

## WAN Link Controllers and WAN Optimization Solutions

Over the past several years WAN Optimization has been implemented in many organizations as a means to increase their wide area network performance for mission-critical applications. The market for WAN Optimization Controllers that deliver optimization techniques continues to be a growing and ever-changing one. Some of the vendors that offer WAN Optimization Controllers (WOCs) include Blue Coat, Expand Networks, Juniper, Riverbed, and others.



### WAN Optimization Controllers

WAN Optimization Controllers (WOCs) are designed to prevent network latency from adversely impacting performance of applications going over the Internet. They are dedicated devices that are deployed on both sides of a WAN link to improve application response times. They avoid network latency by using protocol optimization techniques; compressing and caching data going over the WAN; and prioritizing traffic based upon certain business requirements. WOC capabilities typically include:

- Application-specific acceleration for TCP, HTTP and Microsoft Common Internet File System (CIFS) file access
- Pre-positioning content in cache
- Client software to improve application delivery to remote computers
- Integrated DHCP, DNS, Active Directory and print server features
- Monitor and enforce application-specific service-level agreements (SLAs)
- Security capabilities such as SSL acceleration and VPN tunneling
- Integration of policy-based routing and route selection capabilities

### Complementary solutions

WAN Link Controllers and WAN Optimization Controllers are complementary solutions that bring both value and business benefits to organizations that want more reliability, optimized application performance and greater flexibility, automated management and bandwidth cost savings for their WAN infrastructure. Indeed, many of Ecessa's customers also have WAN Optimization Controllers.

Ecessa's WAN Link Controllers are an essential component in providing the infrastructure for reliable WAN connectivity to

headquarters and remote sites. They intelligently and efficiently distribute traffic among multiple WAN links for reliability and high-performance ensuring users get the best network experience possible. They provide network administrators with greater control, and enable them to easily adapt to network changes by providing a link optimization layer within the WAN network. WAN Link controllers provide both inbound and outbound link load balancing and failover across multiple and diverse WAN links and Internet Service Providers (ISPs). WAN Link Controller capabilities include:

- Direct traffic to only “available” WAN links and sites
- Provide WAN link load balancing and failover (both inbound and outbound)
- Site-to-site channel bonding provides packet-based WAN management for reliable uptime and greater bandwidth for large applications
- WAN link aggregation provides session-based WAN management for 24/7 uptime and greater network performance
- The WAN Link Controller becomes the Authoritative DNS, and is completely autonomous, providing automatic fail-over between the connections and correcting the DNS entries for all links
- Transparent WAN Link Controllers can be added to the existing network without requiring complicated reconfiguration of existing network elements or end systems, and without disrupting services.
- Provide redundant hardware failover and monitoring capabilities to eliminate the WAN Link Controller and WAN links as points of failure
- Provide QoS capabilities for bandwidth management to guarantee critical applications get the bandwidth required for smooth and consistent performance
- Easily add and change multiple service providers and WAN links
- Use any type of IP connectivity (Frame Relay, T1, DSL, Cable, Wireless, Satellite, etc.) to support increasing bandwidth needs
- Use multiple WAN links simultaneously, leveraging the total available bandwidth to maximize connectivity costs, while avoiding unnecessary link costs from underutilized back-up links
- An open solution that avoids hassles such as dealing with BGP and other elements that require service provider cooperation

## **WAN Link Controllers enhance WAN Optimization Controllers**

WAN Link Controllers provide application performance benefits beyond WAN optimization. Ecessa’s WAN Link Controllers enable organizations to create networks with more bandwidth, lower monthly cost, and built-in reliability through redundant connections.

WAN Optimization Controllers and their application-specific approach provide considerable value for organizations looking to improve application performance over their WAN. By cost-effectively enabling even more bandwidth, greater performance and reliability, WAN Link Controllers add significant value in conjunction with WAN Optimization Controllers. WAN Optimization Controllers are excellent at reducing the initial data transfer time for applications going over IP networks. However, for the subsequent transfer times they offer no substantial benefit. With Ecessa’s WAN Link Controllers, using multiple redundant connections and managing traffic among the connections enables fast data transfers and greater control for all applications, resulting in greater overall WAN performance and reliability. Additionally, WAN Link Controllers significantly improve performance when jitter, latency and congestion adversely affect application performance. In doing so, WAN Link Controllers effectively alleviate these issues for WAN Optimization Controllers, increasing the benefits of both solutions.

By providing optimized WAN bandwidth and greater reliability through redundant links, WAN Link Controllers also enhance applications such as VoIP, video conferencing, and the transmission of pre-compressed and encrypted files, for which WAN Optimization Controllers offer limited value.

Let's face it, if a WAN connection has an outage, all the WAN optimization techniques in the world will be of no value. Ecessa's WAN Link Controllers are specialized devices that are complementary with WOC products that do not provide WAN link load balancing and failover capabilities. Our focus is on WAN reliability and flexible, automated management of WAN links, as well as enabling customers to get the most out of the bandwidth connections they have.

It's not a matter of choosing between a WAN Link Controller or a WAN Optimization Controller. For instance, if a WOC is already deployed, how can you ensure that your applications will be reliably delivered when the WAN connection has an outage, or the WAN connection is not able to handle VoIP calls reliably and efficiently? That is where Ecessa comes in.

Ecessa's WAN Link Controllers provide three primary advantages for the small-to-medium sized enterprise. For the capabilities listed below, Ecessa is the price/performance leader, delivering the greatest amount of features at the best price to deliver the best value.

- **WAN reliability** - No matter how optimized the WAN is, if the Internet connection fails, no applications are able to be delivered. This is a critical factor for conducting business and for ensuring business continuity. Ecessa's WAN Link Controllers manage traffic going to and from a business over the Internet over two or more Internet connections of any type. Continually checking all connections for performance and uptime, if a connection problem occurs, (conducting automatic and proactive Internet connection failover and load balancing), Ecessa directs all traffic to the best working connections.
- **Flexible management of bandwidth/costs** - SMEs are looking for ways to lower monthly bandwidth costs for their Internet connectivity. Ecessa allows them to replace expensive dedicated circuits with low-cost broadband connections (i.e. cable, DSL, wireless, etc). Alternatively, if they need additional bandwidth, rather than upgrading to an expensive dedicated circuit. They can simply add a low-cost broadband connection. The ability to utilize multiple, affordable broadband connections provides a larger pool of bandwidth - at a lower cost.
- **Network optimization** - By alleviating network congestion, Ecessa addresses one of the primary causes of jitter for applications such as VoIP, video conferencing, etc. Intelligently load balancing both inbound and outbound traffic allows applications to be directed to the best available connections with the most available bandwidth at any point in time. Ecessa's Quality of Service rules can be configured to guarantee priority for specific applications, while maximizing the combined available bandwidth. Ecessa tests all WAN connections for latency prior to a session being established, and then directs traffic to the connection with the lowest latency. Ecessa monitors Internet connections for latency to ensure minimum standards are enforced. This ensures that both inbound and outbound traffic do not get directed to a connection with high latency.

## Summary

Without reliable Internet connectivity, any amount of application optimization will be limited if the network connection fails, or if the connection is not being utilized to its fullest potential. This is Ecessa's focus - WAN reliability and flexible, automated management of WAN links, as well as enabling customers to get the most out of the bandwidth connections they have in a cost-effective manner. All of our products are purpose-built to deliver reliable Internet connectivity and optimized utilization of all network connections.