CLOUDIFY
Cutting Edge Orchestration

All Clouds
Any Service
Unlimited Locations

Cloudify and Terraform Integration

Cloudify Infrastructure Orchestration Plugins

CLOUDIFY

E2E Service Definition

Service Orchestration

Policy | Workflow | Configuration | Infrastructure

External Service

U-Service

External Service Orchestration

U-Service Orchestration

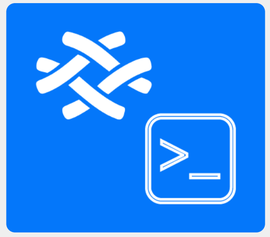
Cloudify Kubernetes Multi Cloud Infrastructure Provider

Configuration

Automation Tools

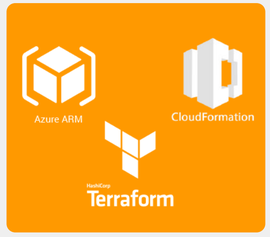
Service Configuration

Network



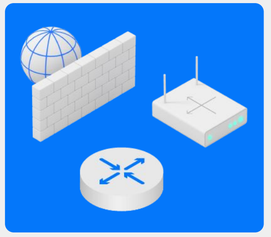
Script

Infrastructure Orchestration



IaaS Orchestration

Cloud Configuration



Network

Edge

Cloudify & Terraform Integration

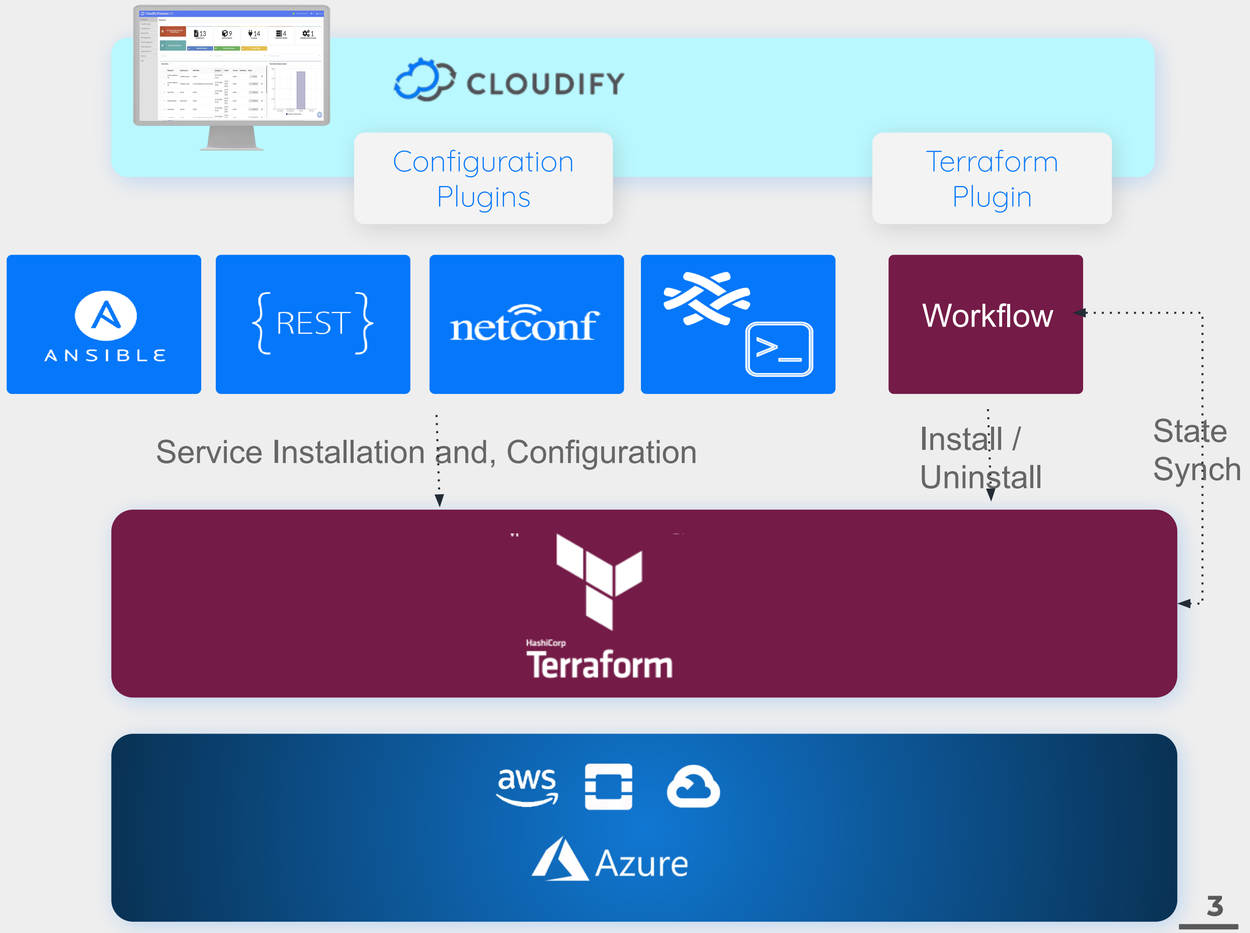
Managing Terraform as a first class citizen within Cloudify Manager infrastructure

