

# IBM Spectrum Scale: Deployment and Cloud DevOps

---

Piyush Chaudhary  
STSM – Development

Muthu A. Muthiah  
Architect – Deployment & Cloud

Norbert Schuld  
Advisory Software Engineer – Development



# Deployment and Cloud DevOps Strategy



## Goals we are aiming for



**Cloud agnostic infrastructure provisioning using Terraform**  
create, update, destroy cloud and infrastructure resources



**Spectrum Scale installation and configuration through Ansible**  
finer granularity service configuration, automation of operational tasks



**Same infrastructure across all variants of Spectrum Scale**

# Spectrum Scale Automated Deployment Today



**SDI / ECE / SNC**

Scale install Scripts

**Scale Install Toolkit**

- Core Install & deploy
- Protocol Install & deploy
- Upgrade Core & Protocols
- ECE/FAL/Call home/Perf. Mon.

Implementation:  
Python, Ruby Chef DSL

Cross cluster Orchestration  
Chef

**ESS**

Hardware setup scripts

Scale install Scripts

**Scale Install Toolkit**

- Protocol install

Implementation:  
Python, Shell scripts

Cross cluster Orchestration  
XCAT

**Cloud**

Cloud Provisioning scripts

Scale install Scripts

**Scale Install Toolkit**

- Core Install & deploy
- Protocol Install & deploy

Implementation:  
Shell Script, Python, Chef DSL, Open Stack

Cross cluster Orchestration  
Information

**Test**

**Scale Install Toolkit**

- Core Install & deploy
- Protocol Install & deploy

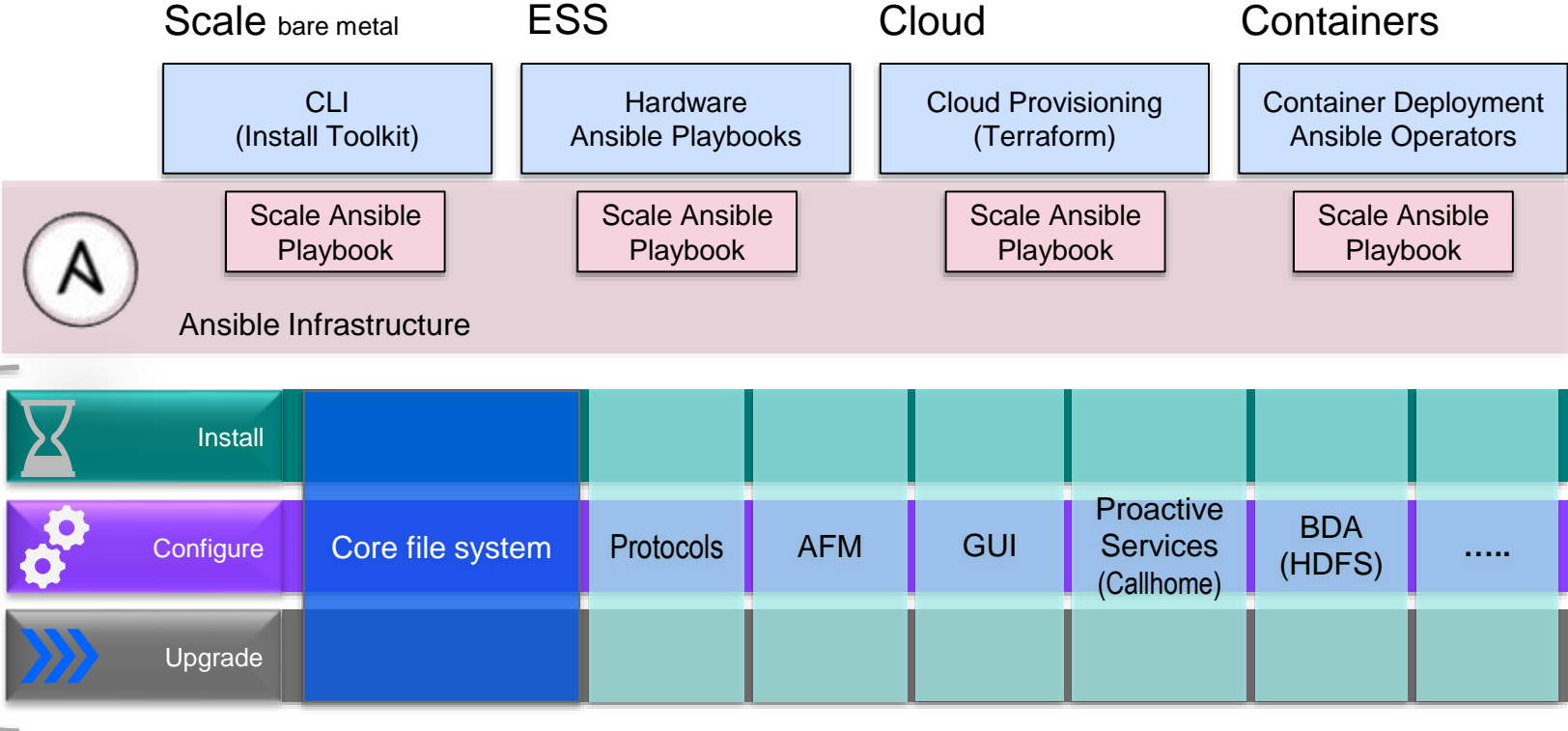
Implementation:  
Shell Script, Python, Chef DSL, Open Stack

