Safe, Secure and Scalable:

Why You Need SD-WAN

Long View

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Introduction by Cisco

Networks today are highly complex. Massive data growth and migration to the cloud for some or all business-critical applications require tighter security controls than ever before. We are seeing companies of all sizes strive to provide a high-quality experience for their branch and campus users. One critical way we are seeing organizations regain control of this unprecedented shift to the cloud is with a Software-Defined WAN (SD-WAN) strategy.

As organizations consume more cloud-based applications, WAN architectures are evolving to provide greater security, application performance, cloud integration and IT operational simplicity to scale to the needs of the new "virtual enterprise", which spans corporate, branch, and mobile worker places in the network. Cisco SD-WAN is the market leader in this next generation of WAN evolution poised to address the needs of the "virtual enterprise". With Cisco SD-WAN, this next-generation architecture will empower organizations to enhance employee productivity and improve customer experience through driving greater and more predictable performance, as well as reduce risk more due to security compliance concerns.

The strategic partnership between Cisco and Long View delivers network transformation in a simple, flexible and secure fashion across all your locations. Our ROI assessment of your network performance and costs is an offer you can read more about in this eBook. Through an evaluation of your current branch and HQ infrastructure, we can showcase upwards of four times improvement in application experience, opportunities for budget efficiency, and a significant reduction in time to threat detection, from 100+ hours to less than four. These are real, tangible improvements that SD-WAN can provide to your organization with the support of Long View Systems.

In chapter one, check out the top challenges that CIOs are facing today with their networks. Then read about how Champion Pet Foods was able to shift to SD-Wan in less than two months. Also included is the Ultimate Checklist for your SD-WAN solution, and reasons why you should consider SD-WAN as your future wave of the modern network.

The role of technology and the world around us have changed in a matter of months. As the digital transformation continues, Cisco and Long View are here to secure and protect your data, support your employees, and provide you with a best-in-class customer experience.

Mark Collins
Channel Chief
Cisco Canada

Kent MacDonald
Senior Vice President, Strategic Alliances
Long View Systems

"Organizations designed their VPN and work-from-home strategy to accommodate 15-20% of their employees, not 100%. The wave of the future is cloud and the remote worker. HR Managers and IT need to be prepared for how they are dealing with sensitive data and information."

Bob Martin, Manager, Software Defined Networking, Cisco Canada

CHAPTER 1:

The Edge of the Network has Exploded

The edge of the network is no longer defined as a set of buildings or locations. It is everywhere your people and devices are connecting to your branch locations, networks and remote links. Throw in a global pandemic and an organization's inability to manage huge increases in remote working, the growing use of cloud apps and performance issues affecting user productivity, and you'll find that IT teams are drowning in support calls that they don't have a fix for. Add in the ever-present need for security, along with exponential costs to manage it all. CIOs have headaches like never before.

The way we work has changed - forever

The traditional model of a bunch of devices and branches that go to a single data centre or cloud is no longer efficient. Here are some latest trends that bring new threats and costs to the enterprise:

- More devices and "things" are connecting to the network, producing even more data
- Acceleration of applications moving out of the data centre to the cloud
- IT teams having to support multiple locations, with multiple carriers, multiple everything
- Large carrier contracts, with circuit costs increasing whether used or not
- Network reliability is being stretched exponentially
- Ever-present need for increased security with threat detection – taking months to get it is not good enough

Performance - Internet and connectivity is business critical

Businesses can no longer live on an island and must be connected. The cloud is no longer one cloud but many clouds, such as Office 365 and Azure. Add in AWS, Google or Salesforce for other clouds that may be leveraged in a multi-cloud scenario. The larger the business, the more users, devices, things that are consuming applications. This creates a highly complex and dynamic network as the pace of business increases.

Time to implement WAN connectivity needs to be significantly faster

A business can not tolerate 3-6 months to turn up a new branch or location circuit. If you only have a single path for all of your internet-bound traffic, then you will see an impact on application performance as all internet-bound traffic competes for the same bandwidth.

Network costs are skyrocketing

Organizations can no longer manage the people who are supposed to be managing their networks. CIOs need the network providers to meet the SLAs they are paying for with an up-time that their customers and employees demand. Headcount and subscription costs for ISP dedicated circuits are two of the highest line items on the IT OPEX budget.

You must look around EVERY corner for security threats

Cyber threats are a daily worry for businesses, and branch locations are often a back door for security issues. Can you react quickly enough, patch fast enough, and respond with your own team vs. a centralized team that does this 24/7? Threat detection speed is a huge concern of organizations as stealthy hackers can sleuth around your back door or in your house for weeks.