Integration & installation
Install Terraform binary and modules

Parameters & secret management
Pass inputs to modules through cloudify secrets and input

Log aggregation
Index all the logs under a common log trail

Passing Terraform state properties to other services through Cloudify Capabilities :
Save and share Terraform state properties (IP, tags,..) **implicitly** with other non-Terraform services through service relationship



Cloudify & Terraform Integration

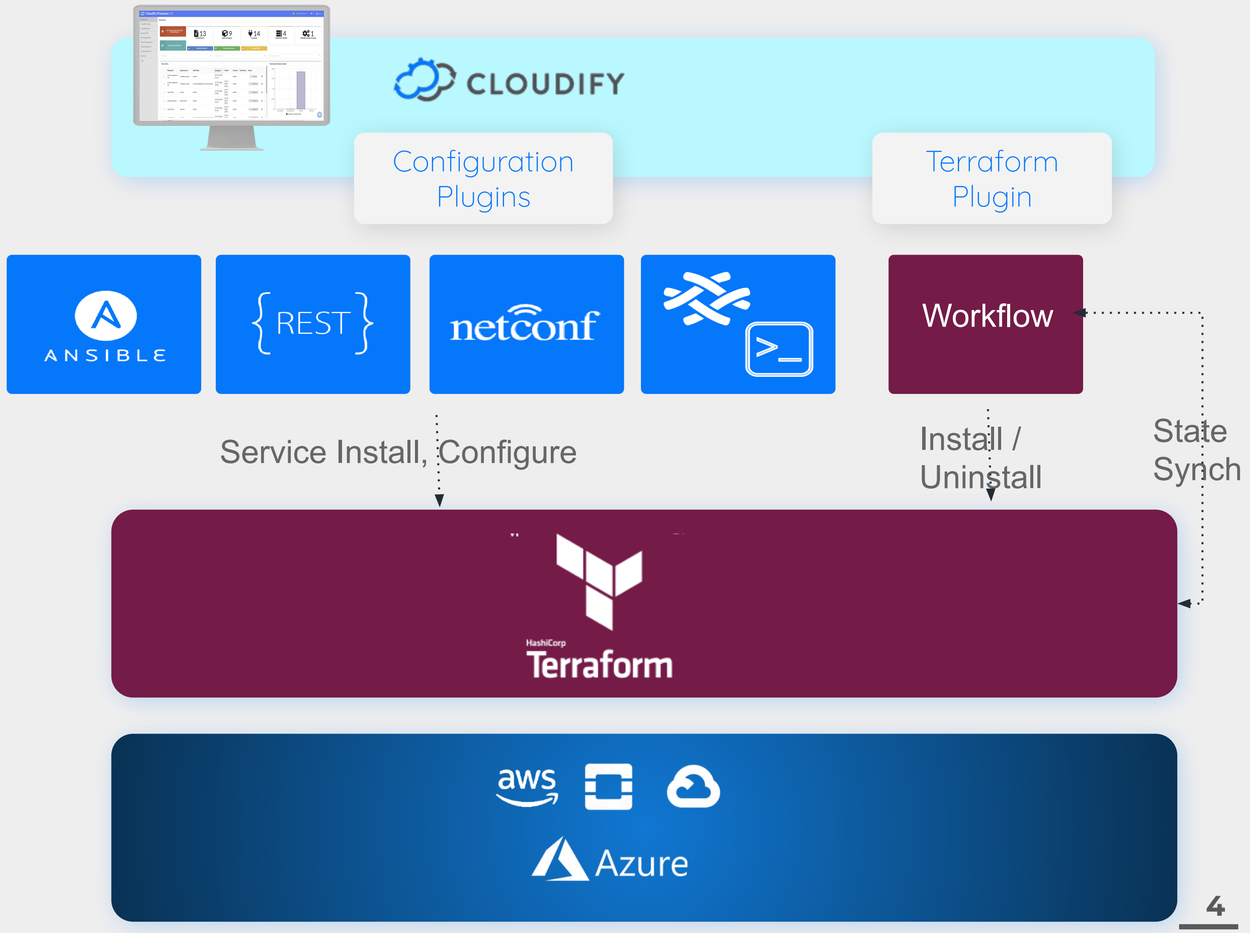
Day 2 Operation and Workflow Management.
Allow Concurrent execution (avoid race condition)

