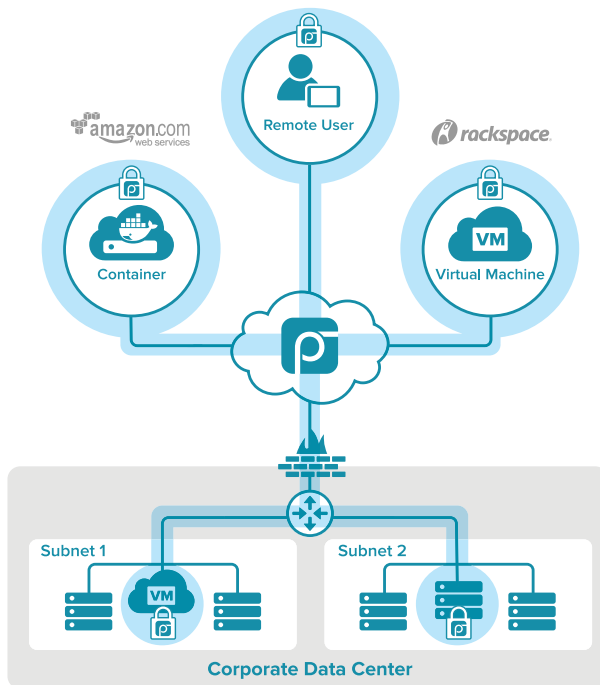# Hybrid and Multi-Cloud VPC Networks

Secure. Simplified. Software-defined.

- **Virtual overlay networks for VMs and Containers on any cloud**
- **Automate deployments with standard tools like Puppet and Chef**
- **One solution connects everything: workloads, workforce and devices**

Within today's cloud-driven enterprises, IT, DevOps and developer teams need to spin-up and scale-out VPCs (Virtual Private Clouds) to support business-critical workloads and applications. Pertino's Cloud Network Engine lets teams build and manage software-defined virtual overlay networks for hybrid and multi-cloud VPCs across any provider, anywhere. With Pertino, one VPC network solution lets you connect everything—physical and virtual machines; Docker, CoreOS and LXC containers; remote users and devices—to any cloud with complete visibility, security and control.

The Cloud Network Engine platform runs on public cloud infrastructures around the world and combines SDN and virtualization technologies to extend private Layer 3 virtual networks over the Internet. Servers, VMs, containers, mobile devies, laptops and desktops attach to a Pertino overlay network through virtual Ethernet adapters (pertino0). Since each virtual overlay network is a unique subnet with its own private address space, VPC resources can span multiple private and public clouds—even multiple regions or providers—and yet appear and function as if they're on the same LAN.

Use Cases

DevOps ENVIRONMENTS
- Deploy VMs and containers across multiple clouds to maximize availability
- Provide remote teams with secure access to local or cloud-based tools (e.g., Git repos, Jenkins, Jira)
- Enable on-demand cloud infrastructure to support continuous integration
- Instantly move workloads across environments

HYBRID CLOUD
- Instantly connect private clouds to any public cloud
- Disaster recovery for servers, workloads and storage
- Cloud bursting
- Leverage cloud-based IT services (e.g., logging, Active Directory)
- Connect AWS Workspaces to private cloud servers

MULTI-CLOUD
- Select the optimal public cloud for each workload
- Backup snapshots and databases across providers
- Deploy IT services across providers (e.g., directory)

REMOTE ACCESS
- Secure, always-on access for remote teams
- Manage servers and VMs from anywhere without opening firewall ports
- Temporary access for contractors

No inbound connections are needed (reducing DDoS threats) and every connection is always-on and fully secured (using AES 256-bit encryption), locking down your networks without the complex setup required by Amazon security groups. No infrastructure changes are needed and there are no hardware costs to manage. And, it's fully automatable using orchestration tools such as Puppet and Chef.

Comprehensive security – PKI and AES 256-bit encryption

The Pertino security foundation is specifically designed to deal with the implications of the growing diversity and transiency of cloud-driven enterprises, including VMs, containers, and servers within private, hybrid, and public clouds. The main elements include a secure overlay to abstract underlying physical networks, private address space, strong data-in-transit encryption, micro-segmentation and multi-layer authentication.

High Availability – 24x7 "always on" global connection

The Pertino Cloud Network Engine platform spans multiple, top-tier public cloud datacenters around the world. Each datacenter has diverse routed, multi-gigabit trunks that are one hop away from every major carrier. This ensures high-availability and efficient routing of traffic for Pertino virtual overlay networks. In the event of an outage, all affected virtual networks are instantly migrated to another host VM, datacenter or even cloud provider without disrupting active sessions.

Transparent Overlay - Works with your existing network

Pertino virtual overlay networks work seamlessly with your existing network and security infrastructure, requiring no changes to IP addressing or DNS, router, firewall or ACL configurations. As a result, cloud operations teams can deploy, administer and manage VPC networks when and where they need.

Docker - Secure container networks for distributed applications

Docker and other container technologies let organizations build, ship and run distributed applications with unprecedented ease and efficiency. However, traditional VPNs slow down this process with costly hardware and complex configurations. Pertino enables instant container-level networks that integrate seamlessly with application packages and workloads. Check out Pertino vNet on Docker hub at https://registry.hub.docker.com/u/pertino/vnet/.

For more information

Our website has an extensive "How to use" section to help with your application delivery and deployment requirements. Be sure to check out the Pertino vNet on Docker Hub, and read our Pertino Multi-Cloud whitepaper that shows you how to coordinate workloads across different cloud providers.

Key Features

SECURITY
- Secured SSL tunnels using 256-bit AES encryption
- X.509 CA PKI infrastructure
- Microsegmentation

SELF-HEALING, OPTIMIZING
- Redundant, geo-diverse cloud networking platform
- Networks auto-migrate across regions or providers
- Network auto-home to closest cloud data center

MANAGEMENT
- Instant provisioning with zero configuration
- Unified management across clouds and providers
- Deploy network services via AppScape™ app store

AUTOMATABLE
- Support fully automated VPC deployments
- Integrate with Puppet and Chef scripts

Business Benefits

- Freedom to choose the right cloud for every workload
- Helps eliminate cloud vendor lock-in
- Connect your workloads, workforce and devices to any cloud
- Single VPC supports workloads on servers, VMs and containers
- Requires no expertise to setup and manage

Try Pertino Free >