



Vyatta Network OS for Cloud Computing

CUSTOMER TESTIMONIALS



“Vyatta is able to provide the network services and secure connectivity that Dell GIS Cloud requires in a package that addresses the virtualization, commoditization and cost-benefit requirements of cloud computing.”

Sanjay Basu
Principal Architect,
Next Generation Computing Platform
Dell Services



“Carpathia provides hosting and cloud services for some of the world’s most demanding organizations. The Vyatta Network OS satisfies our customers’ most critical compliance and security challenges, while offering the flexibility to work within our on-demand cloud infrastructure and business model.”

Jon Greaves
Chief Technology Officer
Carpathia Hosting

ABOUT VYATTA

Vyatta is disrupting the networking industry by providing on-demand software-based networking and security solutions that uniquely satisfy emerging IT architectures leveraging virtualization, multi-core server platforms and cloud computing models. Vyatta software and virtual machines provide a complete enterprise-class routing and security feature set that can be provisioned, licensed, billed and scaled on-demand, truly presenting the network as an application. Thousands of physical and virtual and cloud infrastructures around the world, from small enterprise to Fortune 500 customers, Federal Government to Global Telecom, are connected and protected by Vyatta.



Security, Connectivity and Compliance in the Cloud

The Vyatta Network OS delivers advanced network security and connectivity functionality in a cloud-ready, virtualization optimized, software appliance. Vyatta’s on demand software approach to cloud security offers cloud providers and enterprises the unique ability to easily provision, deploy, secure and manage flat networks as well as complex n-tier networks. Much more than a simple gateway or firewall solution, the Vyatta Network OS offers enterprise-class stateful firewall, IPsec VPN, SSL-based OpenVPN, secure web filtering, dynamic routing and more to simply enable per customer or per server security and connectivity.

As cloud moves from vision to reality, networking quickly moves to the front as a major impediment to meeting the core requirements. The reason is simple: traditional edge networking has not been modernized the way server and storage infrastructure has been over the past decade. In order to deliver on the business benefits of cloud computing, the networking function must evolve to enable best practices in effective cloud design:

Cloud Network & Security - Best Practice Requirements

Requirement	Vyatta Network OS	Hardware Based Networking
Multifunction Layer 3+ (Routing, Firewall, VPN, IPS, Web Filter +)	Yes	Vendor Dependent
Elasticity / Scalability	Seamless addition of underlying processor cores	Platform Limited
Multitenancy	Platform independent virtual machine	Hardware Bound
Hypervisor Agnosticism / Awareness	VMware, Xen, XenServer, Red Hat KVM	None
Open Management API	Yes	No
On Demand Provisioning	Yes	No
Utility Pricing	Yes - Vyatta VSPL License	No

The Key Benefits of Vyatta Network OS in the Cloud:

Platform Independence: Vyatta Network OS for the cloud allows for a single virtualized routing and security package to be installed on common virtualization hypervisors and readily available x86-based hardware.

Elasticity / Scalability: Vyatta Network OS removes the limitations of box-bound network devices by offering the ability to scale performance, add users or add instances as in seconds and minutes, not hours, days or weeks.

Physical-to-Virtual Migration: Using the Vyatta Network OS enables simple, straightforward migration from physical networks to the virtual environment without network redesign or compromising existing security policies and compliance.

Auto Provisioning: Vyatta enables simple button-click deployment and auto-configuration of complete network connectivity and security.

Remote Management: Vyatta Network OS is easily integrated with any third party management, orchestration, or provisioning system to enable instant-on infrastructure deployment, license and billing management as well as monitoring and reporting.

Utility Licensing: Vyatta VSPL licensing offers pay-per-use billing options that map to common cloud computing consumption models.

Deploying Vyatta in the Cloud: Common Use

SECURE MULTITENANT XaaS CLOUD

A successful multitenant service delivery model is defined by a number of factors, including: customer isolation, data protection, automated provisioning, high utilization of the underlying infrastructure, minimal investment risk, fast ROI. The Vyatta Network OS provides the industry's only cloud-ready virtual machine that bundles enterprise-class firewall, VPN, dynamic routing, cloud bridging, web filtering and more to simplify isolation, data protection and traffic management. Vyatta instances can be provisioned on demand with pre-defined security profiles, plus users can inject configuration data remotely, using third-party management tools or via the Vyatta REST-based Remote Access API. As a cloud-ready virtual machine, Vyatta removes the need for hardware-based solutions allowing cloud providers to maximize utilization of underlying server hardware. Vyatta also offers usage-based pricing options requiring virtually no CAPEX investment risk.