Refresh Terraform State (State Pull)
Install Terraform binary and modules

Reload Terraform Template
Update terraform state from updated templates

Configuration Management
Configure the infrastructure using Fabric, Ansible , Agent based method

Full Life Cycle Management
Manage Terraform installation and uninstallation as part of the end-to-end service automation



Cloudify & Terraform Integration

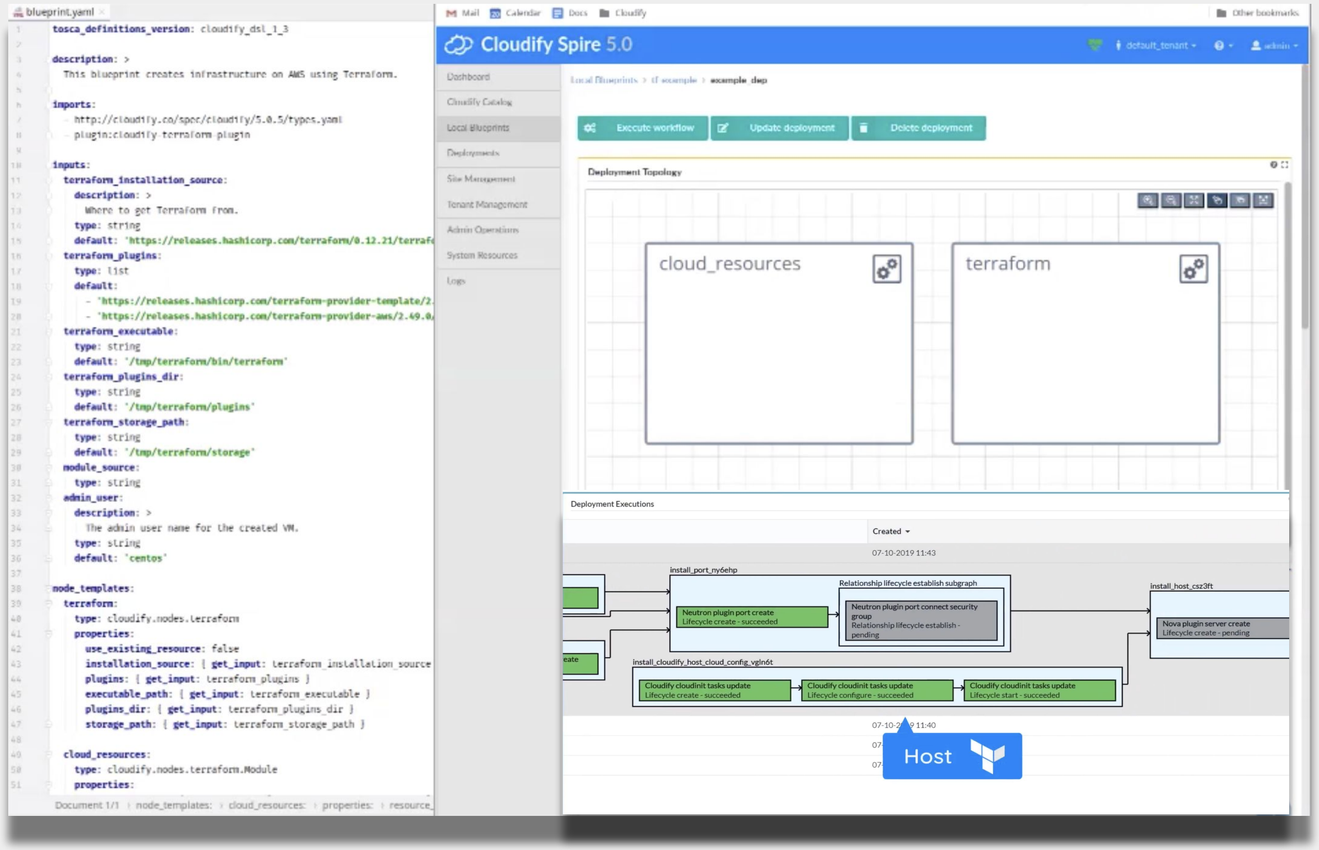
Management UI

Topology view
View Terraform infrastructure as part of the overall environment topology *

Workflow monitoring
View the execution graph of Terraform and non Terraform tasks as well as between multiple Terraform infrastructure services.

Composer
Simplify the composition of terraform template artifacts using a drag n drop experience *

