HashiCorp Vault

HCP Vault Onboarding Program Kickoff

Agenda

Code of Conduct

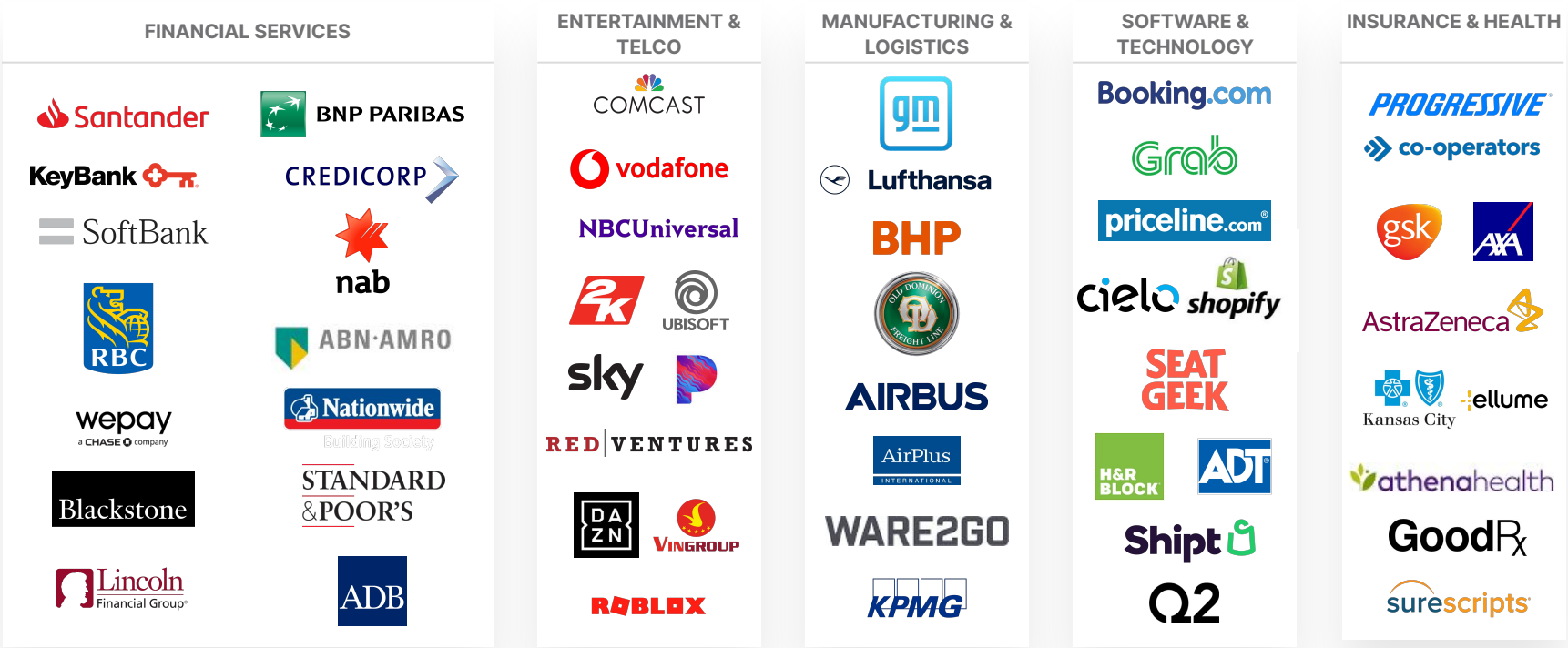
HashiCorp is dedicated to providing a harassment-free experience for everyone, regardless of gender, gender identity, sexual orientation, disability, physical appearance, body size, race, national origin, or religion. We value your attendance and do not wish anyone to feel uncomfortable or threatened at any time.

The bottom line is that we do not tolerate harassment of conference participants in any form. Harassment includes but is not limited to offensive verbal comments related to gender, gender identity, sexual orientation, disability, physical appearance, body size, race, national origin, religion; sexual or inappropriate images in public spaces; deliberate intimidation; stalking; trolling; sustained disruption of talks or other events; and unwelcome sexual attention. Participants asked to stop any harassing behavior are expected to comply immediately. If you are being harassed, notice that someone else is being harassed, or have any other concerns, please let the HashiCorp event representative know immediately or email customer.success@hashicorp.com.

01

Customer Success Overview

HashiCorp Customers



What You Can Expect from CS

Customer Success Manager (CSM)

Account & Success Management

- Providing a community-based onboarding program designed to get you up and running quickly
- Facilitating sessions to keep your team current with HashiCorp technology
- Joint discovery of objectives and success criteria
- Your customer advocate within HashiCorp

Solution Architecture Specialist (SA)

Technical Success & Advisory

- Technical resource for the onboarding process
- Providing product reference architecture information for better decision-making
- Thought leadership on best practices of product architecture and use-case patterns
- Timely education and enablement from a technical perspective

Other resources available to you

Our customer success pillars

So much goes into making you successful. Three core pillars are inform how we work to serve you.

Enablement

We educate, guide, and enable your teams to deploy and operate products according to proven best pratices.

Adoption

We help you deliver against your top use cases, and ensure products are used properly to drive rapid ROI.

