ENTERPRISE

ARUBA BOOST WAN OPTIMIZATION

Aruba Boost WAN Optimization is an optional software performance pack for Aruba EdgeConnect SD-WAN edge platform deployments. Aruba Boost combines WAN Optimization technologies with Aruba EdgeConnect to create a single, unified WAN edge platform.

When branch offices are deployed as part of a broadband or hybrid WAN, enterprises may require higher performance for specific latency-sensitive or data-intensive applications. For example, accelerating replication data over distance for disaster recovery. With a single mouse click in the Aruba Orchestrator management interface, enterprises can enable Aruba Boost and add application acceleration where it is needed.

KEY FEATURES

- Latency Mitigation: TCP and other protocol acceleration techniques are applied to all traffic, minimizing the effects of latency on application performance and significantly improving application response times across the WAN.

- Data Reduction: Data compression and deduplication eliminates the repetitive transmission of duplicate data. Aruba software inspects traffic at the byte-level and stores content in local data stores. Advanced fingerprinting techniques recognize repetitive patterns for local delivery. Data reduction can be applied to all IP-based protocols including TCP and UDP.

WHY ADD BOOST?

Aruba EdgeConnect appliances alone provide enhanced application performance for broadband or hybrid WAN deployments, utilizing packet-based tunnel bonding, dynamic path control (DPC), and path conditioning to overcome the the adverse effects of dropped or out-of-order packets that are common with broadband internet connections. (Also see Aruba EdgeConnect data sheet.)

However, sometimes additional performance is needed for specific latency-sensitive or data-intensive applications or geographically distant locations. As the distance between locations increases over the WAN, application performance degrades. This has less to do with the available bandwidth and is more about the time it takes to send and receive data packets over distance and the number of times data must be re-transmitted.
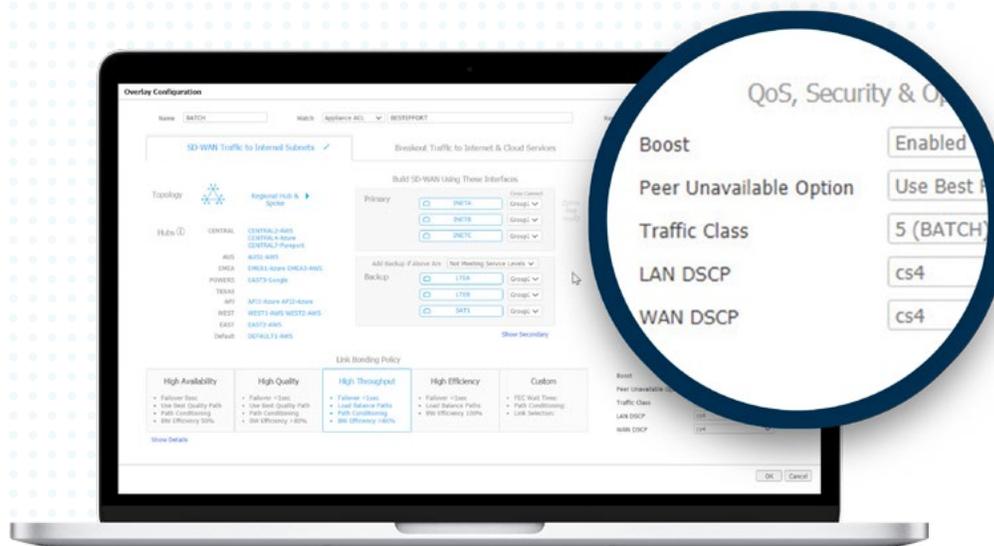
USE CASE EXAMPLES

Enterprises replicating to a disaster recovery (DR) site located thousands-of-miles away might want to add Aruba Boost to achieve efficiencies in bandwidth cost and time to replicate without compromising recovery point objectives (RPOs).

Enterprises with remote sites located in rural areas or with sites that are exceptionally far away from the company's data center might want to add Aruba Boost to overcome the adverse effects of high latency.
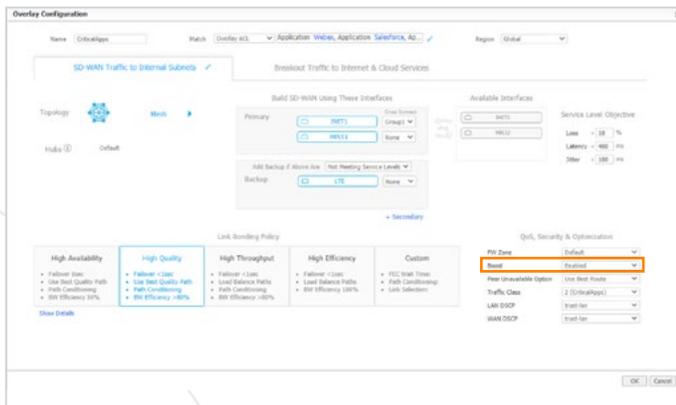
Figure 1: With a single mouse click in the Aruba Orchestrator GUI, Aruba Boost enables customers to add application performance where and when it is needed.

