



Netris Architecture

Netris delivers the VPC experience to your Equinix Metal Project by automatically managing and configuring the network service resources managed through a web console, Terraform, API, or Kubernetes – just as in a public cloud. A Netris system is comprised of two types of managed devices, softgate (the VPC gateway) nodes and controllers.

Netris Controller can be hosted either on-prem as a VM, a standalone server, or a Kubernetes application.

Netris SoftGate is an optimized, Linux-based, and self-operating network gateway. Automatic configuration software and reference software architecture for enabling border routing, Layer-4 Load Balancing, Network Address Translation (NAT), DHCP, and site-to-site VPN services.

The main job of a softgate is not to move packets but to automatically configure the pieces to make your network work for you.

Netris Operator is an optional software application that provides integration with the Kubernetes. The Operator is deployed via a Helm Chart or with regular Kubernetes manifests.

Features

- Native Configuration of Equinix Networking
- On-demand (elastic) Load Balancer
- Network ACLs (Access Control Lists)
- NAT (SNAT, DNAT)
- Site-to-Site VPN
- DHCP
- V-Net (virtual networks, VLANs, default gateway)
- BGP Router
- Kubernetes Operator
- Svc Type: Load Balancer Provisioning
- Load Balancer Health Check
- Calico/Cilium BGP Scaling
- Automatic Gateway Configuration
- SoftGate Monitoring and Detailed Telemetry
- Automatic VLAN configuration of host ports
- Management: Web console, Terraform, REST API, Kubernetes CRDs

Workflows & Operations

- Equinix BGP autoconfig
- Equinix IP subnets (Elastic IP) automatic inception
- Equinix Layer-2 VLAN provisioning
- SoftGate Maintenance Mode
- Controller Maintenance Mode
- Role-based Access Control
- Tenant-based Resource Management
- BGP peers management
- Network Services provisioning (V-NET, LB, NAT, DHCP, Firewalls)
- SoftGate Monitoring (CPU, Memory, Disk, Port, Fan, PSU, Temp, NTP, Services)
- Advanced Troubleshooting through interactive CLI Output (Looking Glass)
- Netris Controller Backup & Restore

Supported Protocols

- IPv4 & IPv6
- Border Gateway Protocol (BGP)
- DHCP
- ECMP
- Ethernet (1-100 Gigabit)
- 802.1q VLAN
- Layer-4 Load Balancing w/ probes
- IP Packet Filtering (src/dst/port)
- SNAT, DNAT, Masquerade

Minimum Requirements

Netris Controller

The controller can be installed on any 64-bit Linux host.

Equinix on-demand server

- c3.small.x86

Virtual Machine

- Core/vCPU - 8
- RAM - 16 GB
- Disk - 100GB HDD
- Network - 1 virtual NIC, Layer-3 connectivity to management interfaces of network devices

Containerized Deployment

- Kubernetes 1.12+
- Helm 3.1+

SoftGate (VPC Gateway)

Equinix on-demand server

- c3.small.x86
- Ubuntu 22.04

Netris Operator (Optional)

- Kubernetes 1.18+
- Helm 3.1+ (optional)