Value attainment

We connect product usage to business need and value-based outcomes to ensure you achieve measurable value.

Further information located at http://hashicorp.com/customer-success

02

HCP Vault Onboarding Program

Customer Responsibilities

These are critical for your onboarding success

Training Consumption

Ensure team members attend workshops, training, office hours

Single Point of Contact

Main contact for decision making

Use Case Guidance

Provide timely information on your intended use cases during our success planning

Escalation Process

Understanding of escalation process

Project Team Participation

Inclusive of any stakeholder required for successful completion of your onboarding

Surveys Responses

Provide timely responses to surveys

Onboarding Checklist

Vault Deployed

- Create HCP Organization, deploy HVN and create a HCP Vault cluster
- Automate HCP Control plane & Vault Management
- Telemetry and Monitoring in place
- Performance replication in place (Plus tier)

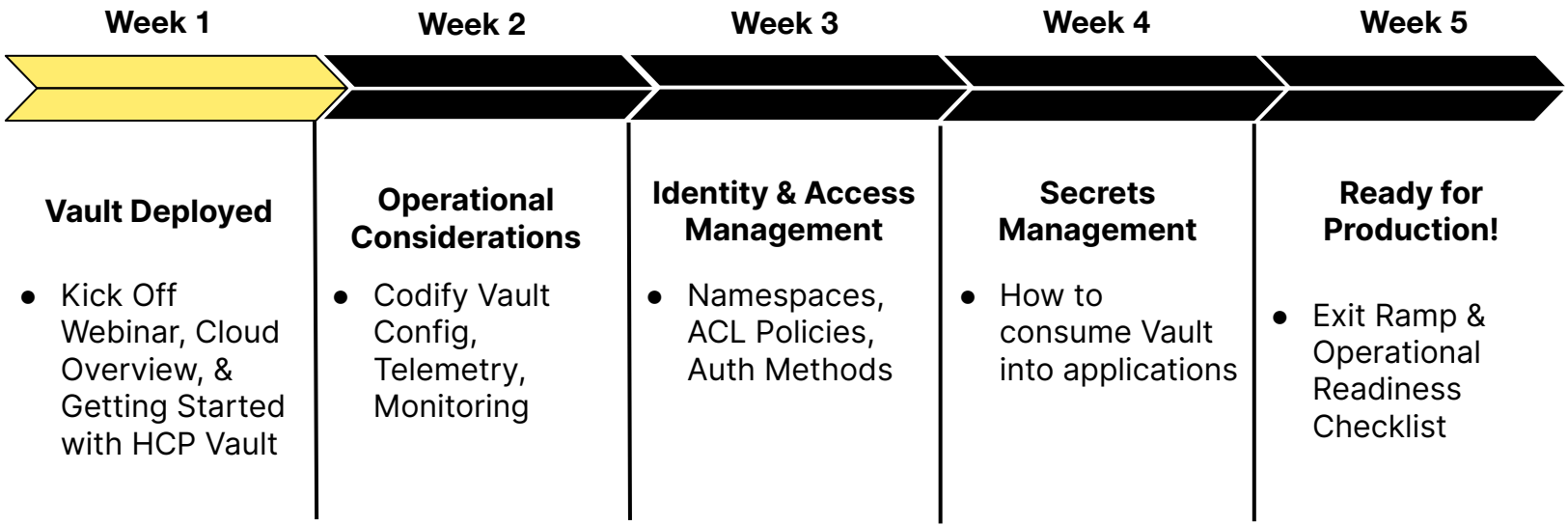
Vault Operational

- First use case (team/service/application) onboarded & consuming secrets stored in Vault
- A roadmap created for onboarding additional teams & use cases (dynamic, PKI, etc).

Completed within 60 days

HCP Vault Onboarding Program

A 5 week guided community environment
Assisting customers with onboarding and adoption



03

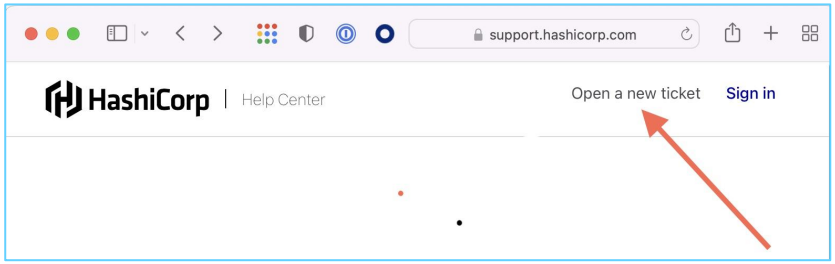
Customer Support

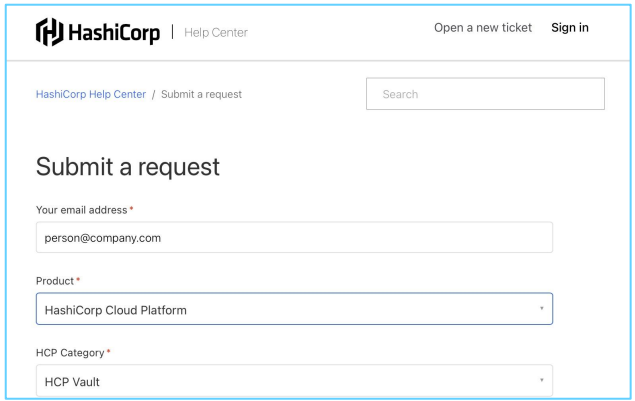
Contacting Support

There are two ways to contact our support team:

- **Support Portal:** Open a ticket through our support portal
  - Once customer access is setup, authorized users can submit a ticket using the email address they provided us
  - The portal provides faster routing via product and sub-product selection, the ability to send encrypted attachments, and set ticket priority
- **Email Support:** Send an email to support@hashicorp.com
  - All emailed support tickets default to “normal” priority - and cannot be changed
  - Don’t raise a SEV-1 over email, please use the support portal

Support Portal





Helpful Hints

- Our ticketing system uses the email domain to associate with a company
- Select Cloud Platform-HCP Vault
- Always include reproduction steps and log files!

Support Levels

		GOLD	SILVER	BRONZE
Hours of availability		24 X 7 (SEV-1 URGENT)	9-5, Monday - Friday US LOCAL TIME EUROPEAN CENTRAL TIME AUSTRALIA EASTERN TIME	N/A
SEVERITY 1 Urgent	FIRST RESPONSE	60 minutes	4 business hours	N/A
	UPDATE FREQUENCY	4 hours	8 business hours	N/A
SEVERITY 2 High	FIRST RESPONSE	4 business hours	8 business hours	N/A
	UPDATE FREQUENCY	8 business hours	2 business days	N/A
SEVERITY 3 Normal	FIRST RESPONSE	8 business hours	24 business hours	N/A
	UPDATE FREQUENCY	3 business days	5 business days	N/A
SEVERITY 4 Low	FIRST RESPONSE	24 business hours	24 business hours	24 business hours
	UPDATE FREQUENCY	Reasonable best effort	Reasonable best effort	Reasonable best effort
Technical contacts allowed		4	3	2

This info can also be accessed from our [Support SLA Page]

Severity Definitions

Sev-1 (Urgent)	A Sev-1 incident is an operational outage as defined below: Any error reported by customer where majority of the users for a particular part of the software are affected, the error has high visibility, **there is no workaround**, and **it affects the customer's ability to perform its business**.
Sev-2 (High)	Any error reported by customer where the majority of the users for a particular part of the software are affected, the error has high visibility, **a workaround is available**; however, **performance may be degraded or functions limited and it is affecting revenue**.
Sev-3 (Normal)	Any error reported by customer where the majority of the users for a particular part of the software are affected, the error has high visibility, a workaround is available; however, performance may be degraded or functions limited and it is NOT affecting revenue.
Sev-4 (Low)	Any error reported by customer where a single user is severely affected or completely inoperable or a small percentage of users are moderately affected or partially inoperable and the error has limited business impact.

For reference only - Subject to Change
Current information available on the Support SLA Page

Suggested Resources

We strongly urge operations team members to subscribe to the HCP status web page at the following URL:

https://status.hashicorp.com/

We also recommend and hope you will participate in the active Hashicorp community, you can find more information at the following URL:

https://www.hashicorp.com/community

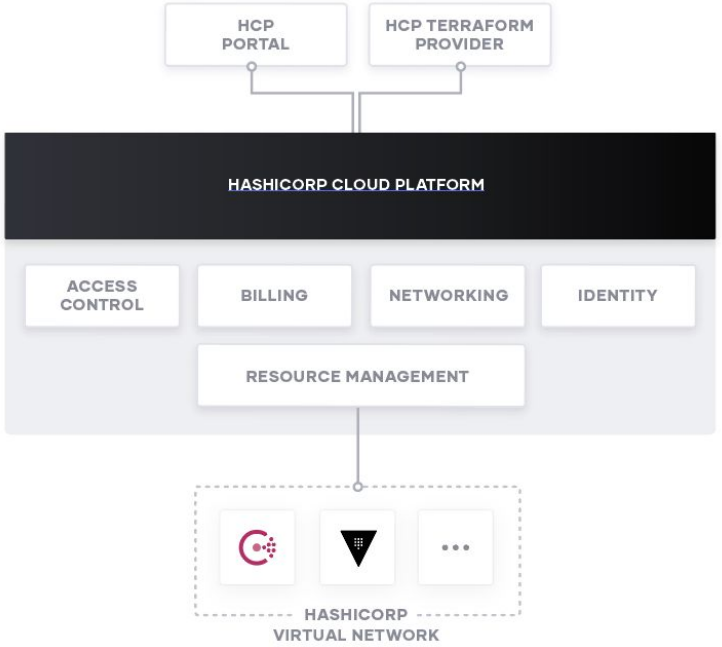
04

HashiCorp Cloud Platform Overview

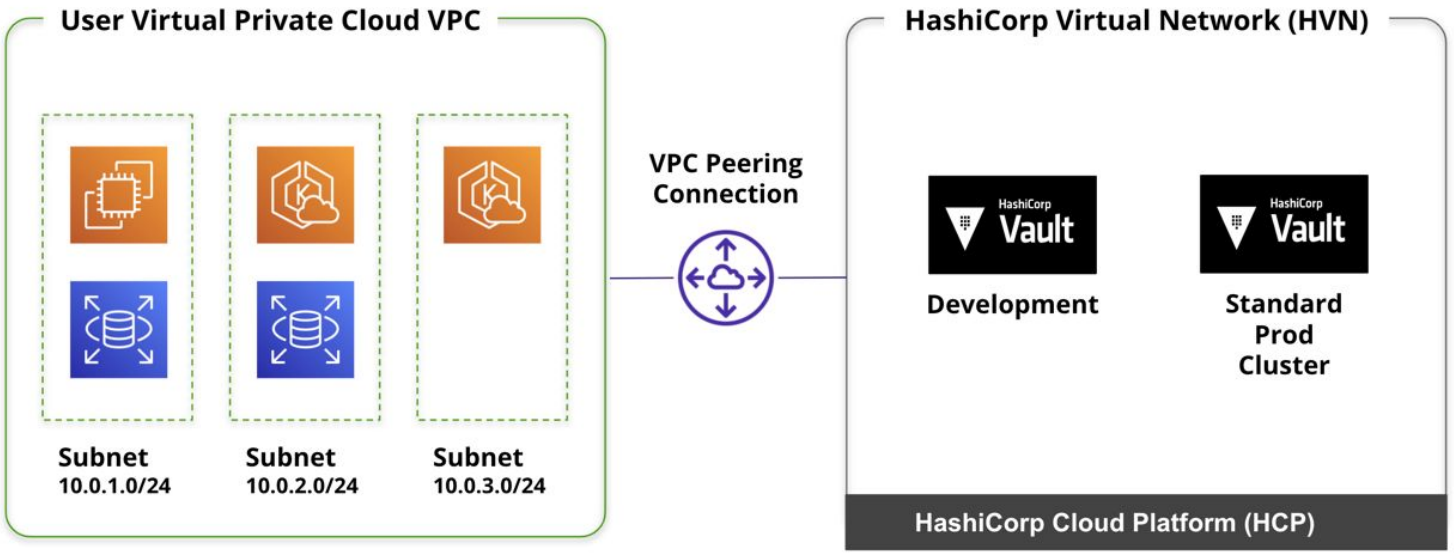
HCP Architecture

HCP consists of two main components, a control plane and a data plane

- The control plane is where you will manage your HCP Vault deployment
- The data plane contains all of your resources managed by HCP
- Your HCP Vault clusters will be isolated into their own VPC managed in a HashiCorp Virtual Network



HashiCorp Virtual Network (HVN)



Regions

Supported AWS Regions

Name	Identifier
US - Oregon	us-west-2
US - Virginia	us-east-1
US - Ohio	us-east-2
Canada - Central	ca-central-1
Europe - Ireland	eu-west-1
Europe - London	eu-west-2
Europe - Frankfurt	eu-central-1
APAC - Tokyo	ap-northeast-1
APAC - Singapore	ap-southeast-1
APAC - Sydney	ap-southeast-2

Regions

Supported Azure Regions
GA as of Feb 28, 2023

Name	Identifier
East US	eastus
East US 2	eastus2
West US 2	westus2
Central US	centralus
Canada Central	canadacentral
France Central	francecentral
North Europe	northeurope
West Europe	westeurope
UK South	uksouth
Australia Southeast	australiasoutheast
Japan East	japaneast
Southeast Asia	southeastasia

Access Controls HCP Platform

RBAC

The HCP console supports the capability to control permissions via RBAC roles

MFA

When using the default email based authentication it is suggested to integrate with an MFA provider to increase the security of your HCP account and your company's data

Add Users

Users can be invited to join your organization via email or directly from the HCP console

Single Sign-On

Leverage GitHub or SAML 2.0 for federating identity with a trusted identity provider

- Organization owners and admins can configure Single Sign-On
- When SSO is enabled for an organization the user invitation feature is no longer offered, new users must be provisioned through the external IDP
- Existing accounts can still access the organization unless an admin removes them
- Current supported external IDP providers:
  - Okta SAML
  - Azure Active Directory SAML
  - Okta OIDC
  - Azure Active Directory OIDC

HCP RBAC Permissions

	Viewer	Contributor	Admin
Add and delete users			X
Manage user permissions			X
View users	X	X	X
Manage service principles			X
View current billing status	X	X	X
Create, edit, and delete HCP resources		X	X
View HCP resources	X	X	X

Automate HCP using Terraform

- The HashiCorp Cloud Platform (HCP) Provider for Terraform can manage the full lifecycle of HCP resources
- Managing HCP infrastructure as code enables creation of repeatable configurations that can be included in build pipelines

SLA

HashiCorp will use commercially reasonable efforts to maximize the availability of HashiCorp Cloud services, and provides uptime guarantees as detailed below. This Service Level Agreement (“SLA”) applies only to HashiCorp Cloud services at the Enterprise tier or above and does not apply to any other product offered by HashiCorp (Excludes development tier clusters).