State monitoring - Continuously monitor the state of Terraform infrastructure *



*work in progress

Cloudify & Terraform Integration

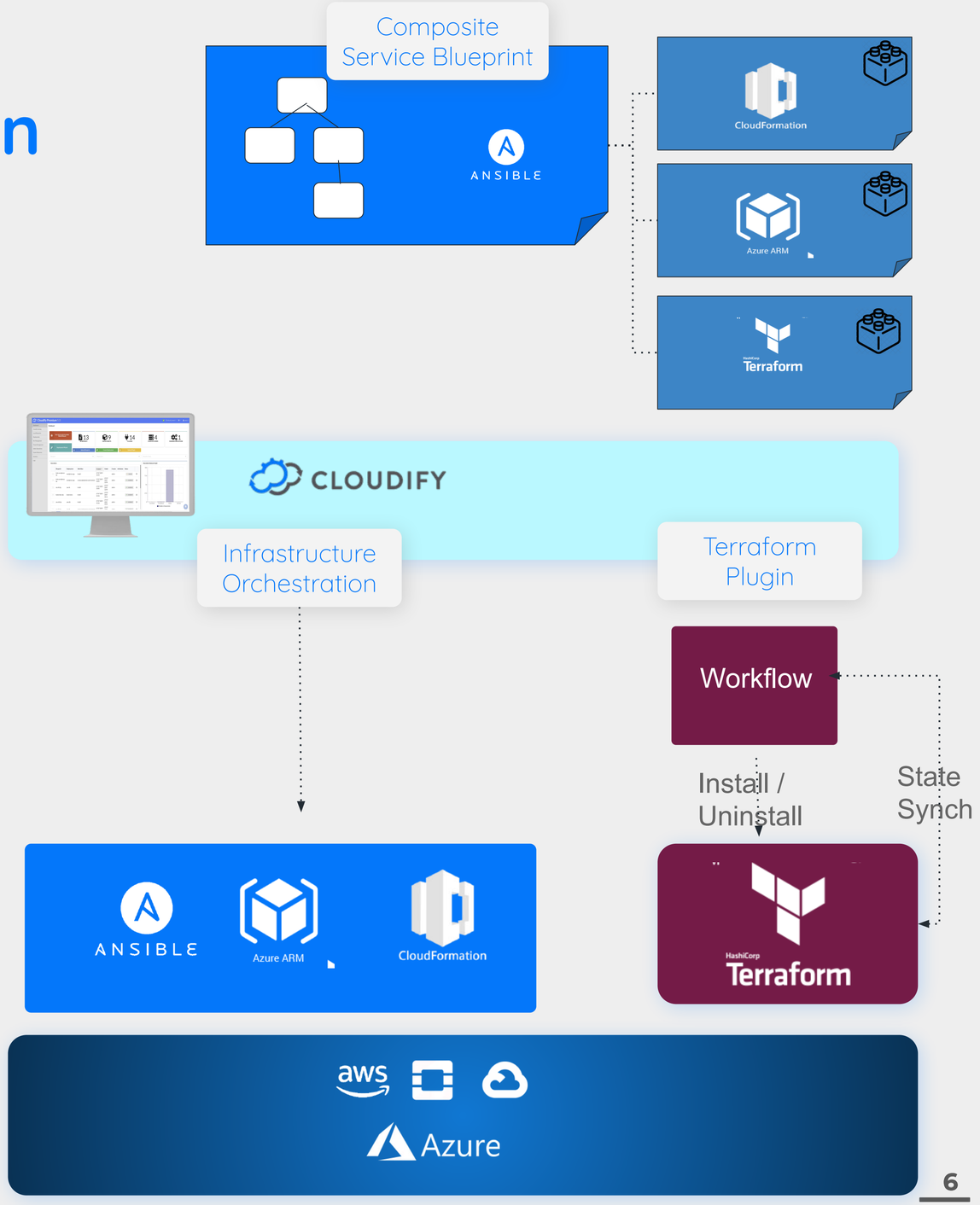
Decouple the application from the infrastructure orchestration choice and allow interoperability

Avoid Costly Blueprint Transformation
Build upon existing automation artifacts where possible.
Use the right orchestration tool for the job

