



Cisco® Wide Area Application Services (WAAS) is a comprehensive WAN optimization solution that accelerates applications over the WAN, delivers video to the branch office, and provides local hosting of branch-office IT services. Cisco WAAS allows IT departments to centralize applications and storage in the data center while maintaining LAN-like application performance, and provide locally hosted IT services while reducing the overall branch-office device footprint.

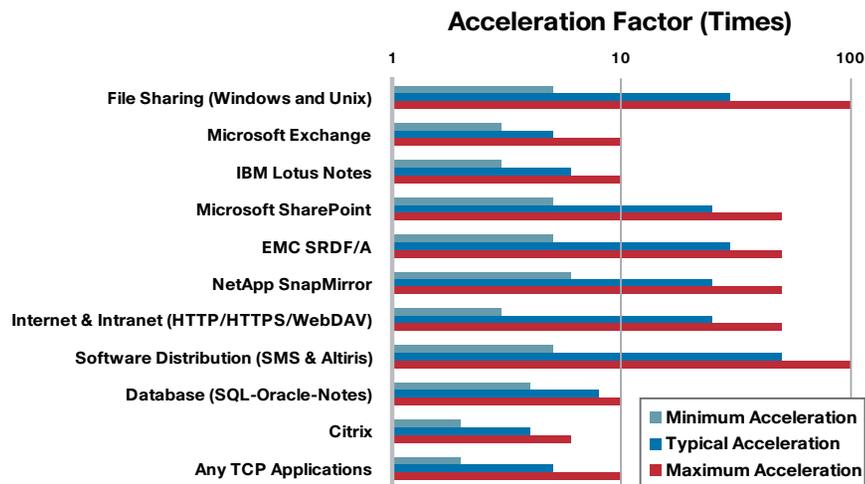
The Cisco WAAS offers these unique advantages:

- Application vendor validated: Lower risks through proven designs
- Network integrated: Ease network operations and management
- Ownership cost minimized: Reduce device footprints and complexity

LAN-like Application Performance

The Cisco WAAS solution provides LAN-like performance for a wide variety of enterprise applications delivered across the WAN. Typical acceleration factors range from 3 to 10X. Some of the most popular applications such as file sharing and software distribution can be accelerated by up to 100 times.

Figure 1 Cisco WAAS Application Acceleration



IT Benefits of Cisco WAAS

Application Acceleration and Efficient Video Delivery

- Enables LAN-like performance for centralized applications across the WAN
- Increases application reach to users in branch offices and mobile environments
- Enables wide-scale delivery of live video by eliminating bandwidth upgrades and complex configuration

Branch-Office IT Cost Control

- Enables centralization of branch-office server and storage into data centers
- Reduces branch-office operational, capital, and bandwidth costs
- Simplifies remote data protection for compliance and business continuity

Branch-Office Services Agility

- Delivers branch services rapidly while reducing the device footprint
- Offers integrated Windows Server 2008 core hosting Active Directory, Domain Name System (DNS), Dynamic Host Control Protocol (DHCP), and print services for better local availability and lower costs

Lowest Total Cost of Ownership

- Reduces risk of integration and operations through application-specific acceleration and hosted services validated by application vendors
- Simplifies operations through proven network integration preserving existing network services
- Ensures secure WAN acceleration through Common Criteria Validation Scheme (CCEVS) or ISO 15408 and Payment Card Industry (PCI) 1.1 compliance

Return on Investment with Cisco WAAS

By centralizing branch-office infrastructure—servers, storage, and backup—companies can save on hardware, software, IT, and storage management costs and improve productivity. These benefits, together with improved application delivery, result in increased productivity and employee satisfaction. The net savings over a 3-year period can be significant, with the investment payback typically less than 6 months.

Over a typical 3-year refresh cycle, savings per location could include the following:

- Reduced bandwidth consumption, potentially mitigating costly WAN upgrades
- Significantly improved remote employee productivity
- Reduced cost of ownership through centralization or elimination of branch servers for file, mail, application, software distribution, print, and video
- Reduced cost of ownership through centralization or elimination of islands of storage equipments

Broad Optimization and Transparent Integration

Cisco WAAS application acceleration and WAN optimization techniques include:

Application Acceleration: Latency and Bandwidth Reduction

- Advanced protocol optimizations such as read-ahead, prediction, suppression, and sophisticated caching techniques mitigate application latency
- Application-specific acceleration including Common Internet File System (CIFS), Common Internet File System (MAPI), Secure Sockets Layer (SSL), HTTP, print, and Network File System (NFS).