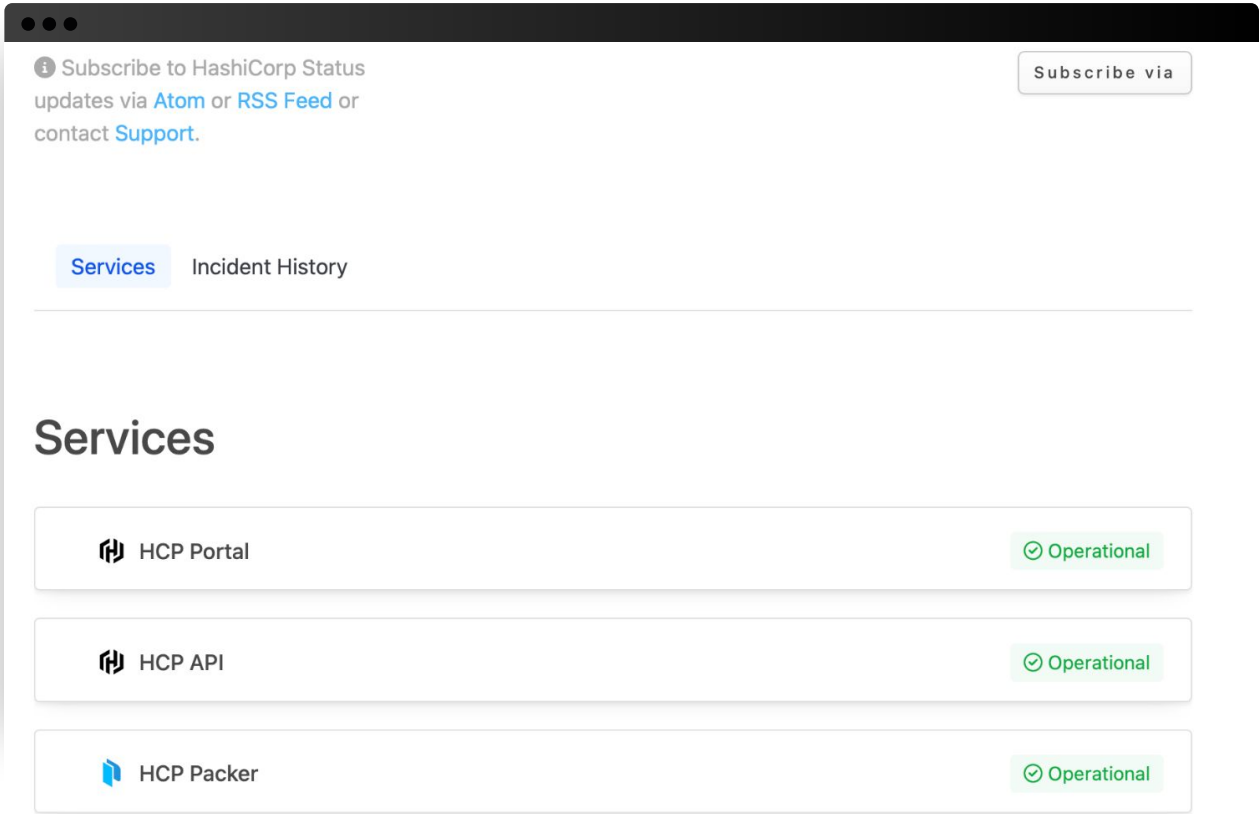
If we do not achieve and maintain the Quarterly Uptime Percentages set forth in the table below, then you may be eligible for the following Service Credit(s).

Quarterly Uptime Percentage	Service Credit
< 99.9% but >= 99.5%	10%
< 99.5% but >= 99%	20%
< 99%	30%

SLA included as a reference and is subject to change. Latest applicable SLA can be found at https://cloud.hashicorp.com/sla