# Spectrum Scale Deployment: Strategy



## Reusable infrastructure

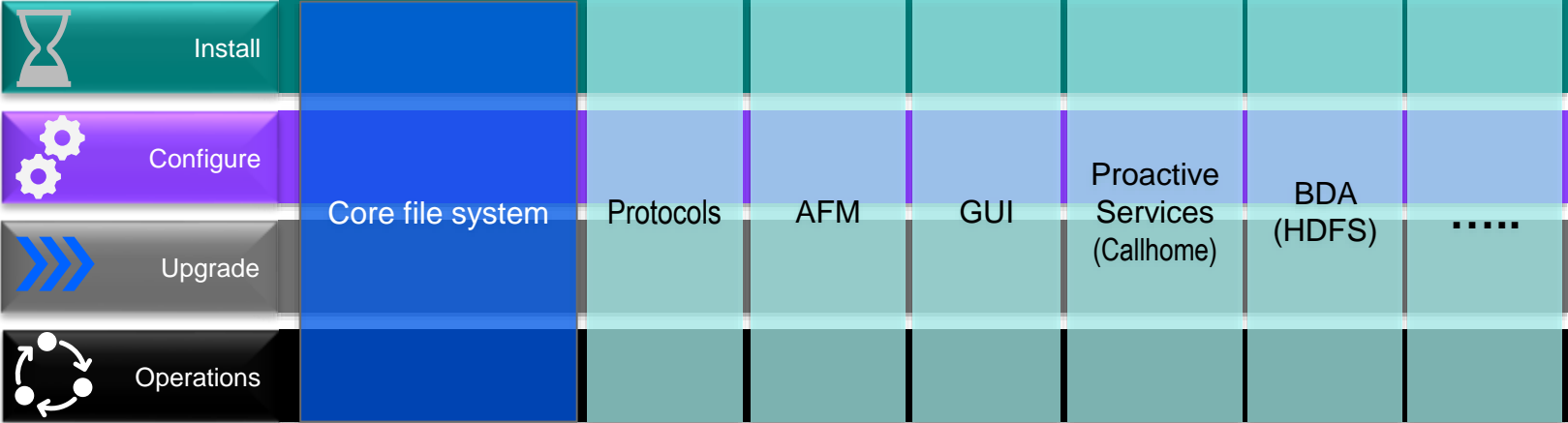
Provides installation, configuration and upgrade capabilities for all Spectrum Scale form factors



# Spectrum Scale Deployment: Strategy

## Reusable infrastructure

Extend to provide administrative commands, ready for further reuse



ReST Interface



Operators

# Spectrum Scale: Open Source Development



## **Spectrum Scale deployment is now open sourced on Github**

### **Terraform Templates:**

<https://github.com/IBM/ibm-spectrum-scale-cloud-install>

### **Ansible Playbooks:**

<https://github.com/IBM/ibm-spectrum-scale-install-infra>

# Spectrum Scale Deployment: Strategy



## Automation

- initial deployment, expansion and contraction of cluster, update & teardown
- “on demand” deployment of advanced Scale Services
- Cloud image creation and verification, images with customized workloads and security policies

## Multi cloud deployment

- Cloud agnostic tooling
- Consistent deployment architecture across clouds
- Reusable deployment assets that facilitate faster enablement on new cloud environments
- Consistent user interface and experience across clouds
- Consistent support experience across clouds

## Unification of on-prem and cloud deployment tools

- Adoption of same deployment infrastructure across all deployments of Spectrum Scale

## Hybrid Cloud enablement

- Support for remote orchestration of Cloud resource provisioning and Scale deployment
- Automated deployment of AFM across On-prem and Cloud
- Enhance Blueprints for easier “on-prem” and cloud connectivity (VPN etc)