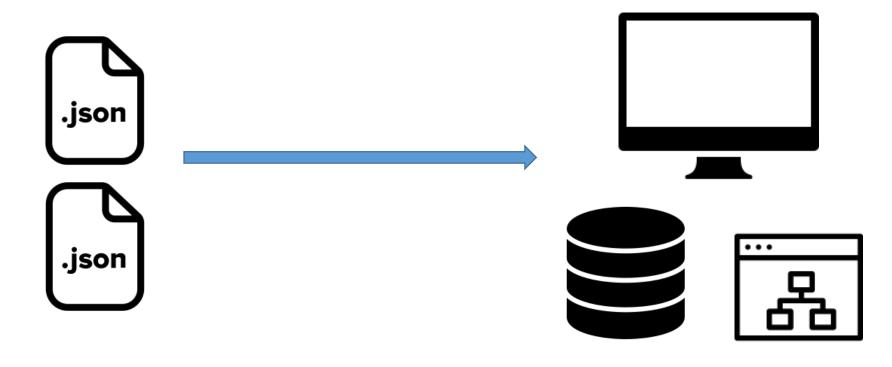
Source: RightScale 2019 State of the Cloud Report from Flexera



Concepts

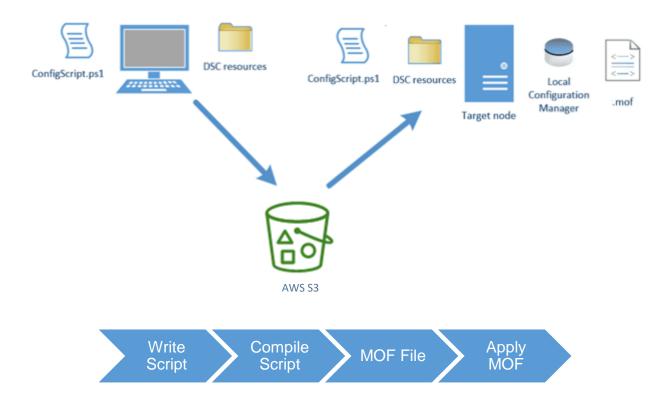


Infrastructure as code (IaC)





Desired State Configuration (DSC)





Demo flow



Stage 1

- Review Architecture
- Build VM using Templates and DSC
- Dive into CloudFormation Templates



Stage 2

- Delete a VM
- Modify the Template
- Re-deploy VM from snapshot



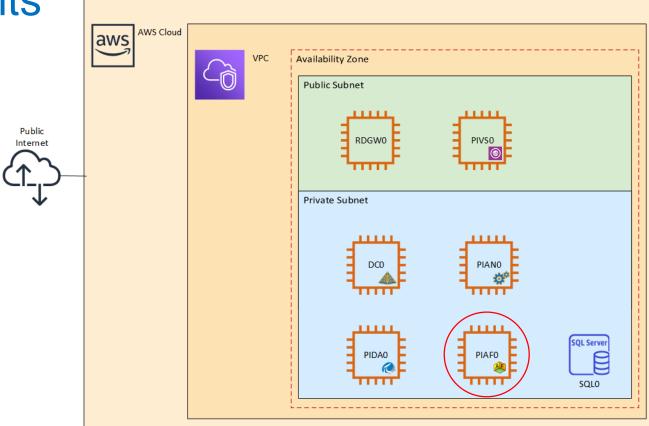
Production not supported



Azure & AWS Deployment

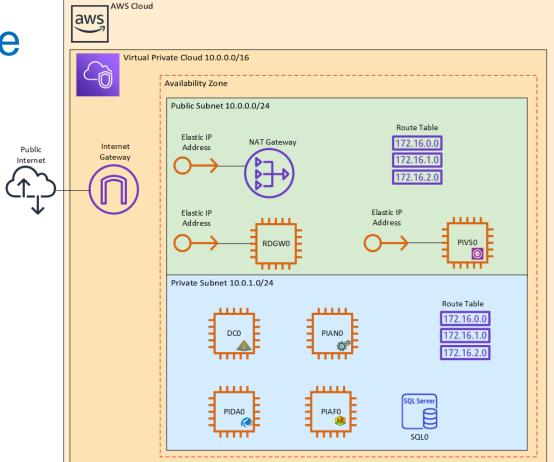


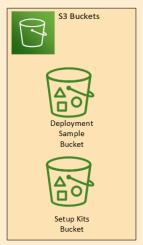
Components





Architecture

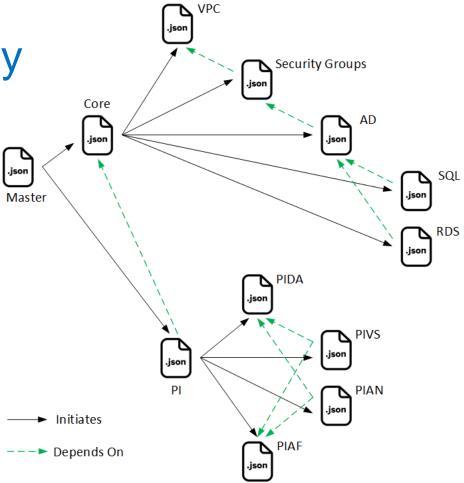






AWS Systems Manager

Template Hierarchy





AWS CloudFormation

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

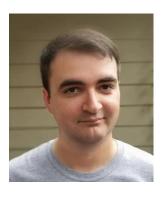


Conclusion

- Automated deployment is more scalable and less risky
- Templates can deploy an entire environment
- Can be easily modified to meet other needs



Contact



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Questions?

Please wait for the **microphone**

State your name & company

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ДЗЯКУЙ

ĎAKUJEM

MATUR NUWUN

ありがとうございました
SIPAS JI WERE TERIMA KASIH
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GOTHENBURG 2019