Monitor HCP Status

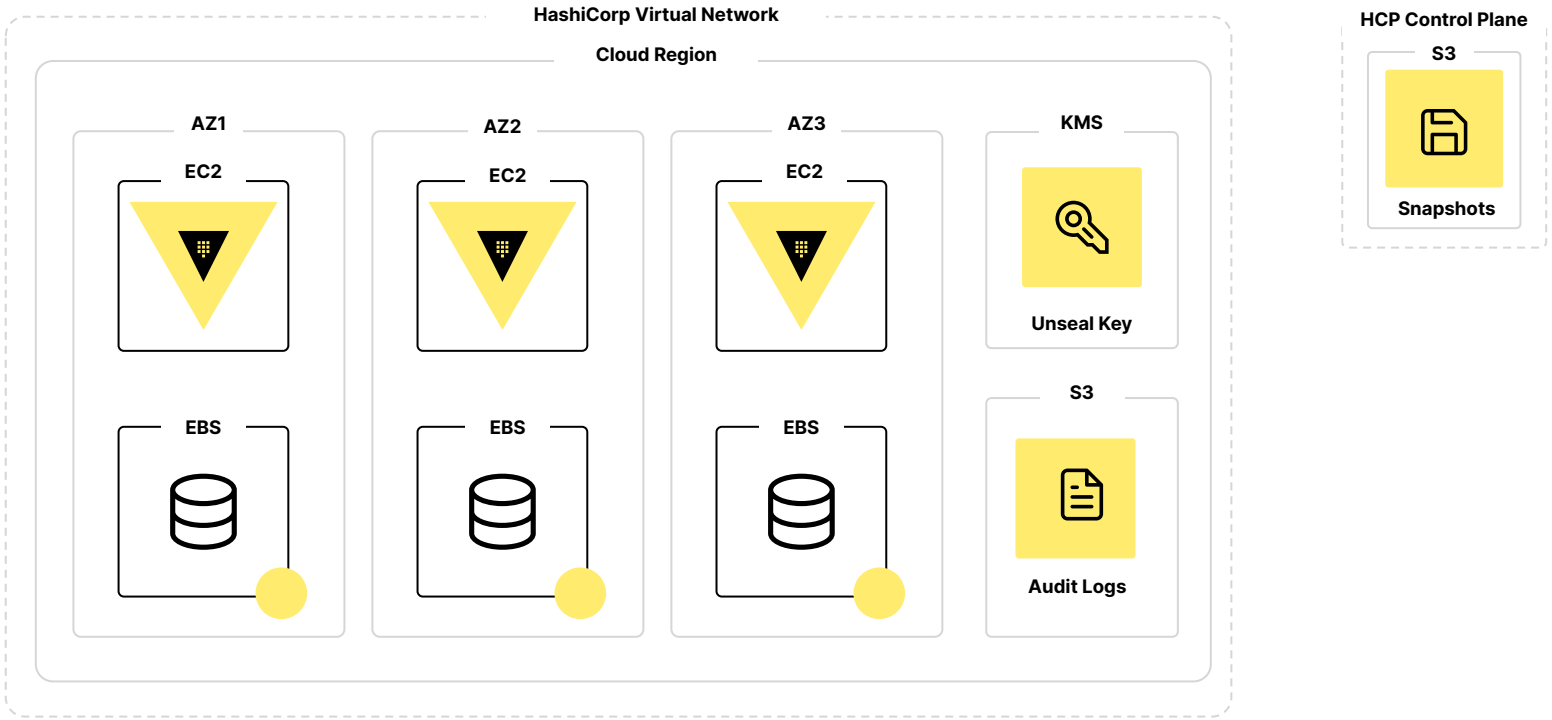
status.hashicorp.com



05

HCP Vault Overview

HCP Vault Architecture



HCP Vault Plus Architecture

HCP Vault vs Self-managed

	Self-managed	HCP Vault
Infrastructure provisioning	Customer managed	HashiCorp managed
Infrastructure operations	Customer managed	HashiCorp managed
Vault updates	Customer managed	HashiCorp managed
Seal	Customer managed	HashiCorp managed
Auth Methods and Secrets Engines	All	Subset currently validated
Vault configuration	Customer managed	Customer managed

HCP Vault Tiers

	Development	Starter	Standard	Plus
Tiers	Designed to get started quickly for small projects, proof-of-concepts, non-production workloads	Designed as affordable, production-ready clusters with clients included to get started quickly	Clusters designed to scale with the demand of running production workloads	Designed for high availability replication of secrets and policies across multiple data centers
Clusters	Extra Small	Small	Small Medium Large	Small Medium Large

HCP Vault Tiers

		Max Clients	vCPU	Memory	Storage	High Availability	Rate Limit	Performance Replication
Pre-Production Tiers	**Development**	25	2	1 GiB	Snapshots & audit logs not supported	1 node cluster	60 requests/sec	No
Production Tiers	**Starter**		2	8 GiB	5 GB storage, 250 GB for snapshots & audit logs	3 node cluster	200 requests/sec	No
	Standard / Plus Small	No Limit	2	8 GiB	15 GB storage, 1 TB for snapshots & audit logs		400 requests/sec	Plus Only
	Standard / Plus Medium		4	16 GiB	30 GB storage, 5 TB for snapshots & audit logs		No Limit	
	Standard / Plus Large		8	32 GiB	50 GB storage, 10 TB for snapshots & audit logs			

HCP Vault Security

Cluster Hardening

Clusters adhere to the published Vault production hardening guidelines

Each cluster has:

- End-to-End TLS
- Firewall restrictions to only inbound TCP/8200
- Restricted storage access
- No clear text credentials

HCP Vault cluster hardening details

Root Tokens

At cluster creation, a root token is generated during the initialization process

Token is used for creation of:

- Initial authentication methods
- Initial policies
- Trust establishment with the HCP control plane