VIRTUAL FIREWALLING

Within the data center, physical firewall devices are typically deployed to ensure security and segmentation between departments, application servers, databases, transaction systems and other IT resources. These firewalls address internal security needs (HR databases, financial systems) and compliance (PCI, HIPAA). In the cloud however, tenants share underlying infrastructure (including server hardware, hypervisors and virtual switches, and other shared services). Thus, firewalls must not only enable compliance and internally segment sensitive business resources, but they must ensure multitenant security within a shared environment. Traditional networking requires physical firewall gear -- this means high cost, slow deployment, and inflexibility in the cloud. On Demand Networking from Vyatta enables the instant, flexible deployment of firewall virtual instances, anywhere in the cloud, with no capital investment.

SECURE REMOTE ACCESS

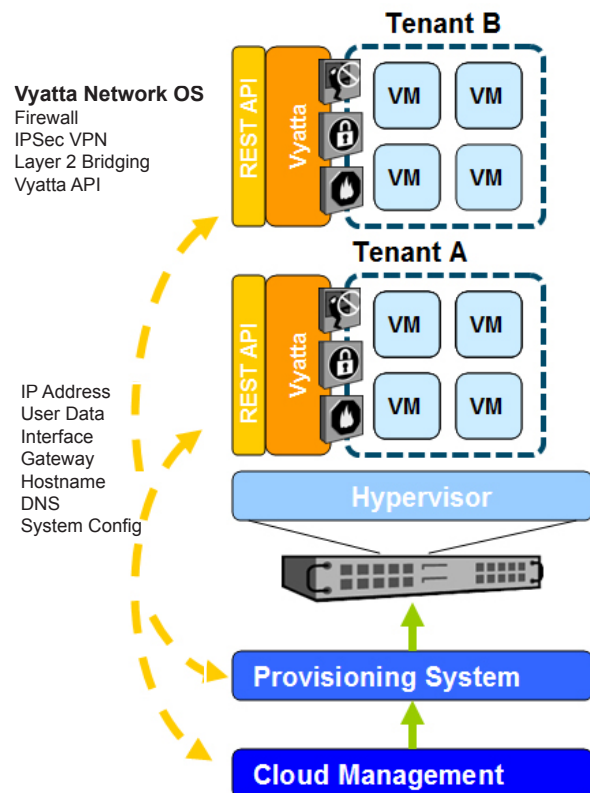
Cloud users access their applications and data over the Internet, requiring every user's connection to be encrypted for security. Vyatta Network OS vm's are an exceptionally clean solution for this requirement. Within the cloud a new Vyatta VPN virtual machine can be started in moments, using a small fraction of an existing server's resources. The high cost associated with acquiring and installing a unique physical device is completely eliminated, as is the requirement for more space, power and cooling. The customer can deploy the same software of virtual machine at any network entry point, rapidly and with minimal expense as a "secure cloud connector."

CLOUD ON-BOARDING - SECURE LAYER 2 BRIDGING

An often overlooked requirement in cloud computing is the need to enable customers to securely migrate data to the cloud from the enterprise datacenter. The Vyatta Network OS combines Layer 2 bridging and VPN Tunneling functionality to deliver a cloud bridging solution which allows physically separate networks to securely communicate with each other over the internet as if they were on a single Ethernet network. This capability extends cloud service and data center reach, simplifies the migration of applications and physical servers between data centers, ensures continuity during a phased migration, and enables the moving of virtual machines between physical servers on physically separate networks.

ADVANCED N-TIER VIRTUAL INFRASTRUCTURE

Cloud networking infrastructure must allow for cloud users to completely migrate security, traffic management, and compliance policies from their physical topologies into the virtualized cloud environment.. Vyatta's deep roots in delivering a complete layer 3+ network OS offers customers a single solution that can route and secure traffic in a single flat network or create multi-tier environments complete with separate security policies.