CHAPTER 2:

Next Generation of Networking

What is Software Defined Networking (SD-WAN)? It has been talked about for many years but never realized in market nor capitalized on for its capabilities due to:

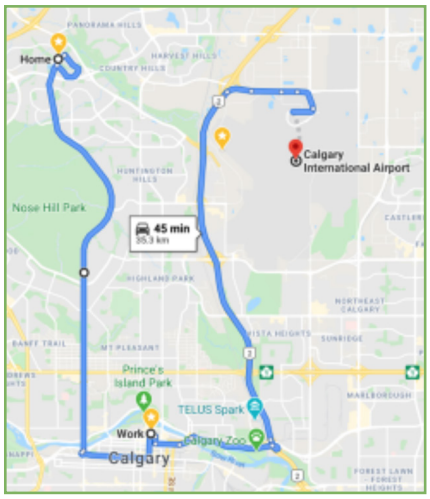
- complexity and technology challenges
- lack of AI capability
- previous solutions that fell short of the value proposition
- many organizations just didn't have the skill, time or people to implement

Now companies can take connectivity from the data centre out to the WAN and then connect to all cloud services seamlessly and fast with better security across WAN links. With massive data growth and heavier network demand, how do you protect those and provide the business with great user and customer and experience?

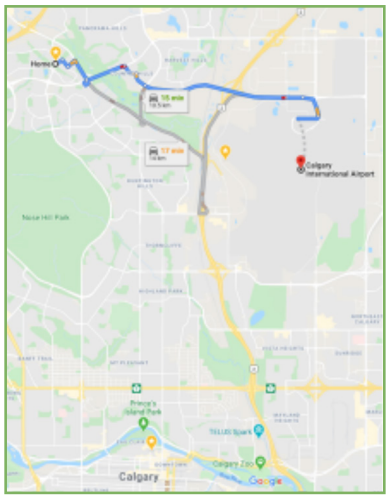
Imagine you are going from your branch office to the airport, but you have to drive an hour in the other direction to the head office to check in before you can go to the airport. You have to get all the security protocols and then take the route designated to the airport even if it is not the most efficient, fastest or cheapest way. SD-WAN allows you to extend the same security protocols down to the branch and routes traffic directly to the destination, such as cloud services.

And just like Google maps or Waze, instead of only selecting the shortest path, the traffic will select the optimal path based on traffic, cost and application specific requirements. SD-WAN is like Google Maps with live updates.

SD-WAN Direct Routing



Traditional
All traffic must go through Head Office



Optimized
Direct Traffic Routing

Your branches can have the same experience as HQ

SD-WAN will provide you with the most direct and shortest route; in reality, it will analyze traffic based on each application requirement and identify challenges. Although a route may be longer, it may be faster and less expensive. It does the same thing as it analyzes routes and traffic per application needs and those which you have defined. Take the shortest route, as that is the cheapest route. Who cares if your email gets there 5 seconds slower? However, for ERP applications, you may always want the fastest route due to its business relevance and defined policy management.

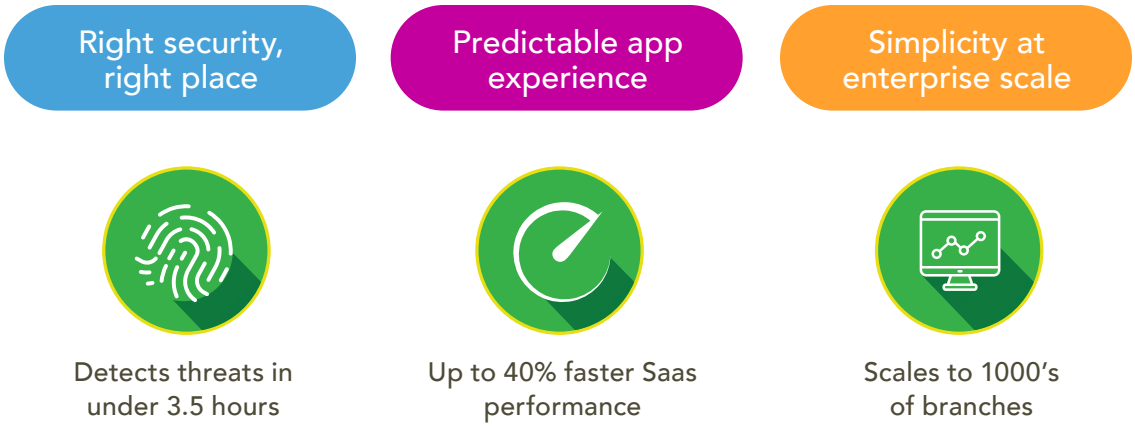
If you have sensitive data for which you want to set a policy that it must NOT cross the border to data centres outside of your country, SD-WAN can be set to which DC is best.

"Our network administrators have direct visibility into application performance that has never before been available. The fabric of SD-WAN automatically makes real-time decisions to choose the best performing path between end users at a remote branch and a cloud SaaS application. Intent-based networking is where it is at while optimizing the user experience, so their applications run faster and are more available, with up to 40% faster performance. This is the simplicity and scale that Long View manages on behalf of our clients."

Lane Irvine, Network Business Solutions Director, Long View Systems

Security, predictability and simplicity

Managing and monitoring an enterprise network is one thing; realizing cost savings of up to 50% with faster internet speed for all is even better. Most ROI for an Enterprise SD-WAN implementation is less than 12 months. It will provide increased performance and security for your branch and head office locations for Office 365, Azure and other SaaS. With 20,000 customers using SD-WAN worldwide, no wonder Long View Systems selected to partner with Cisco to bring this solution as part of their "NextNet" offering.



