

HyperSDK

Multi-Cloud VM Export & Migration Platform

Unified Go SDK and daemon for discovering, exporting, and migrating virtual machines across 10 cloud providers — with carbon-aware scheduling and a modern web dashboard.

Apache 2.0 Open Source — Go 1.24 — Hexagonal Architecture

The Challenge

Why multi-cloud VM management is broken — and what's at stake.



VMware Licensing Shock

Broadcom's acquisition drove VMware license costs up 2-12x. Perpetual licenses eliminated. Organizations urgently need migration paths away from vSphere.



Vendor Lock-in

Each cloud provider has its own proprietary APIs, VM formats, and export mechanisms. Moving workloads between clouds requires different tools for each provider.



Multi-Cloud Complexity

Enterprises run workloads across AWS, Azure, GCP, and on-prem simultaneously. No single tool handles discovery and export across all platforms with a unified API.



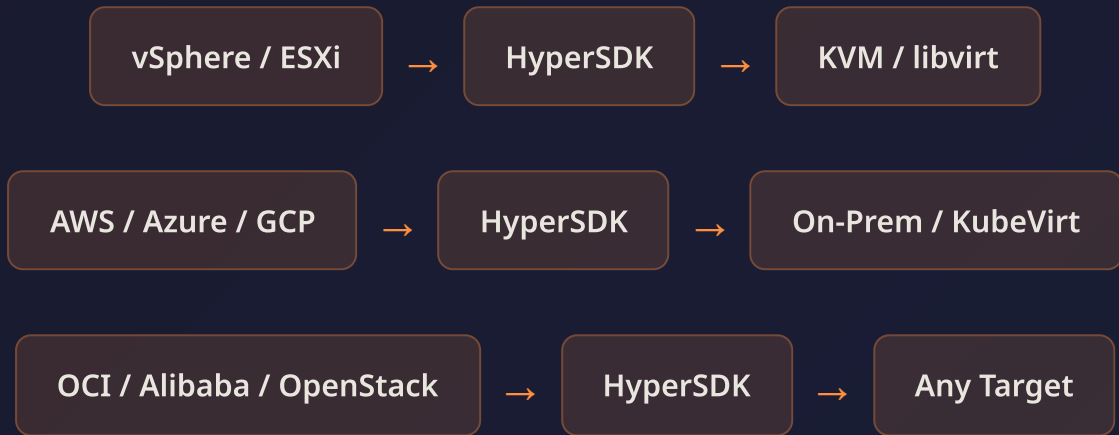
Integration Overhead

Building custom integrations for each provider takes months. Different authentication models, disk formats, and metadata schemas multiply engineering effort.

"Enterprises need a single platform that speaks every cloud's language — discovering, exporting, and migrating VMs without provider-specific tooling for each one."

The Solution

HyperSDK — one unified platform for every cloud provider.





10 Cloud Providers

vSphere, AWS, Azure, GCP, Hyper-V, OCI, OpenStack, Alibaba Cloud, Proxmox, and KubeVirt — all through a single ComputeProvider interface.



Hexagonal Architecture

Clean domain/ports/adapters design with 70+ canonical types, 13+ port interfaces, and compile-time safety. Extensible by design.



Unified REST API

150+ endpoints with versioned routes, WebSocket streaming, middleware chain, and OpenAPI documentation. One API for all providers.



Web Dashboard

React + Tailwind dashboard with VM browser, provider manager, job tracker, export workflows, and real-time alerts.

Key Stats

HyperSDK by the numbers.

10

Cloud Providers
Supported

150+

REST API
Endpoints

182

VMs Discovered
(Demo
Environment)

95%

Faster Exports
with CBT

70+

Canonical
Domain
Types

13+

Port
Interfaces

8

Binary
Components

30-
50%

CO2 Reduction
Carbon-Aware

"HyperSDK is the only multi-cloud VM management platform that combines universal provider support, carbon-aware scheduling, and a hexagonal architecture — all in a single open-source Go binary."

Supported Providers

Comprehensive multi-cloud coverage through a unified interface.

Provider	Discover	Export	Key Features
VMware vSphere	✓	✓	OVF/OVA, CBT incremental, govc integration
Amazon Web Services	✓	✓	EC2 discovery, AMI export, EBS snapshots
Microsoft Azure	✓	✓	VM discovery, managed disk export, VHD
Google Cloud Platform	✓	✓	Compute Engine, persistent disk export
Microsoft Hyper-V	✓	✓	WMI discovery, VHD/VHDX export
Oracle Cloud (OCI)	✓	✓	Compute instances, boot volume export
OpenStack	✓	✓	Nova instances, Glance image export
Alibaba Cloud	✓	✓	ECS discovery, disk snapshot export
Proxmox VE	✓	✓	QEMU/LXC, vzdump, qcow2 export
KubeVirt	✓	✓	Kubernetes-native VMs, PVC export

All providers implement the ComputeProvider and ExportProvider port interfaces with the toVMInfo normalization pattern.

Cost Savings

The financial case for HyperSDK-driven migration.

\$0

HyperSDK License Cost
(Apache 2.0 Open Source)

70%

Average TCO Reduction
over 3 years

10x

ROI on Migration
Investment

3-Year TCO Comparison (100 VMs)

Cost Category	Before (VMware)	After (KVM + HyperSDK)	Savings
Hypervisor Licensing	\$500,000	\$0	\$500,000
Management Platform	\$200,000	\$0 (HyperSDK Dashboard)	\$200,000
Migration Tooling	\$100,000 (3rd party)	\$0 (HyperSDK)	\$100,000
Multi-Cloud Integration	\$150,000 (custom dev)	\$0 (built-in)	\$150,000
Support Subscription	\$150,000	\$50,000 (optional)	\$100,000
Total	\$1,100,000	\$50,000	\$1,050,000

Carbon-Aware Scheduling

Industry-first: schedule VM migrations when the grid is greenest.



Real-Time Carbon Data

Integrates with carbon intensity APIs to measure grid emissions in real-time. Schedules heavy export/migration workloads during low-carbon windows.



30-50% CO2 Reduction

By shifting batch migrations to off-peak carbon hours, organizations achieve significant emission reductions without impacting migration timelines.



ESG Compliance

Built-in carbon tracking provides audit-ready reports for ESG commitments. Demonstrate measurable sustainability impact from IT operations.



Cost Co-Optimization

Low-carbon periods often correlate with lower electricity prices. Carbon-aware scheduling delivers both environmental and financial benefits.

"HyperSDK is the first VM migration platform with built-in carbon-aware scheduling — turning every migration into an opportunity for sustainability."

Get Started

From zero to multi-cloud VM management in minutes.

```
# Install HyperSDK
make install

# Start the daemon
sudo systemctl start hypervisord

# Discover VMs from vSphere
hyperctl provider add vsphere --endpoint vcenter.local --user admin

# Export a VM
hyperctl export --provider vsphere --vm production-web-01 --format qcow2

# Open the dashboard
open http://localhost:8080
```

Ready to Unify Your Multi-Cloud VM Management?

HyperSDK is open source (Apache 2.0) and production-ready. 10 providers, 150+ API endpoints, carbon-aware scheduling — all in one platform.

github.com/ssahani/hypersdk

**Apache
2.0**

Open Source License

**Go
1.24**

**10
Providers**

Multi-Cloud Coverage

Single Binary
Platform

HyperSDK — Multi-Cloud VM Export & Migration Platform
Built with hexagonal architecture for extensibility and production reliability
github.com/ssahani/hypersdk