Dynamic / Cloud Infrastructure Automation

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Company Overview

**Founded** in 2012 by Mitchell Hashimoto and Armon Dadgar

**Enabling the Cloud Operating Model** Provision, Secure, Connect, and Run any infrastructure for any application

- Nomad
- Consul
- Terraform
- Vault
- Packer
- Vagrant
The Transition to Dynamic Infrastructure
- Cloud and Hybrid / Multi-Cloud

Traditional Datacenter
“Static/Fixed”

Modern Datacenter
“Dynamic”

Dedicated Infrastructure

Private Cloud

AWS + Azure + GCP + ...

...
# The Hybrid / Multi Cloud Landscape

<table>
<thead>
<tr>
<th>STATIC / FIXED</th>
<th>DYNAMIC</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Dedicated</strong></td>
<td><strong>Private Cloud</strong></td>
</tr>
<tr>
<td>vSphere</td>
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</tr>
<tr>
<td>Hardware</td>
<td>Various Hardware</td>
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<td><strong>vCenter</strong></td>
<td><strong>vSphere</strong></td>
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<th><strong>AWS</strong></th>
<th><strong>Azure</strong></th>
<th><strong>GCP</strong></th>
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<tr>
<td>EKS/ECS Lambda</td>
<td>AKS/ACS Azure Functions</td>
<td>GKE Cloud Functions</td>
</tr>
<tr>
<td>Proprietary</td>
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</tr>
<tr>
<td>Identity: AD/LDAP</td>
<td>Identity: AWS IAM</td>
<td>Identity: GCP IAM</td>
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<th><strong>Run Development</strong></th>
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<th><strong>Secure Security</strong></th>
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A Common Operating Model with the HashiCorp Suite

Run
Development

Connect
Networking

Secure
Security

Provision
Operations

Private Cloud

AWS

Azure

GCP

Nomad

Consul

Vault

Terraform
An infrastructure as code approach to provision for any cloud, infrastructure, or service.
Cloud Security with Vault

A common Cloud Operating Model

- Private Cloud
- AWS
- Azure
- GCP

- Run Development
- Connect Networking
- Secure Security
- Provision Operations

Vault

Terraform
Vault

Static + Dynamic Secrets

- Static Key / Value

**Dynamically generate and revoke:**
- PKI TLS Certs
- SSH Certs
- Database Credentials
- Cloud IAM Roles
- Encryption Keys
- Encryption as a Service
- More...

**Authenticate via:**
- User / Pass
- LDAP / SAML / KMIP
- Cloud or Container Service Account
- Token / JWT

- Networking
  - Connect infrastructure and applications

- Development
  - Run applications

- Security
  - Secure Infrastructure and applications

- Operations
  - Provision Infrastructure
Cloud Networking with Consul

A common Cloud Operating Model

- Run
  Development

- Connect
  Networking

- Secure
  Security

- Provision
  Operations

Private Cloud

AWS

Azure

GCP

Consul

Vault

Terraform
A distributed service mesh to connect, secure and configure services across any runtime platform and public or private cloud.
Cloud Scheduling with Nomad

A common Cloud Operating Model

Run
Development

Connect
Networking

Secure
Security

Provision
Operations

Private Cloud
AWS
Azure
GCP

Nomad
Consul
Vault
Terraform
Flexible Workload Orchestration to deploy and manage any containerized, legacy, or batch application.
A Common Cloud Operating Model to Accelerate Application Delivery
Open Source vs. Enterprise

- **Open Source**
  - Individuals
  - Teams
    - Pro
  - Organizations
    - Premium

**Organizational Complexity**

- Governance
- Policy
- Collaboration
The 4 essential elements of dynamic infrastructure

Enabling Hybrid / Multi Cloud Solutions