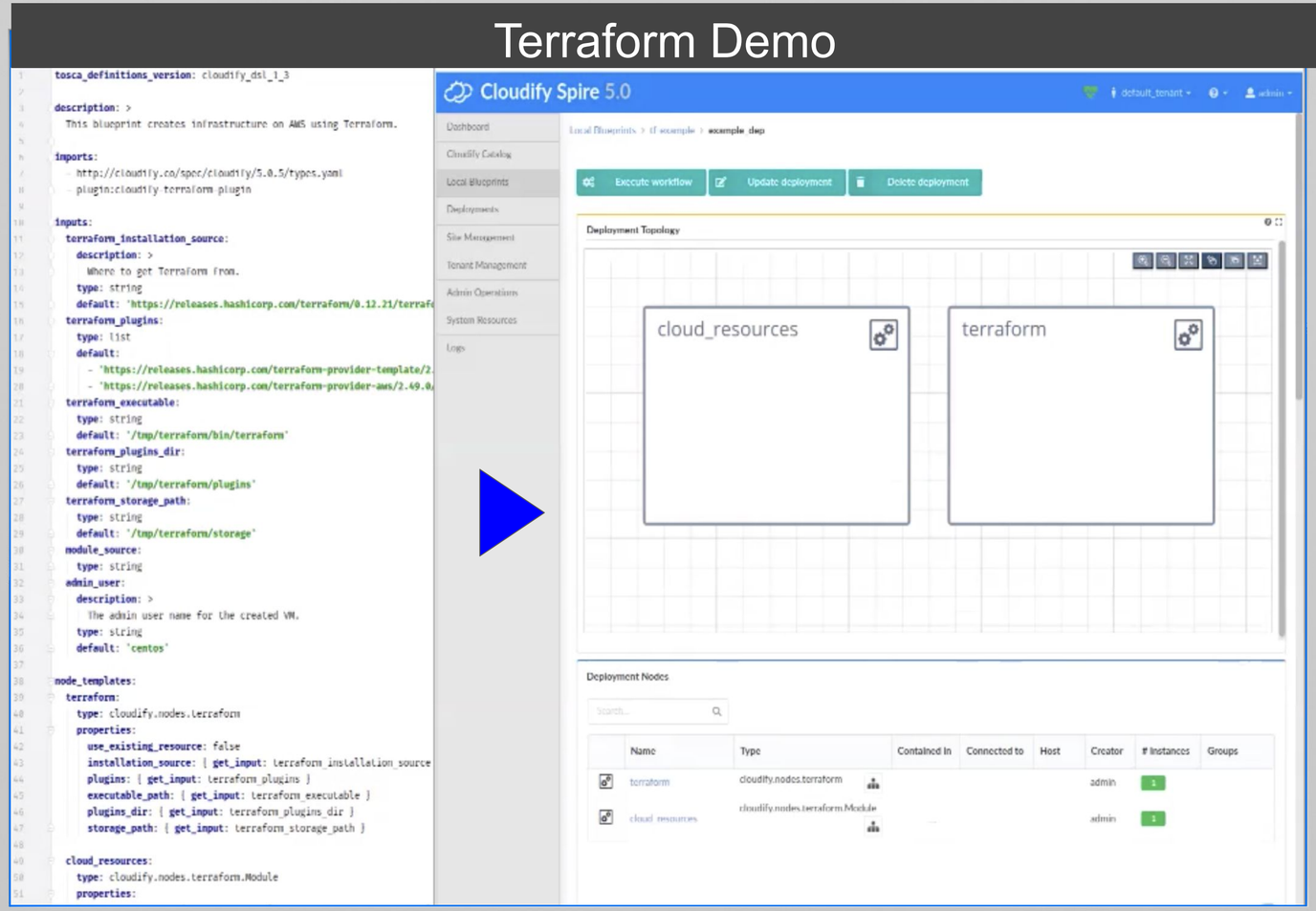
Interoperability between Orchestration Platforms
Define relationship and pass content information between different Terraform , Cloud Formation, Azure ARM, TOSCA, Ansible templates.

End to End Automation
All the automation components under a single automation experience. Faster time to market.

Support AWS Cloud Formation, Azure ARM, Ansible ..