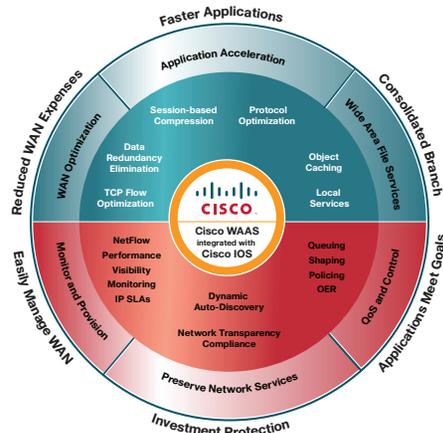
WAN Optimization: Bandwidth and Throughput Improvement

- DRE coupled with compression improves efficiency and mitigates unnecessary bandwidth consumption, improving performance.
- TCP flow optimization (TFO) optimizes TCP to enable better performance and efficiency in WAN environments.

Transparent Integration with Existing Infrastructure

- Dynamic autodiscovery of endpoints helps ensure efficient deployment without the need to create and manage overlay networks.
- End-to-end visibility and compatibility with NetQoS facilitates application response time monitoring and other functions such as QoS, firewall security, and Cisco NetFlow monitoring.
- Use of existing router QoS enables more granular and higher-quality VoIP.

Figure 2 Cisco Wide Area Application Services (WAAS) Framework Diagram

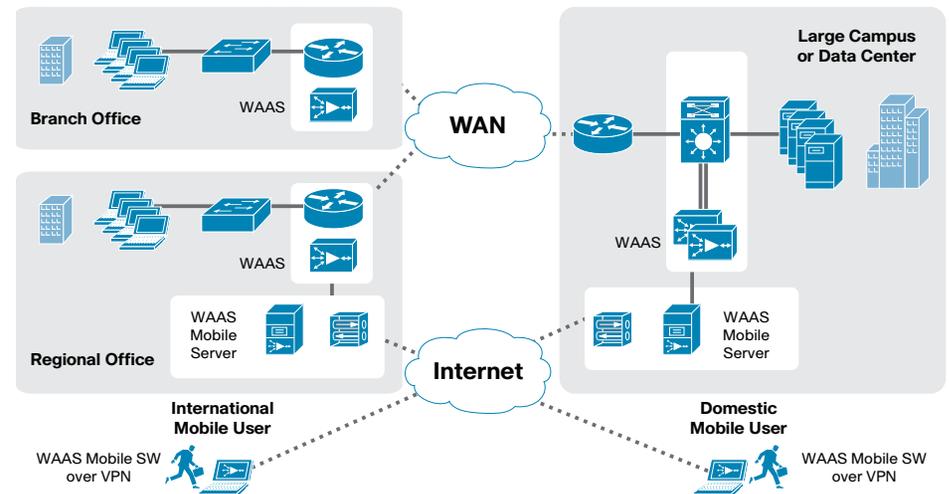


Cisco WAAS Deployment

The Cisco WAAS solution can be deployed in three flexible options:

- Acceleration for branch-office users only: Cisco Wide Area Application Engine (WAE) devices in branch offices and data center
- Acceleration for mobile users only: Cisco WAAS Mobile client software and server software
- Acceleration for both mobile and branch-office users: Cisco WAE and Cisco WAAS Mobile

Figure 3 Cisco WAAS Deployment Options



Cisco Application Networking Services

Cisco WAAS is part of the Cisco Application Networking Services (ANS) portfolio, the industry's most comprehensive range of application-aware network-based services to make enterprise application deployment optimized, reliable, and secure.

The Cisco ANS family includes technologies such as server load balancing, application security, SSL acceleration, and WAN optimization to enhance the full range of deployment scenarios, including branch-office, mobile worker, data center, and back-office application integration projects, all using a common foundation and enterprise quality.

For More Information

For more information about Cisco WAAS, visit: <http://www.cisco.com/go/waas>.