

## ABOUT ELFIQ NETWORKS

With today's growing Internet demands, Elfiq Networks enhances network performance and business continuity through innovative link balancing, cloud computing and bandwidth management technologies. Using Elfiq Networks Link Balancers, companies can leverage simultaneous ISPs, mix public and private links for added flexibility, seamless failover, increased throughput and smarter WAN path selection. Every day, local and global organizations of all sizes and verticals rely on Elfiq Networks' Link Balancers and advanced network solutions.



## FLEX MULTIPATH ROUTING MIXING PRIVATE AND PUBLIC LINKS FOR ENTERPRISE WANS

Today's organizations of all shapes and sizes operate on a global scale. As organizations evolve in the new information-rich, cloud-centric world, more strain is placed upon the telecom infrastructure every day. For many large, medium and small businesses, these communications networks are deployed over Wide Area Networks (WAN).

While many WAN Optimization vendors concentrate their technologies to streamline application, data, and transport protocols, few have focussed their development on managing and optimizing Wan Path Selection to increase performance and redundancy.

As more and more organizations adapt to a cloud computing model the solutions that increase WAN performance and availability will continue to grow in popularity. BYOD and cloud computing strain the existing MPLS infrastructure and simply throwing more bandwidth at the problem is an expensive and incomplete answer to the challenge.

Depending on a single WAN path or carrier has become a liability that successful organizations will want to avoid when deploying and upgrading Wide Area Networks.

Business Continuity through careful planning is only the starting point when planning for telecom failures. Oftentimes, the plans gather dust until needed, at which point they're so outdated that they're mostly useless. Backup equipment and services aren't monitored and sometimes found to be offline when they are needed the most. The shift towards hosted solutions, cloud-based services, and virtualized infrastructure moves the spotlight to the bandwidth requirements to get it all done. Adding more bandwidth to an existing single-point of failure only digs the hole deeper.

Elfiq Networks enables organizations to ensure business continuity and improve network performance through innovative Wan Path Selection with link balancing and bandwidth management technologies optimizing the use of multiple concurrent service providers.

Eliminating single points of failure in your network by using redundant telecom infrastructure and WAN path selection between sites is a challenge we address with our Flex Multipath Routing technology.

Before Flex Multipath Routing was developed, we surveyed existing solutions and found they were typically lacking either in sturdiness, flexibility or results.

For example, some companies provision a backup link to the same unique MPLS cloud; we feel this offers no protection against provider issues and outages while adding recurrent costs.

For more information on Elfiq Networks' products and technologies, please contact:

888-GO-ELFIQ / 514-667-0611

[www.elfiq.com](http://www.elfiq.com)



1155 University, #712  
Montréal, Quebec, H3B 3A7  
Canada

# FLEX MULTIPATH ROUTING (FMR)

Others configure site-to-site VPN tunnels and elect to do manual failover; we think this lacks flexibility and readiness.

The largest organizations implement dynamic routing across more than one MPLS cloud, the setup works but it's very complicated and maintaining such a network is essentially a full time job.

Load sharing between networks is hard to achieve with dynamic routing and as a result, expensive bandwidth is wasted on idle links.

Flex Multipath Routing was designed with these challenges in mind to integrate in existing network infrastructure and efficiently monitor and use multiple WAN paths between many sites.

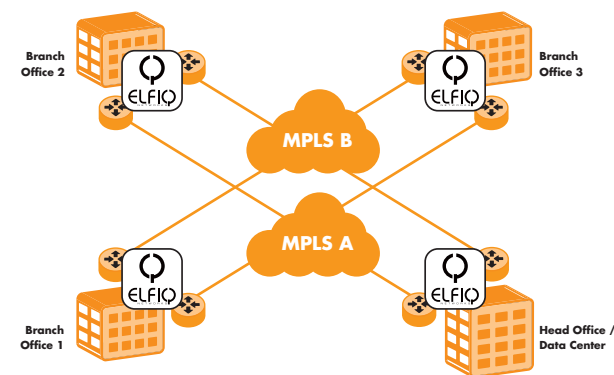


Figure 1 - Dual MPLS Deployment

The main goal for Flex Multipath routing is to allow an organization to use many paths between its sites and load balance each session onto the best possible path automatically, seamlessly and dynamically.

Each link balancer is responsible for its own network view and polling, therefore failures are detected throughout all sites at once and convergence is instantaneous.

Routing around failures is automatic and painless. Sessions can be moved from path to path transparently.

Using all paths at once gives much more bandwidth than what a backup solution or even dynamic routing protocols can provide. Industry standard ACLs allow network administrators the flexibility required to tailor load balancing strategies and optimize path selection for different traffic flows by using many algorithms to reflect company policies.

