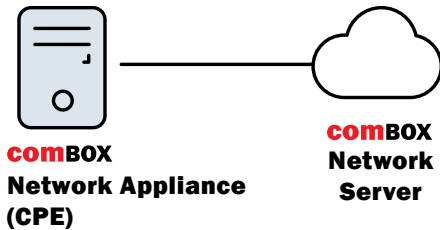


ComBOX VLL Technology Overview

HOW COMBOX WORKS



comBOX Network Appliance (CPE)

Located at the customer site, this device:






- Bonds multiple WAN links into a single logical connection (“fat-pipe”)
- Maintains connectivity if individual links fail
- Supports NAT mode (router/firewall functionality) or Bridge mode (public IP passthrough)
- Can run on hardware appliances or virtual machines (VMware, KVM, Hyper-V)
- Supports High Availability (HA) clustering for failover

comBOX Network Server

Hosted in global data centres:

- Acts as a cloud proxy for customer WAN traffic
- Assigns consistent public IPs/subnets
- Paired 1:1 with each customer appliance
- Supports global availability and managed server networks

SECURITY HIGHLIGHTS

-  **Node-level traffic authentication** with 4096-bit RSA, TLS 1.2, and private PKI
-  **Packet-level distribution** ensures no single WAN tap can capture all traffic
-  **Integration with existing network security** (VPNs, next-gen firewalls, SSL inspection)
-  **CPE security controls:** HTTPS UI, ACL-restricted SSH, interface-based configuration
-  **Standard IP VPN encryption** ensures confidentiality and integrity

JUMBO FRAMES EXPLAINED

With larger frame size, thus larger payload size, the comBOX VLL technology achieves less protocol overhead and the bandwidth saved is available for the packets’ payload. This feature also helps in the real time compression mechanism, as it enables greater degree of data compression saving even more bandwidth from the available WAN connections.

KEY FEATURES & BENEFITS

Located at the customer site, this device:

- Bonds multiple WAN links (LTE, fibre, DSL, etc.)
- Provides single-session bandwidth aggregation
- Automatically adjusts for jitter, loss, latency, and congestion

Smart Same-IP Failover

- Ensures sessions remain uninterrupted during link failure
- Maintains consistent public IP for services like VPN, VoIP, and video

Advanced Traffic Management

- Bi-directional QoS for application prioritisation
- Stochastic Fairness Queuing (SFQ) prevents bandwidth hogging
- TCP acceleration improves performance on high latency or congested links
- Real-time compression reduces bandwidth usage
- Jumbo Frame support for higher throughput and efficiency

Dedicated & Cellular Support

- Special-purpose WAN links for critical applications
- USB/embedded LTE modules supported with same WAN bonding and acceleration

Policy & VPN Capabilities

- Policy-Based Routing for custom traffic paths
- Legacy session load balancing
- Hub-and-spoke VPN support with strong encryption
- Transparent routing via Bridge Mode

Monitoring & Reliability

- Centralised dashboard for all VLL instances
- Real-time alerts and performance metrics
- HA clustering for automatic failover

Why comBOX Matters

- Bond multiple Internet links for higher speed and resiliency
- Seamless same-IP failover
- Enterprise-grade encryption and authentication
- Low latency, high bandwidth, advanced QoS
- Global availability and HA clustering
- Leased-line performance at a fraction of the cost

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