



**Hewlett Packard**  
Enterprise

# HPE GreenLake and Infrastructure as Code (IaC)

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# Agenda

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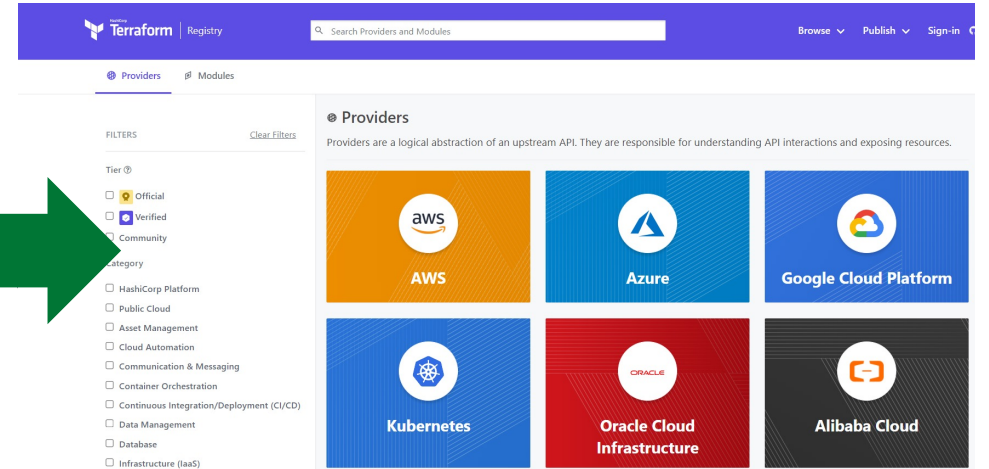
- GreenLake (hpegl) Terraform Provider
- Genesis aka "Cloud Synthesis"





# GreenLake (hpegl) Terraform Provider

# GreenLake Terraform Provider



## IaC Framework Team



Deployment (s)

Acceptance Tests

terraform-provider-hpegl

hpegl-provider-lib

interfaces

client/token exchange

Packaged as single hpegl provider  
+ Published to terraform.io registry

caas provider

hpegl\_caas\_cluster\_blueprint  
hpegl\_caas\_cluster

vmaas provider

hpegl\_vmaas\_instance  
hpegl\_vmaas\_...

metal provider

hpegl\_metal\_host  
hpegl\_metal\_...