Flex Multipath Routing helps businesses by providing more bandwidth for their key applications while at the same time lowering the bandwidth cost. Using built-in SSL VPN capabilities, organizations can take advantage of cost effective internet links instead of traditional MPLS links or leased-lines. Site-to-site VPN tunnels can be established directly between link balancers or to a cloud hosted VPN hub that will act as a virtual WAN network.

MPLS Network	Active/Passive
Requirements	22K per month
Suggested	Reduce Speed
Savings	Active/Active
Gains	Converts back-up MPLS with Active high bandwidth public internet links
	7.5K per month
	Automatic MPLS/Private redundancy increased internet bandwidth

Figure 2 - FMR business case example

Once paired with our SSL VPN capabilities, Flex Multipath Routing can be used to load balance site-to-site WAN traffic between private links and internet links. Some clients even use our technology to transition from their expensive private links to an array of cheaper internet links dramatically reducing the Total Operating Expenditures.

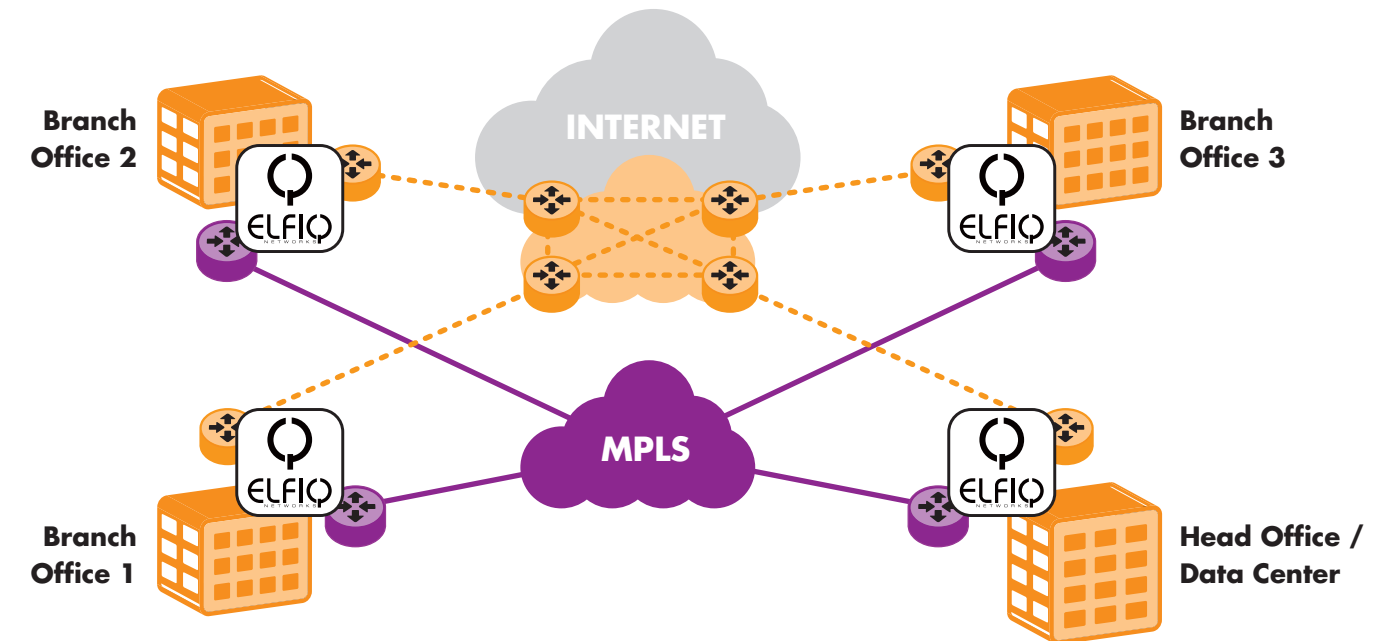


Figure 3 - MPLS and Mesh VPN Deployment

As we move towards cloud-based services and virtualized data-centers, more organizations rely on telecom services every day.

Cloud computing shifts bandwidth consumption from within the enterprise to the global internet and strains the infrastructure where the links are typically weaker, at the edge of the network. This major trend should be met by deploying flexible solutions that enable optimizing and adjusting your bandwidth supply in a cost efficient way to meet the growing demand on a regular basis.

The need for redundancy to provide better user experience and prevent outages by load balancing traffic across many paths is one that every business must address to succeed in this new environment.

Elfiq Networks delivers innovation and excellence since 2004, creating a unique value proposition which is used in businesses in over 130 countries all over the world. We have unique expertise in this field and can help organizations of any size or vertical sector, from small businesses to global enterprises, and further their ability to compete by ensuring constant reliable access to telecommunication networks.