KEY BENEFITS

- Optimizes network traffic flow by opening IEEE 802.11 over UDP/IP tunnels and breaking out Internet-bound traffic.
- Reduces the DOCSIS network CapEx impact of terminating IEEE 802.11 over UDP/IP tunnels on MTAs by preventing unnecessary upstream traffic.
- Improves bandwidth for end-users when terminating IEEE 802.11 over UDP/IP tunnels on ADSL CPE.
- Offloads the bulk of IEEE 802.11 encryption processing from the service termination point, conserving scarce CPU cycles in the case where tunnels are terminated on a residential gateway or other low-spec CPE.
- Integrates with third party WLAN gateway solutions for traffic traceability and lawful intercept.

KEY PERFORMANCE METRICS

- Up to 10 Gbps IEEE 802.11 CCMP (AES128 encryption/decryption with integrity check).
- Up to a hundred thousand fixed-line subscriber's traffic can be optimized by a single system – load balancing ensures scalability therebeyond.

RELATED SOLUTIONS

- Home Wi-Fi anywhere with SDWN App SIMPLE

LICENSING OPTIONS

- Free community & evaluation license
- One-time or recurring commercial licenses
- Brocade Vyatta vRouter or Vyatta Core

OVERVIEW

SDWN architecture allows operators to provide remote access to each subscriber's favorite Wi-Fi networks. Doing so can however stress bottlenecks in the service provider's infrastructure as encrypted IEEE 802.11 frames must be tunneled over the wired network from the visited access point to the home network.

To address this problem the Optimizer is inserted in the middle of the IEEE 802.11 over UDP/IP tunnel, allowing it to break out Internet-bound traffic and thereby avoiding the unnecessary round-trip to the home network. It can be deployed in the ISP core, in a data center or close to the network edge – on physical hardware or as a virtual machine.
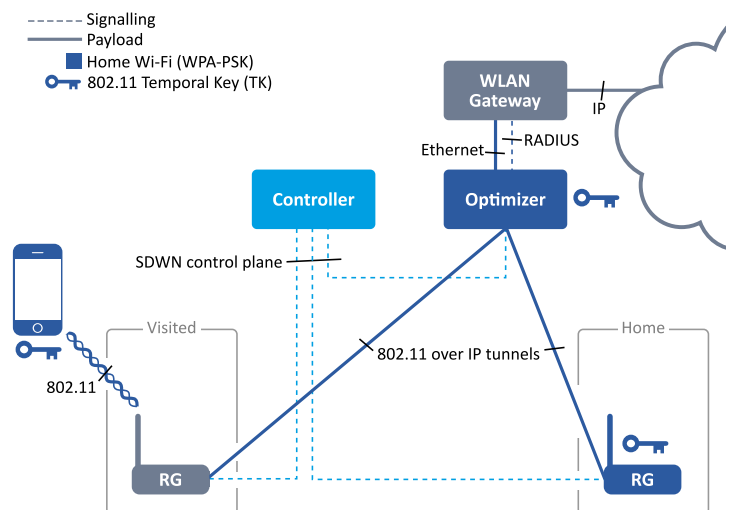
The Optimizer receives a copy of the Temporal Key (TK) from the service termination point (key transfer itself protected with RSA), in essence giving it a time limited license to open IEEE 802.11 over UDP/IP tunnels and break out Internet-bound traffic.

FOR MULTI-SYSTEM OPERATORS *(MSOs)*

In DOCSIS based access networks the total aggregate uplink capacity of a cable plant can be a scarce resource, which is also costly to increase. The Optimizer allows these operators to deploy advanced SDWN applications such as SIMPLE without risking increased upstream load on their networks.

Optimizers can be deployed centrally in a datacenter, or close to the network edge e.g. in cable head-ends. Hot-plugging, automatic failover and load balancing are all built into the SDWN platform.

Anyfi Networks

ANYFI OPTIMIZER

DATASHEET

NORTHBOUND INTERFACES
- Vyatta CLI
- SNMP v2c
- RADIUS *(RFC2865, RFC2866, RFC2868, RFC2869, RFC4849, RFC5176)*
- SDWN control plane *(DTLS/UDP/IP)*

WESTBOUND INTERFACES
- IEEE 802.11 over UDP/IP to wireless termination points
- IEEE 802.11 over UDP/IP to service termination points

EASTBOUND INTERFACES
- Ethernet / Dynamic VLAN / L2oGRE / IP

CONFIGURABILITY
- RSA key pair for TK protection
- Vyatta CLI for westbound processing
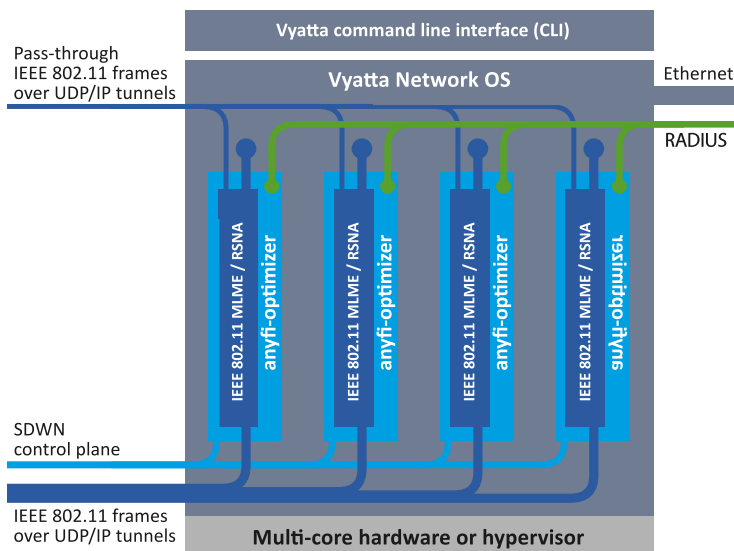
KEY FEATURES
- Load balancing
- Automatic failover

HARDWARE OPTIONS
- VMware, Xen, XenServer and Red Hat KVM hypervisors
- Bare metal x86 hardware

LICENSING OPTIONS
- Free community & evaluation license
- One-time or recurring commercial licenses
- Brocade Vyatta vRouter or Vyatta Core

Internal architecture of the Optimizer: Incoming IEEE 802.11 over UDP/IP tunnels are unencrypted and reencrypted on a configurable number of CPU cores. Internet-bound frames are broken out for further eastbound processing in a WLAN gateway.

FOR DIGITAL SUBSCRIBER LINE OPERATORS
Operators with xDSL infrastructure face a similar problem: the asymmetric bandwidth of the access networks can create a performance bottleneck for subscribers when remotely connected to their home Wi-Fi.

The Optimizer addresses this problem, again by breaking out Internet-bound traffic centrally in the network, or close to the network edge e.g. in the exchange where the DSLAM is installed.

NETWORK FUNCTION VIRTUALIZATION READY
The Network Function Virtualization (NFV) readiness of the Vyatta Network OS allows for easy low-cost deployment anywhere the operator can instantiate and run a virtual machine, centrally in a datacenter or at the network edge.

Anyfi Networks

Carrier Wi-Fi That Just Works