Terraform Demo



Terraform Demo

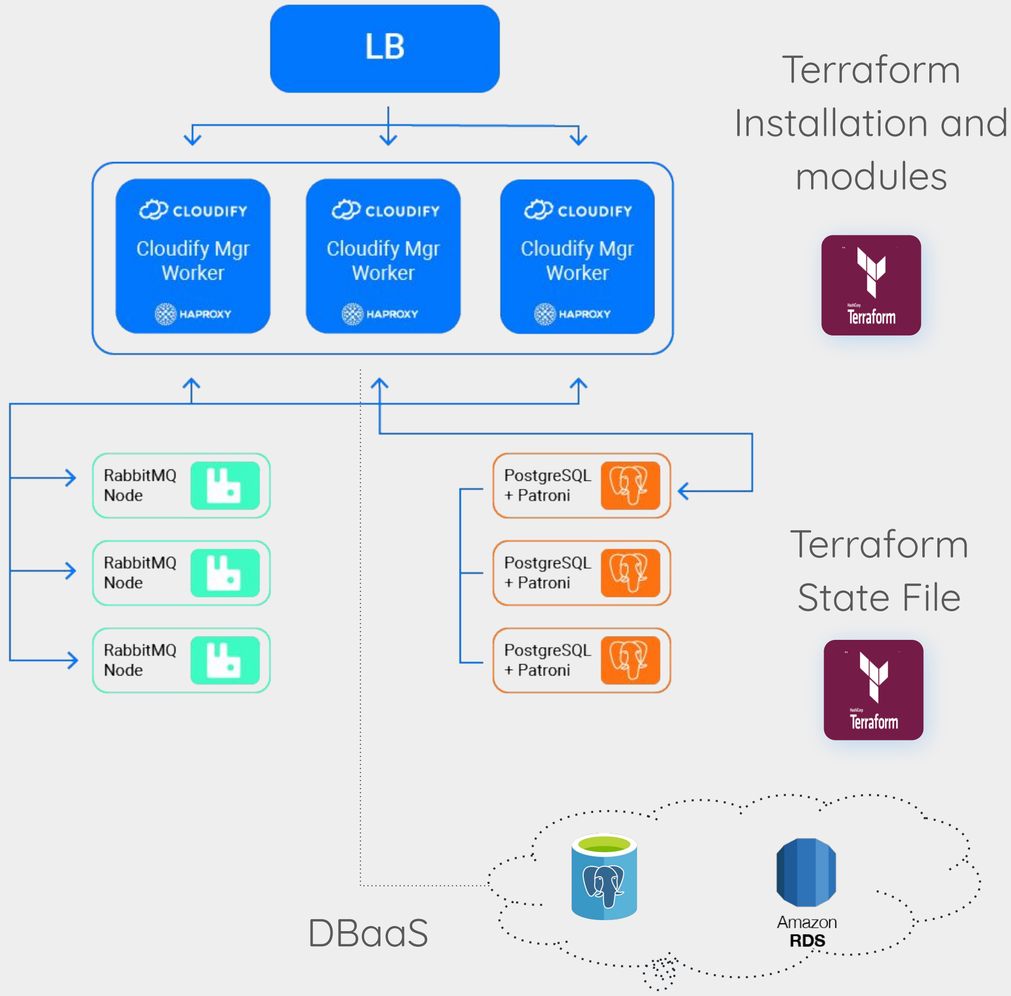
Cloudify & Terraform Integration

Leveraging Cloudify DB clustering and geo-redundancy to manage TF state

Terraform Installation and Modules Clustering *
Terraform is installed on the manager file system. The installation and modules are replicated across all the managers in the cluster.

Terraform state file replication
Terraform state file is stored in the Cloudify DB via runtime properties. Before each execution the state file is fetched to the local directory and uploaded again upon completion.

Leverage Local DB Cluster, Geo Redundancy and DBaaS
Leverage Local, Multi-Site and Cloud based DB clustering configuration to allow flexible TF state clustering.



