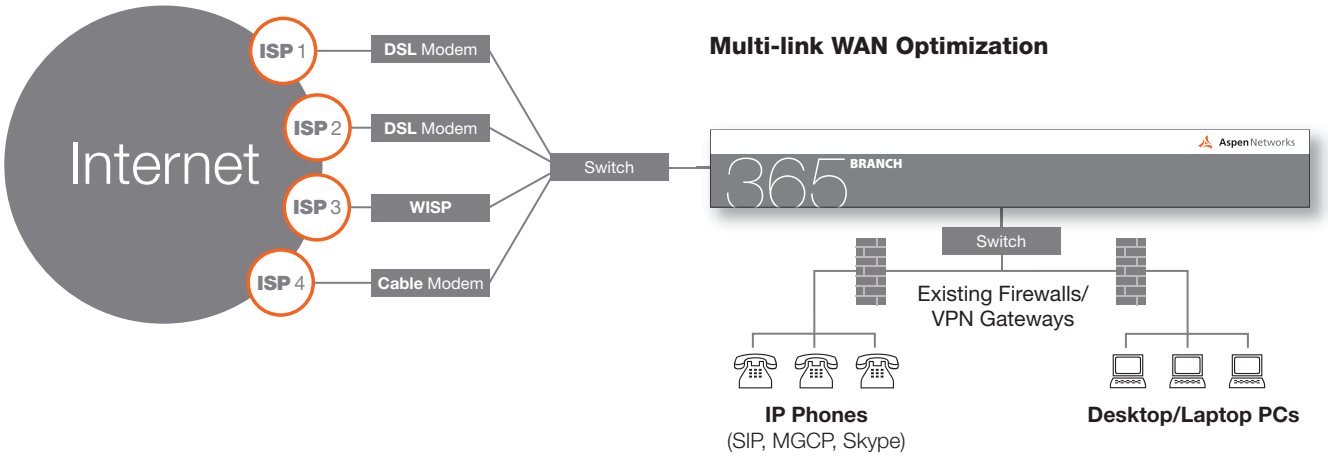
Aspen Networks

Aspen 365 BRANCH

The Aspen 365-BRANCH enables small-to-medium enterprises and managed service providers to build robust Internet access at standalone and multi-site branch offices to ensure high availability and peak application performance. When used in conjunction with multiple, diverse Internet links (DSL, cable, T1, T3, wireless, Metro Ethernet), Aspen helps deliver 99.999% uptime while maximizing bandwidth utilization and prioritizing mission critical application traffic to meet business needs.

For multi-site installations, the Aspen 365-BRANCH and Aspen HQ appliance work together to deliver high availability for existing IPSEC VPN's and provide advanced load-balancing and VoIP-data optimization over the VPN tunnels. Aspen's fault-tolerant solution can also be implemented for private WAN networks enabling failover to VPN tunnels as a back-up to MPLS, Frame Relay or private T1's.



Features	Benefits
Dual Processors - Separate control and packet forwarding planes; proprietary OS handles fast packet switching as well as real-time measurements of Internet instabilities	Application layer processing in software of both voice and data streams is optimal, with minimum jitter on the voice streams and high throughput for data and video streams
Transparent Ethernet switch personality, wire mode ASIC, no public IP address termination or consumption	Easy to install; does not require re-configuration of existing firewalls, IPSEC VPN gateways, and routers; minimizes vulnerability to Internet Denial of Service attacks
Auto-detection of Internet instabilities, ISP outages, and high packet loss with rapid and automatic failover and recovery (ranging from 500 milliseconds to 3 seconds depending on application flow)	Significantly improves Internet uptime for all applications without the need for expensive router equipment or expertise; faster recovery times than conventional router solutions.
Application Bandwidth Control – Session-based bandwidth aggregation and policy-based application offload to multiple ISP links	Enables businesses to cut costs by mixing multiple broadband links (cable, DSL, fixed wireless) with T1s, T3s etc, while controlling the allocation of application bandwidth
Acts as transparent VPN overlay; interoperates with existing IPSEC, PPTP, L2TP, SSL and Open VPN gateways	Customer can continue to use best-of-breed security appliances while managing up to 4 ISP links per branch office location
Identifies IPSEC-encrypted VoIP flows between branch offices and places traffic on "preferred links" for voice; both voice and data VPN flows can recover from degraded links or broken tunnel paths within 500 milliseconds	Peak performance for voice and data traffic at all times

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Number of WAN Links	4
Number of CPUs	2 (Separate control and forward CPUs for peak performance)
Secure Management Port	1 RJ-45
LAN Ports	1 RJ-45
WAN/ISP Ports	2 RJ-45 physical ports (up to 4 ISP links supported)
DB-9 Serial Port	1

ISP Instability Detection

ISP States Detected	Up, down, unstable, high packet loss, slow
3 Types of Application Flows	Outbound and inbound connections, site-to-site VPN
ISP Measurements	Uplink and downlink bit rates, loss, jitter and more

Load Balancing

Basic technique	Session by session (or flow by flow for non-TCP applications)
Algorithms	Round robin, weighted available bit Rate, fastest RTT, overflow of threshold bit rate

VPN

Site to Site VPN	Load balancing and fail over of inter-branch-office IPSEC application flows (Aspen N2000 appliance required at HQ)
Remote Access VPN (Inbound)	Load balancing and fail over based on IP address policies (IPSEC, PPTP, L2TP, OpenVPN, SSL VPN)
IPSEC VPN Load Balancing	Yes. Load balancing is done based on identifying encrypted IPSEC flows. Round robin or static placement
IP Phone, IP PBX Traffic Optimization	Instability detection and recovery in 500 milliseconds

Converged Network Traffic Management

Bi-directional fail over of either VoIP or Data	Yes
SIP/RTP Inbound and Outbound Call Management	Yes
Multi Link QoS in presence of mixed voice-data	Yes
Policy Controls on ISP Path Placement	Yes (based on application, IP protocol, port, IP address)

Hardware

CTL CPU Memory	128 MB
FWD CPU Memory	64 MB
Hardware Watchdog Timer	Yes
Software Authentication Chip	Yes
Wire Mode Bypass	Yes
Rack Mount Kit	Optional
Enclosure/Dimensions	1.75” x 12” x 10”
Weight	4.84 lbs

Environmental

Temperature	0ºC to 50ºC (32ºF to 122ºF)
Humidity	Less than 100% relative humidity, non-condensing. Up to 8000 ft. (2438 M)
Power	AC power 85-265V, 47-63Hz; 15 watts; internal power supply
Fans	1

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MPLS or Private WAN Backup – Using IPSEC VPN