

Brochure for Truffle

SD-W AN Broadband Bonding with 3G/4G/L TE/5G failover



The Truffle Broadband Bonding Network Appliance, enables cost-effective Internet access solutions for any size businesses, apartments, hotels & other multi-tenant buildings who wish to aggregate multiple Internet access services for increased performance and reliability. The Truffle aggregates the capacity of four (or optionally as many as eight or twelve) DIA, DSL, fiber or cable modem services and two usb based cellular data card providing increased access bandwidth for downloaded HTTP traffic equal to the combined bandwidth of the aggregated links, even to a single user. The Truffle provides this higher access capacity and more reliable Internet access at a cost much lower than expensive MPLS or T-3 access service. It has a 1U rack-mountable form factor with silent active cooling.

Features

Downlink/Uplink Bonding in Peered Mode

Bonds Internet access lines for all types of traffic (including encrypted traffic such as VPN) for aggregated downlink and uplink capacity when peered over the Internet with a Truffle that has VLL server license located at the headquarter office or data center. For single office setups optional Broadband Bonding Service subscription enables downlink/uplink bonding.

Aggregated Downlink Capacity in Standalone Mode

When not peered with another Truffle device, all HTTP downlink sessions use the aggregated bandwidth of the combined Internet access links, even in the case of a single HTTP session. For non-HTTP downlink sessions and all uplink sessions, Truffle provides session-based intelligent load balancing across the access links in standalone mode.

Link Failure Recovery & Link Failover

In case of Internet access line failures, the Truffle keeps the ongoing sessions alive by retransmitting the lost packets over the available access lines, even for the sessions in progress, without loss of data integrity. Additionally automatic failover protects against failures of one or more access link outages. 2G/3G/4G/LTE/5G cellular cards can be added as standby WAN access links for additional reliability.

Strong AES Encryption

Truffle bonding tunnels have built-in security option with AES 256 encryption.

Virtual Interfaces with WAN & Traffic Management

Truffle supports virtual interfaces that have load-balancing and failover logic layered on top of the real physical WAN interfaces. Specific type of traffic can then be selectively filtered onto the virtual interface to take advantage of the load-balancing and failover capabilities of the virtual interface.

Traffic Monitoring & Shaping

Traffic can be monitored via graphical plots over seconds, minutes, hours, days, months. Various realtime and non-realtime traffic types can be filtered and shaped.

Transparent Zero-touch Installation

The existing Local Area Network does not require any changes. No coordination, new equipment or software is needed from the Internet Service Provider(s). A remotely accessible browser-based interface provides quick and easy management and system monitoring.

Advanced QoS Algorithms

All traffic routed through the Truffle is intelligently managed to prioritize real-time traffic. Additionally a unique set of proprietary algorithms are implemented to improve inbound real-time traffic latency metrics specifically for VoIP applications.

Dynamic DNS Load Balancing

Truffle can be configured to provide Dynamic DNS load-balancing for inbound requests for internally hosted servers such as web-server, ftp-server, mail-server etc.

Website Blocking and DNS Redirection

Truffle can block unwanted websites or can redirect DNS requests to a user defined URL or IP address.

Website Blocking and DNS Redirection

Truffle supports 2 USB ports for cellular 3G/4G/LTE/5G data cards. The cellular WAN links can be configured as fail-over, or always on.

Specifications

Truffle Hardware Specifications

Mechanical dimensions: 438(W) x 292.1(D) x 44(H) mm, 17.25"(W) x 11.5"(D) x 1.73"(H)
Weight: 10.4lbs.
Input power requirement: 200W full-range ATX
USB ports: 2 (for cellular data)
LAN ports(GbE, auto-sensed): 2 RJ45 Ethernet LAN ports.
WAN ports(GbE, auto-sensed): 4 RJ45 Ethernet WAN ports. 4 more or 8 more RJ45 Ethernet WAN ports add-on option.
Certifications: FCC, CE, RoHS-5, ICES-03, UL, cUL
Operating Temperature: 32 – 104 F, 0 – 40 Celsius
Operating Humidity Range: 20-90% RH
Storage Temperature Range: -4 – 158 F, -20 – 70 Celsius

Truffle Software Specifications

Max throughput: Base: 1Gbps (load balancing), 300 Mbps (standalone) , 100Mbps (peered). Higher performance available in Truffle E, EC, EF models.
Max number of concurrent IP sessions: 150,000 (1,000,000 with Truffle E, EC, EF, EX models).
Device management: Cloud based, SNMP, Remote Syslog, Email alerts.
DHCP and DNS servers: DNS relay, Parallel DNS optimization, DHCP server.
DDNS: Support for dynamic DNS for multiple interfaces
WAN Configuration: Static IP, PPPoE, DHCP or passthrough. Failover-only or aggregate modes for cellular and other WAN ports. Interface binding.
Routing: NAT and IP forwarding, QoS and inbound/outbound VOIP quality management

Truffle Add-on Options

Base model: 4 Ethernet WAN ports, VLL client license
4 WAN ports add-on: Available in Truffle E models.
12 WAN ports add-on: Available in Truffle EC, EF models.
VLL Server license add-on: Available for all models.
Performance pack add-on: Available in Truffle E, EC, EF, EX, EXX models.

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