*requires customisation of filesystem replication configuration

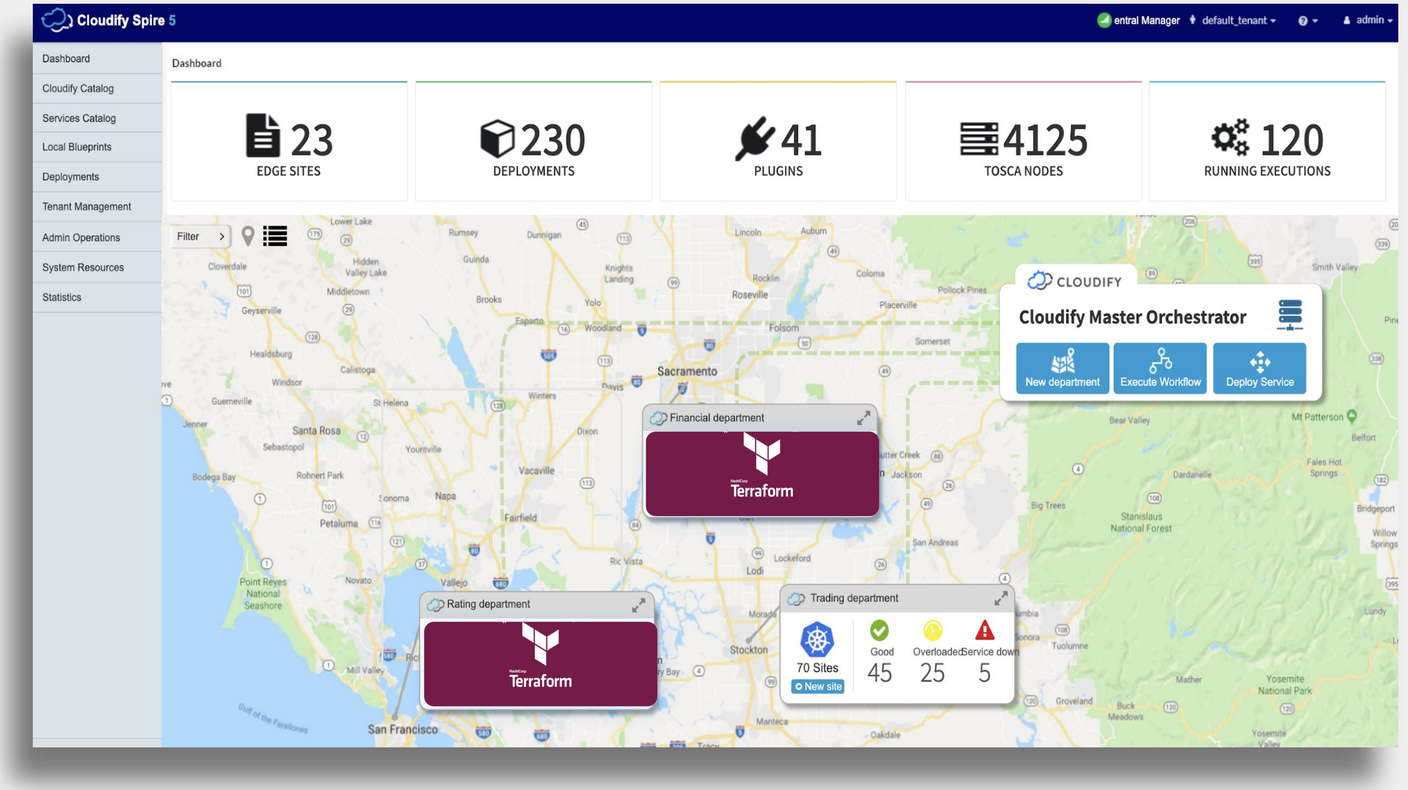
Future Direction and vision

Manage Service Composition between Multiple Distributed Terraform Templates

Manage the relationship between Terraform Templates
Define relationship and pass context information between different Terraform templates.

Multi Site / Department Management
Manage multiple Terraform installation and management across multiple department and sites from a single point of access.

UI Improvements
New topology, workflow and composer



The Big Picture..

Introducing Cloudify EaaS to simplify CI/CD pipeline in a multi cloud environments

New Service Composition
Allowing dynamic binding between services, adding/removing new services on the fly. Cascading workflow, Shared resources..

Kubernetes Support
- Plugin: Improved state reporting, refresh/update.
- Platforms: OpenShift, KubeSpray, GKE, EKS, AKS.

Ansible Plugin Update
Integration with remote repository management, e.g. Git. Remote state refresh and update.

Jenkins Plugin
Creating multi-cloud environment using Cloudify as a native build step. Decoupling the application from the infrastructure.

Thank You.

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