OVERCOME EFFECTS OF LATENCY

The time it takes for information to go from sender to receiver and back is referred to as network latency. Since the speed of light is constant, SD-WAN latency is directly proportional to the distance traveled between the two network endpoints. Aruba offers a variety of application acceleration techniques to mitigate WAN latency, which include window scaling, selective acknowledgment, round-trip measurement and high-speed TCP (HSTCP).

Windows and other applications that rely on the common internet file system (CIFS) often take longer to perform common file operations over distance, such as retrieving and sharing files. Aruba Boost helps these applications not only by improving the underlying TCP transport, but also by accelerating CIFS through CIFS read-ahead, CIFS write-behind, and CIFS metadata optimizations.

INCREASE THROUGHPUT

As packets flow through Aruba EdgeConnect appliances, Aruba Boost inspects WAN traffic at the byte-level and stores content in local data stores. As new packets arrive, Aruba Boost computes fingerprints of the data contained within the packets, and checks to see whether these fingerprints match data that is stored locally. If the remote appliance contains the information, there is no need to resend it across the WAN. Instead, specific start-stop instructions are sent to deliver the data locally. This accelerates data transfers and avoids unnecessary consumption of WAN bandwidth.

NEW WAN OPTIMIZATION CONSUMPTION MODEL

Aruba Boost is an optional performance pack for Aruba EdgeConnect SD-WAN deployments. With Aruba Boost, customers gain the flexibility to enable enhanced WAN optimization capabilities where and when they are needed. It can be ordered on-demand to create a single, fully integrated solution. Aruba Boost is licensed per-megabit-per-second, per-month, so customers do not have to pay for WAN optimization across the entire network. It is an enterprise-wide license that can applied and used as needed, even as locations or application acceleration requirements change. If requirements change, the amount of Aruba Boost bandwidth assigned to a site can be changed easily through Aruba Orchestrator, and that bandwidth may be re-allocated flexibly elsewhere in the network.

DELIVERING REAL BUSINESS VALUE

Aruba EdgeConnect is the most agile SD-WAN unified platform that also powers industry-leading application performance improvements across any form of connectivity. Aruba customers benefit from significant improvements in:

- Performance: End-user satisfaction and productivity are significantly improved due to consistent and enhanced performance and availability for both legacy and cloud applications; Aruba Boost provides additional application acceleration for latency-sensitive and data-intensive applications where and when required.
- Visibility and Control: Customers benefit from unprecedented levels of visibility into both legacy and cloud applications.

- Security: Centralized segmentation of users, applications and WAN services into secure zones and automated application traffic steering across the LAN and WAN in compliance with predefined security policies, regulatory mandates and business intent. Automated orchestration integrates the foundational security capabilities of the Aruba EdgeConnect SD-WAN edge platform with industry leading cloud delivered security services.
- Extensibility: Fully compatible with existing WAN infrastructure hardware and transport services, customers can rapidly and non-disruptively augment or replace their MPLS networks with any combination of broadband and wireless connectivity.

  Furthermore, enterprises can retire conventional routers with the Aruba EdgeConnect SD-WAN edge platform that unifies network functions like SD-WAN, WAN optimization, routing and security into a single software instance; all managed centrally from the Aruba Orchestrator. Easy integration with orchestration systems is provided via RESTful APIs.

- Savings: With Aruba EdgeConnect, enterprisess can dramatically lower connectivity, equipment and network administration costs. Savings are achieved through:
  - Reduction in bandwidth costs by actively using broadband connectivity
  - OPEX: Reducing the time and expertise needed to connect branch offices
  - CAPEX: Reducing appliance sprawl and moving to a "thin branch" architecture
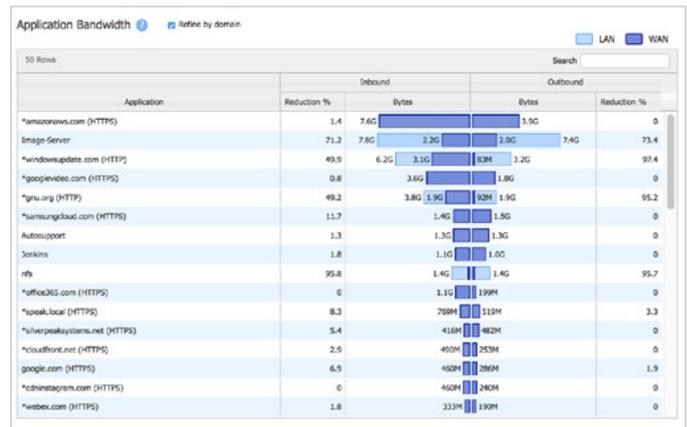
Figure 2: Visibility into optimized traffic and bandwidth savings from Aruba Orchestrator.

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