Token is revoked upon setup completion

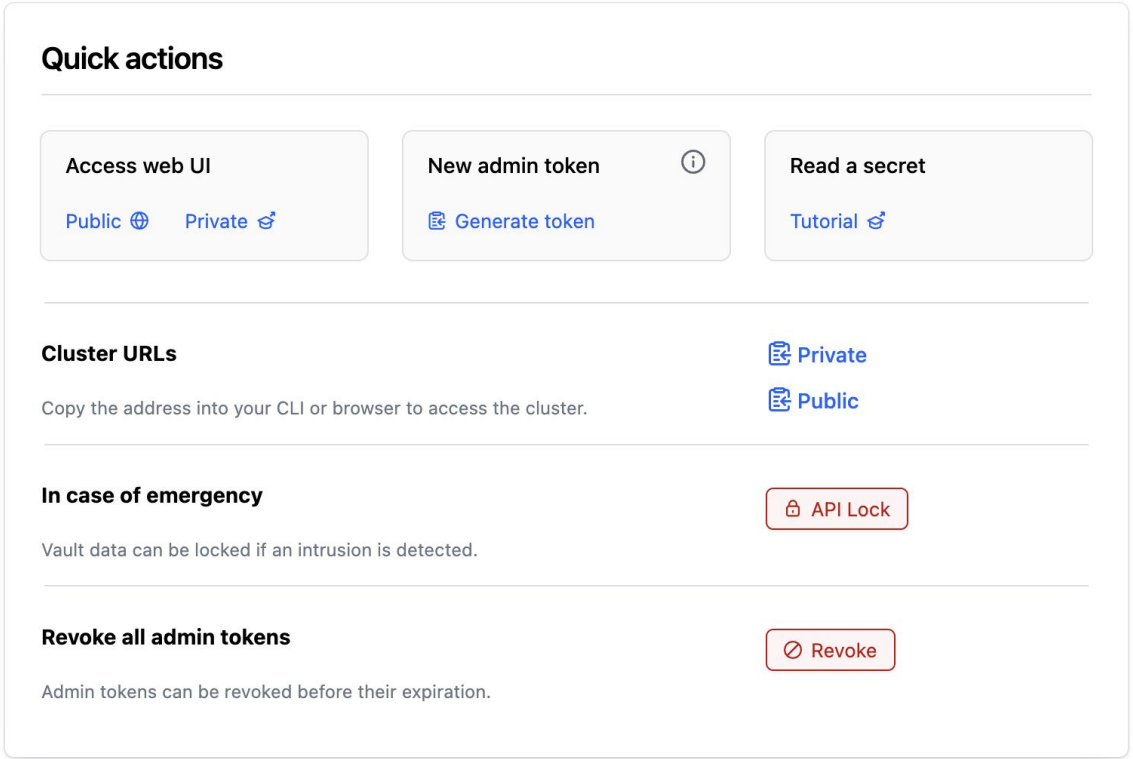
Vault Data

Vault's data is encrypted and stored in an account-specific Amazon Elastic Block Store (EBS) in the same region as the cluster

- Snapshots are stored in HashiCorp managed, encrypted Amazon S3 buckets in the US
- During download, audit logs are sent to the US for concatenation

Admin Token

- Admin tokens are similar to root tokens
- Should only be used during initial setup of a cluster or if an operator does not have cluster access
- Admin tokens are highly privileged and can access all endpoints within a cluster
- Tokens have a 6 hour TTL and cannot be renewed



Initialization Process

1

Operator creates HCP Vault cluster

Vault Operator → **HCP Portal**

2

Operator generates admin token

Vault Operator → **Generate Admin Token**

3

Operator sets up first authentication method, and basic policies

Vault Operator → **Vault UI/CLI/API**

4

Operator revokes admin token.

Vault Operator → **Revoke Admin Token**

Authentication Methods

Supported Authentication Methods

- HCP Vault has been validated to work with the listed authentication methods
- Additional authentication methods can be enabled, however limitations with configuration or functionality may be encountered

Human	Machine
Azure AD	AWS EC2
Okta	AppRole
GCP (without G Suite option)	Kubernetes
Github	JWT/OIDC
OIDC	AWS IAM
LDAP	GCP
Userpass	Azure
RADIUS	
Token	
MFA Duo MFA PingID MFA Okta MFA TOTP	

Secrets Engines

Supported Secrets Engines

- HCP Vault has been validated to work with the listed secrets engines
- Additional secrets engines can be enabled, however limitations with configuration or functionality may be encountered

[Validated Secrets Engines & Auth Methods]

Secrets Engines	Database Secrets Engines
Key/Value (V1 & V2)	Snowflake DB
AWS	MongoDB Atlas
GCP	RDS PostgreSQL
Consul, Consul Tokens	Elasticsearch
Transit	MySQL/MariaDB
Terraform Cloud Secrets	Cassandra
PKI (Certificates)	MSSQL
Cubbyhole	Redshift
TOTP	HandDB
OIDC Identity Provider (TP)	InfluxDB
OpenLDAP	Couchbase
RabbitMQ	
SSH	
Identity	
Azure	
Active Directory	
Nomad	

Sentinel & Control Groups

- HCP Vault Plus now offers the ability to create Sentinel policies and control groups
- Sentinel is an embeddable ‘policy as code’ framework to enable fine-grained, logic-based policy decisions that can be extended to source external information to make decisions
- Sentinel policies are used in combination with ACL policies and policy templates
- Vault Control Groups add dual controls before processing requests for accessing secrets
- Control groups can be embedded into both ACL and Sentinel policies

Constraints

Root Namespace

- No access is granted to the root namespace
- When you access an HCP Vault cluster you will be within the admin namespace

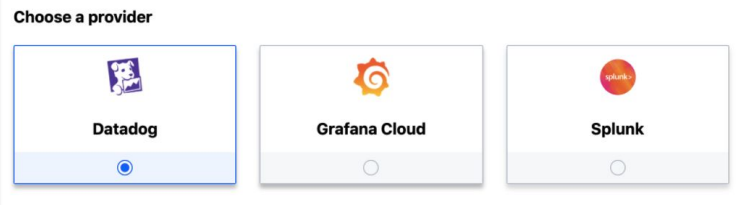
Admin Token Policy

- The admin policy used for admin tokens generated in the HCP portal is located in the admin namespace
- It is viewable and editable by customers however it should not be edited