Acceptance Tests



CaaS deployment

CaaS Team

Acceptance Tests



VMaaS deployment

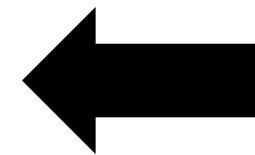
VMaaS Team

Acceptance Tests



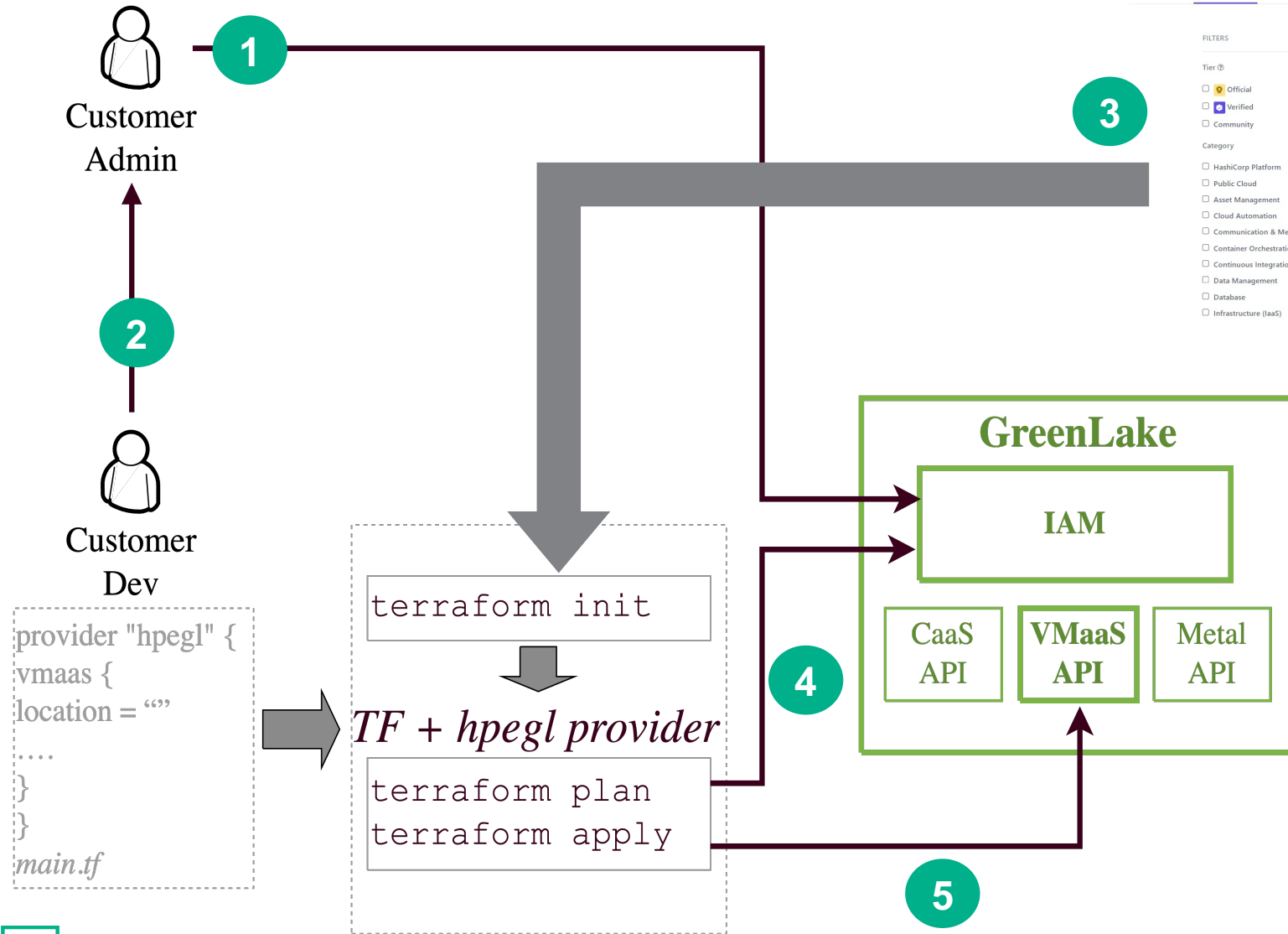
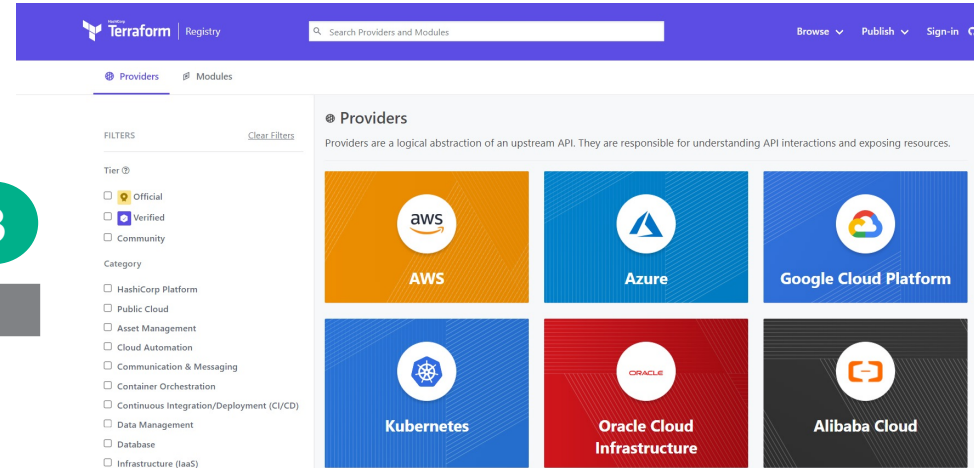
Metal deployment

Metal Team



Teams independently  
implement + test  
service provider

# GL Terraform Provider flow



1. Get IAM API client + assign privs
2. Dev gets API client creds
3. Init pulls hpegl provider
4. Auth + Vend token w/client creds
5. hpegl (VMaaS) deploys via VMaaS API