Vyatta Network OS for Cloud Computing

The Vyatta network operating system is a scalable, integrated, enterprise-class networking solution that delivers advanced routing and network security functionality for physical, virtual and cloud networking environments. The Vyatta Network OS includes dynamic routing, stateful firewall, VPN, threat protection, traffic management and more in a package that is optimized to take advantage of multicore x86 processing power, common hypervisor platforms and emerging cloud architectures. All features are configured through Vyatta's familiar, networking-centric CLI, web-based GUI or third party management systems using the Vyatta REST-based Remote Access API.

Vyatta Network OS Highlights

- » Performance Optimized VMs
- » Remote Access Cloud API
- » Complete Layer 3+ OS
- » Stateful Firewall
- » Secure Cloud Bridging
- » IPSec & SSL-based OpenVPN
- » Secure Web Filtering
- » Intrusion Prevention
- » XenServer, VMware, Red Hat KVM Ready

Subscription Support Packages

BASIC:

- » Vyatta Software Updates
- » Security Alerts & Patches
- » Bug Fixes
- » Proactive Notifications
- » Online Documentation
- » Knowledge Base Access

ENTERPRISE:

- Basic Features Plus
- » 5 X 12 Phone Support
- » Web-based Ticketing
- » Customer Hot Fixes
- » Case SLA - Severity Based
- » Vyatta University Training Getting Started Bundle

PREMIUM:

- Enterprise Features Plus
- » 7 X 24 Emergency Phone
- » Case SLA - Priority Response

Network Connectivity

At the core of the Vyatta system is a complex routing engine with full support of IPv4 and IPv6 dynamic routing protocols (BGP, OSPF, RIP). Vyatta systems include support for 802.11 wireless, Serial WAN Interfaces and a wide variety of 10/100 thru 10Gb Ethernet NICs.

Firewall Protection

The Vyatta firewall features IPv4/IPv6 stateful packet inspection to intercept and inspect network activity and protect your critical data. Vyatta advanced firewall capabilities include stateful failover, zone and time-based firewalling, P2P filtering and more.

Additional Protection

Vyatta systems offer an additional level of proactive threat protection with integrated secure web filtering rules available as Vyatta PLUS subscription services.

Secure Connectivity

Establish secure site-to-site VPN tunnels with standards-based IPSec VPN between two or more Vyatta systems or any IPSec VPN device. Or provide secure network access to remote users via Vyatta's SSL-based OpenVPN functionality.

Traffic Management

The Vyatta system provides a wide variety of QoS queuing mechanisms that can be applied to inbound traffic and outbound traffic for identifying and prioritizing applications and traffic flows.

High Availability

Mission critical networks can deploy Vyatta with the confidence that high availability and system redundancy can be achieved through a number of industry standard failover and configuration synchronization mechanisms.

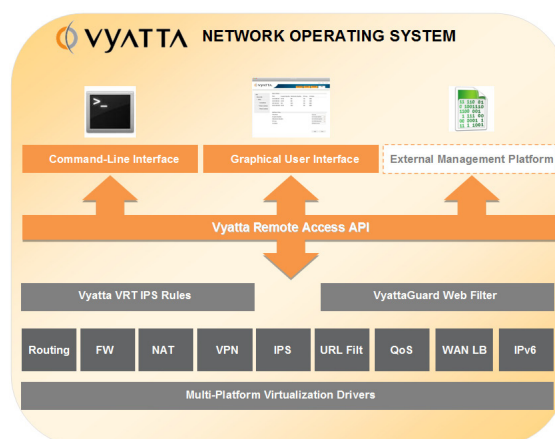
IPv6 Compatibility



Vyatta Subscription Edition software is the only software-based routing and security solution with proven IPv6 functionality and interoperability, ensuring a future-proof investment in a solution that offers a simplified migration path from IPv4 to IPv6.

Administration & Authentication

Vyatta systems can be managed through our familiar network-centric command line interface, web-based GUI or through external management systems using Vyatta's Remote Access API. All network management sessions can be securely managed using SSHv2, RADIUS or TACACS+.



FLEXIBLE SYSTEM MANAGEMENT

SUBSCRIPTION-BASED SECURITY

COMPLETE IP ROUTING & SECURITY

VIRTUALIZATION OPTIMIZED