Cluster Deletion

Deletion of an HCP Vault cluster is a permanent, irreversible action

Currently, when deleting an HCP Vault cluster **all data** stored in the data plane is removed, including **all snapshots** and audit logs



- Audit logs can be exported in one hour increments from the HCP Portal
- Streaming audit logs to Datadog, Grafana, or Splunk for audit log retention is recommended

Performance Considerations

Profile Workloads

As organizations scale up the adoption of Vault, varying workloads access the Vault instance

- Telemetry should be leveraged to ensure proactive monitoring of Vault Cluster resources
- As new applications/services/teams/users are onboarded, it is suggested to profile the usage patterns to ensure optimal authentication and consumption patterns are used

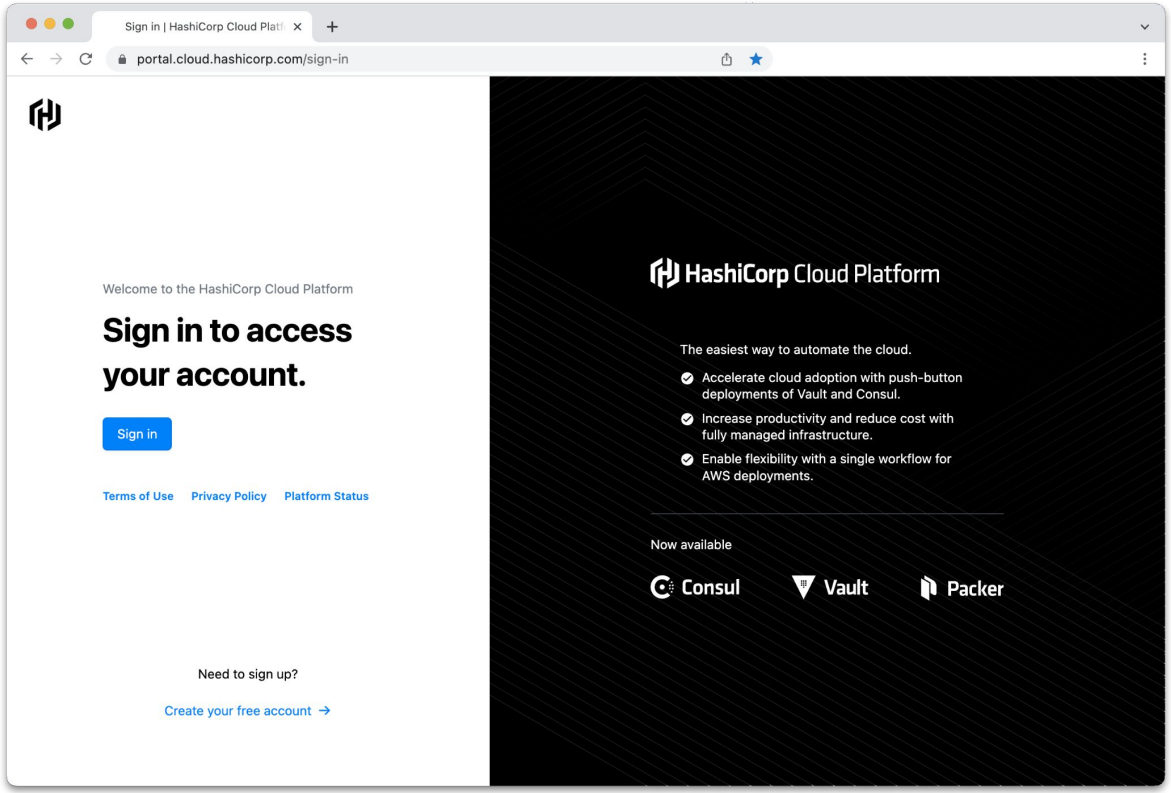
External Systems

- Multiple Vault Authentication Methods and Secrets Engines have dependency on external systems for Vault requests to be completed
- Ensure telemetry is enabled on those services and proactively monitor for performance issues.

06

Demo

HCP Portal Login



https://portal.cloud.hashicorp.com

Demo

- Accessing HashiCorp Cloud Platform (HCP)
- Navigating HCP Portal
- Create a HashiCorp Virtual Network
- Create a HCP Vault Cluster
- Create a Vault Operator policy
- Enable initial authentication method for Vault Operator
- Create a Vault Namespace
- Enable KV Secrets engine and write a secret

Upcoming Webinars

Operationalizing for Production

Learn best practices for automating configuration of the HCP Control Plane & Vault along with Telemetry, Monitoring, and Audit Logging

Namespaces, Authentication & Policies

Learn best practices for deploying and managing Namespaces, Auth Methods, and Vault policy

Consuming Secrets from HCP Vault

The webinar covers how Vault works with trusted platforms to manage Identity and best practices and patterns for leveraging Vault for secrets management

Action Items

- Share to customer.success@hashicorp.com
  - Authorized technical contacts for support
  - Stakeholders contact information (name and email addresses)
- Email your CSM with a brief summary of HCP Vault use case(s), goals, and project milestones
- Activate your HCP Account and create an Administrative user

Thank you

customer.success@hashicorp.com

www.hashicorp.com/customer-success