# HPEGL REPOS

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- <https://github.com/hpe/terraform-provider-hpegl>
  - Provider "assembled" from service team repos
  - Docs generated
  - Provider published
- <https://github.com/hewlettpackard/>
  - Search for "hpegl"
  - Service repos (provider code and SDKs)
  - hpegl-provider-lib: core "framework" repo
    - Interface definitions
    - Utility functions (token generation)
- <https://github.com/HPE/terraform-hpegl-metal-hosts-with-logz>
  - First published hpegl module

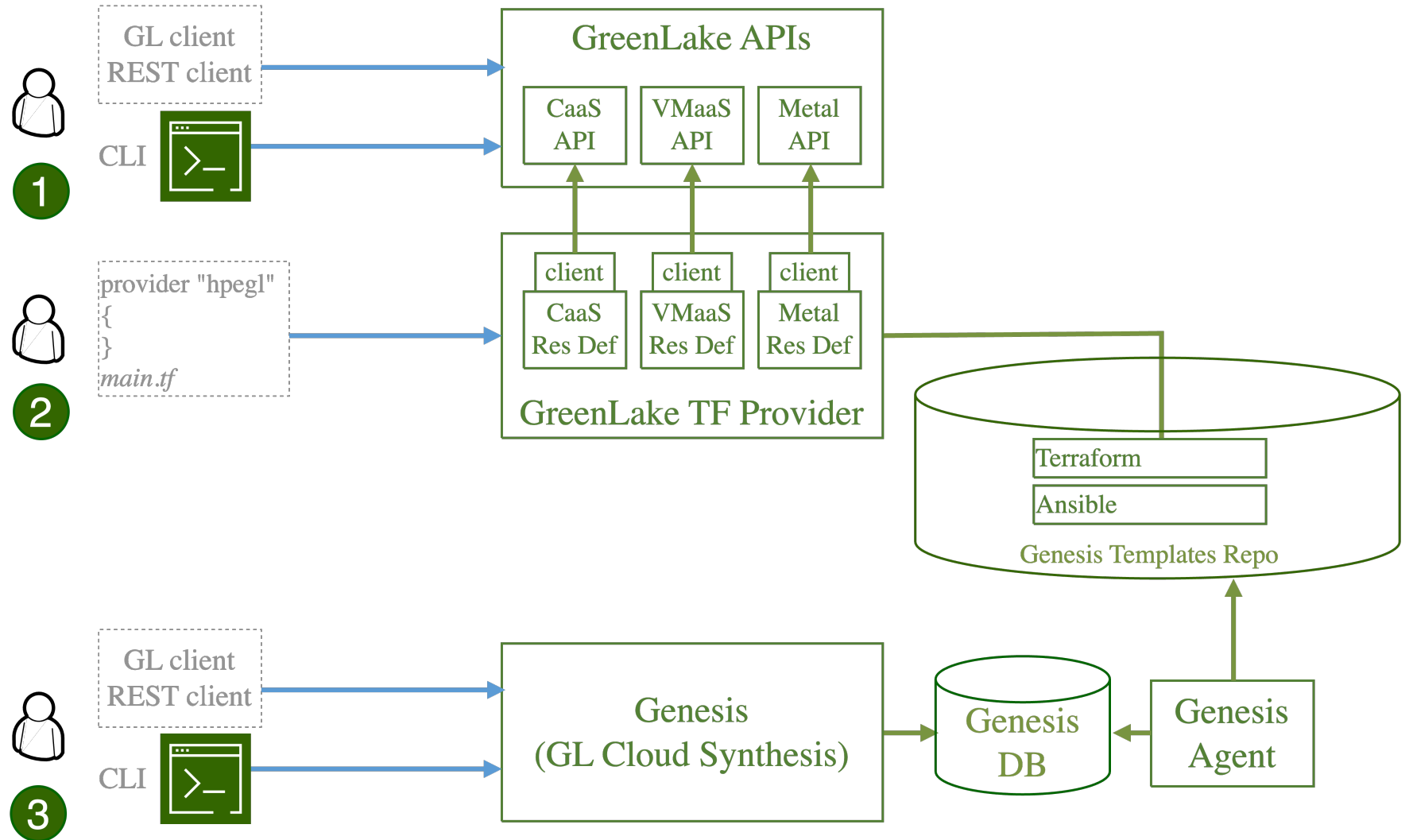




