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Multi-Homing Without BGP

Overview

Internet connections are becoming faster, more economical and mission-critical—yet at the same time, network downtime and latency continue to be a problem. If you have ever dealt with an outage that affected your business, you understand. As prices drop, businesses that once could only afford a single T1 or DSL connection years ago are now open to aggregating two or more broadband connections from different ISPs (a practice called multi-homing).

That is, if they can find a simple, inexpensive way to make it happen.

This challenge was the inspiration behind Ecessa WANworX®. For years, ISPs and large enterprises have executed multi-homing by using Border Gateway Protocol (BGP) to connect multiple Internet backbones. Unfortunately, the cost and complexity of this routing method is not viable for small to medium businesses. Additionally, many broadband, DSL and fixed wireless providers will not support BGP for their end users.

Ecessa WANworX overcomes these roadblocks by using Network Address Translation (NAT) and Dynamic Domain Names Service (DNS) to direct each new session. WANworX not only load balances users on the corporate LAN trying to get out, but it also load balances users from the Internet trying to access web and email servers hosted on the corporate LAN. It accomplished this while simultaneously providing automatic ISP/link failover for an always available Internet connection. Meaning, no more outages and no more downtime.

What Are The Major Barriers Encountered With BGP Multi-homing?

Previously, small and medium-sized businesses were left out of the failover game. They would typically attempt to address the problem through BGP but would run into significant deployment barriers that virtually eliminated it as a viable solution. For many, BGP is:

- Costly, complex and difficult to configure.

- Vulnerable to convergence time.

- Wasteful, using only one active circuit at any time while your other links remain idle.

- Often sluggish, because you have no inbound traffic control due to only using one link at a time.

- Makes obtaining collections of Internet address blocks (ASNs) more difficult. You typically have to buy blocks of /24 prefix (256) at a time – if you can get them.

- Requires ISP cooperation and maintenance.

Furthermore, when it's configured incorrectly, it can cause massive availability and security problems.

Are you ready to start multi-homing without BGP?

If you have questions about multi-homing technologies and which is right for your organization, please contact us at **800.669.6242 or info@ecessa.com.**

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What's The Difference Between Ecessa and BGP?

While BGP is a core technology for Internet routing, implementing multi-homing using BGP can be extremely difficult. Ecessa appliances were designed to overcome the many roadblocks associated with BGP-based multi-homing:

BGP Problem	WANworX Solution
BGP is costly and complex to deploy. It requires network expertise and usually requires costly high-end routers. Organizations often don't have the personnel capable, or available, for maintaining a BGP solution. Multi-homing via BGP also requires designated address blocks. In many parts of the world, these numbers are only available to large ISPs, eliminating BGP as an option for all but the largest of organizations.	**WANworX is readily available** through Ecessa and its authorized partners at competitive pricing designed for small and medium businesses. It is simple to install and easy to maintain. Additionally, your organization will have the direct backing of Ecessa's expert technical support team throughout the entire process.
BGP introduces latency and performance issues. With BGP, gateway hosts exchange routing information based on data in a routing table. The routing table consists of a list of known routers, the router's known addresses, and each router's path cost metric. Changes to routing tables and the time required for "convergence" of information synchronized between routers can lead to delays for changing the direction traffic is sent. BGP, as a result, isn't very nimble - think of a train switch that must be manually pulled to "change the track."	**WANworX provides intelligent load balancing and traffic shaping**, to eliminate network congestion and deliver 100% availability of your critical applications. Both outbound and inbound traffic are automatically balanced across multiple links to eliminate congestion and application performance drag. Whether they're on the Internet, in the Cloud or at one of your remote locations, you'll have continuous access to all your resources.
BGP requires ISP cooperation and maintenance. Often, providers are not willing to set up a "peering" agreement between routers because of significant performance impact to their network. When problems do occur with the configuration, organizations are forced to wait while the ISPs try to determine the cause of, and responsibility for, the problem.	**WANworX requires no ISP cooperation or maintenance.** Ecessa technology is provider-independent and works with any connection. You're in control of your network traffic.
BGP provides inferior traffic management capabilities. BGP not only provides a binary traffic decision, forcing organizations to use one primary link for any set of traffic, it is also missing significant capabilities to direct traffic to the best link. BGP has no real control to identify how traffic should be dynamically routed based on line saturation, performance or cost.	**WANworX uses intelligent outbound traffic management to load balance across all WAN links** and uses DNS to load balance inbound services. It includes basic firewall protection and built-in VPN support for site-to-site connections. WANworX also includes a SIP proxy, SIP registration server and NAT proxy that allows SIP traffic to be load balanced among network connections for the best call quality and seamless VoIP uptime.

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