# Genesis (Cloud Synthesis)

# Three Modes of IaC Interaction

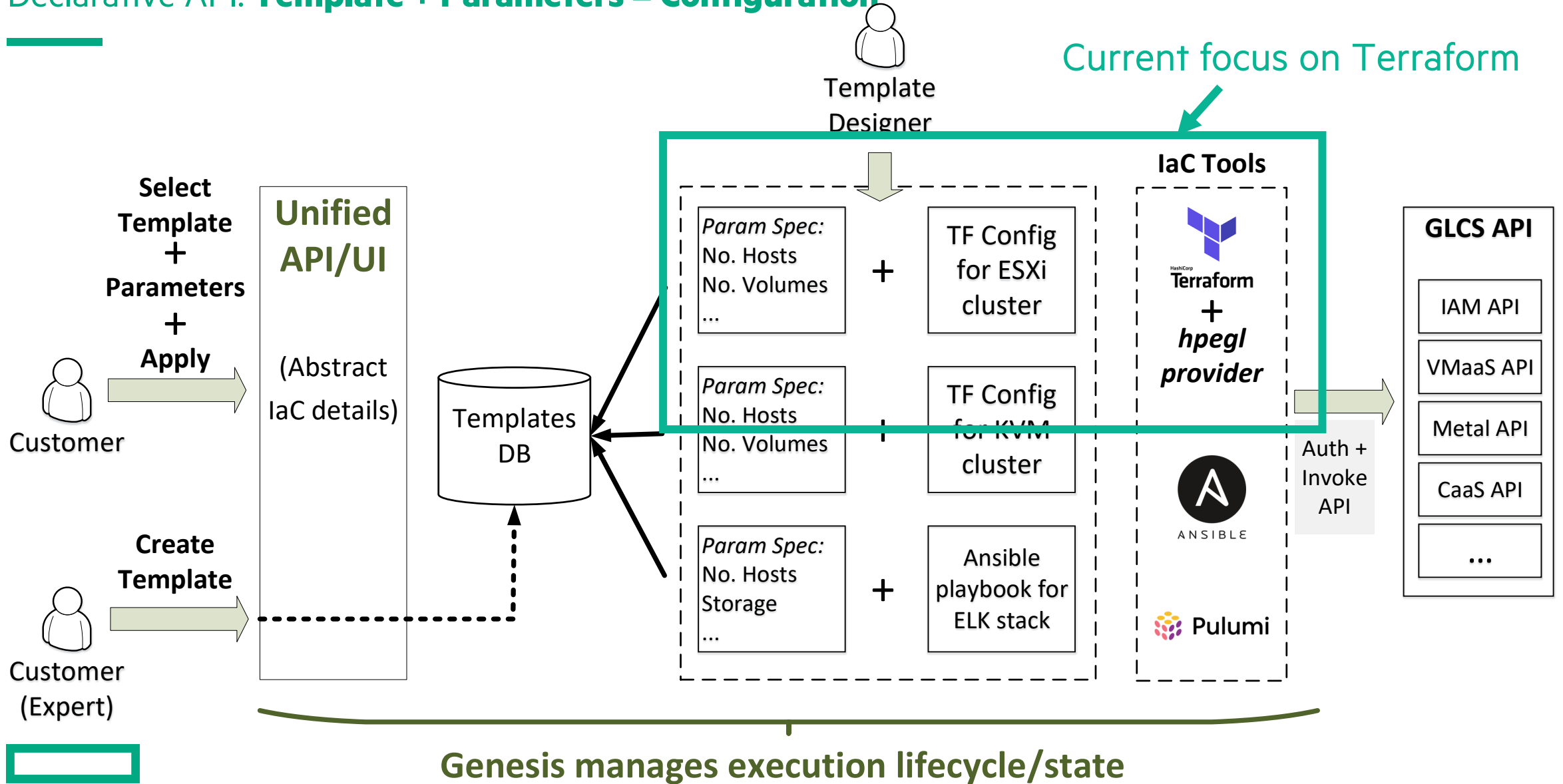
1. Use **GL API** directly
2. Run TF scripts based off **GL Terraform Provider**
3. Use **GL Genesis API** to create configurations (Terraform/Ansible/... abstracted)





# Core Idea

Declarative API: **Template + Parameters = Configuration**



# Near-term Plans

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## Add some more functionality

- Ability to run arbitrary terraform (“customer”-sourced templates)
- On-premise agents
- API compliance

## First release to customers

- Get customer feedback