CHAPTER 3:

Champion's SD-WAN Launch a Home Run

Champion Pet Foods is a Canadian and global icon in the pet food sector, producing tons of dog and cat food annually in some of the most advanced kitchens in the world. Champion wanted the ability to set up a branch anywhere in the shortest amount of time possible. Dealing with the complexity of their own data centre and the specific traffic patterns requirements, coupled with multiple locations and a desire to expand globally they were a perfect candidate for SD-WAN.

Business Requirements:

- Create a reliable, 24/7 managed environment to support user and customer experience levels
- Save costs on security infrastructure and integrate with cloud-based security tools
- Flexibility to spin up new locations globally as their business grew
- Reliable network with zero downtime – a bump in the network cost 6 figures per hour of outage, something they never wanted to experience ever again

"Once we started the engagement, we had the whole solution implemented within a couple of months. We evaluated their traffic patterns, provided redundancy for their critical ERP application that ties back to their Data Centre, and are now doing a full cost-saving analysis on their WAN links. I was proud when the CIO said that it was the cleanest migration he had ever encountered."

Brent Davidson, Long View Solution Architect

Long View's NextNet Solution:

One of the branches realized the benefits instantly and simply through much faster scanning of documents for a job. If it took one minute to scan one job, it is now seconds. That was a productivity gain of two hours a day for this loader, who is working on 10-40 pallets for a truck. That is a significant time savings!

Cost savings are paramount, as Champion was paying for links they were not using. Now load balancing across all links is managed and monitored by Long View. Long View are seeing cost reductions up to 50% of WAN costs just by deploying SD-WAN with all the security features built in. Long View has already saved Champion $2k per month by changing the WAN links to needs-based and constantly augmenting based on business requirements. The link requirements are identified and Long View takes care of the routing, and all the information is at their fingertips. Links will not go down anymore.

CHAPTER 4:

The Ultimate SD-WAN Checklist

If you've been thinking about implementing an SD-WAN solution, we've provided a checklist to help you decide what features are most important for you (we happen to think all of them are):

Security

A staple of any SD-WAN solution is the requirement to encrypt all tunnel traffic between your sites. This will ensure that all communication between sites is secure and confidential no matter what connection medium is used. Another requirement is the security from external traffic to the device when using an exposed internet connection as a WAN link. This should prevent unauthorized access/connections to any device(s) connected to the internet.

Resiliency

A resilient SD-WAN solution is designed to prevent any network downtime on the WAN where possible. The technology must be able to automatically utilize: multiple devices, multi-path load balancing, multiple WAN links, dynamic VPN/Tunnels and failure detection, both pre-emptive and full link/device failure.

WAN link agnostic for reduced WAN costs

An SD-WAN solution must be able to use any WAN link medium and be able to quickly and easily move from one solution to another. This gives the flexibility for an organization to easily add/remove/change WAN links without the complex design and migrations traditional WANs require. It also gives the ability to replace expensive WAN links, such as an MPLS circuit, with high-speed internet links.

Scalability

Businesses cannot be encumbered by technology delays. SD-WAN needs to be designed to be able to easily grow/change with the business. New sites need to be able to be dynamically provisioned quickly, but still have the same security and connectivity standards.

Cloud Connectivity

Connectivity must be able to integrate with all the major cloud service providers (Azure, AWS, etc.) to allow secure and dynamic connections to all IaaS/SaaS deployments.

Central/Cloud management and deployment

Any solution must be able to provide a single-pane-of-glass management system for the entire WAN. This should allow for a central point to: deploy and configure devices, push application and security policies, and view/monitor/troubleshoot the entire WAN deployment. This system should also allow for either a cloud or on-premises solution. Both must be able to be highly available. Cloud solutions must also have fully certified data centre deployments to ensure full DR and security requirements are met by industry standards.

Quality of Service and application optimization

Quality of Service is a vital component of any WAN solution. This allows for defining and controlling traffic from an application layer. It also allows for the ability to prioritize any traffic and adjust bandwidth for each type of traffic. This can then be used with most private WAN link providers to have end-to-end Quality of Service.

An SD-WAN solution needs take QoS to a higher level for application performance optimization. There needs to be the ability to utilize multiple links to determine the best path for any/each application or traffic flow. This gives the ability to send mission-critical applications over higher priority links and then move non-critical traffic to higher bandwidth but lower the cost of these links. The solution must also be able to monitor all the WAN links to pre-emptively detect when links are having any issues. Monitors such as high traffic loss, high latency and so on are the industry standard. Application policies then can be set to seamlessly move any traffic (especially business-critical) to a different link without disruption to the end user before a major failure causes any loss in service.

Simplicity

If a solution is too complex to manage, the cost benefit is then reduced. Thus, any solution needs to be intuitive and provide an easy-to-use GUI when managing devices. A single-pane-of-glass architecture allows for a simple space to manage most if not the entire solution to create a better management and deployment experience.

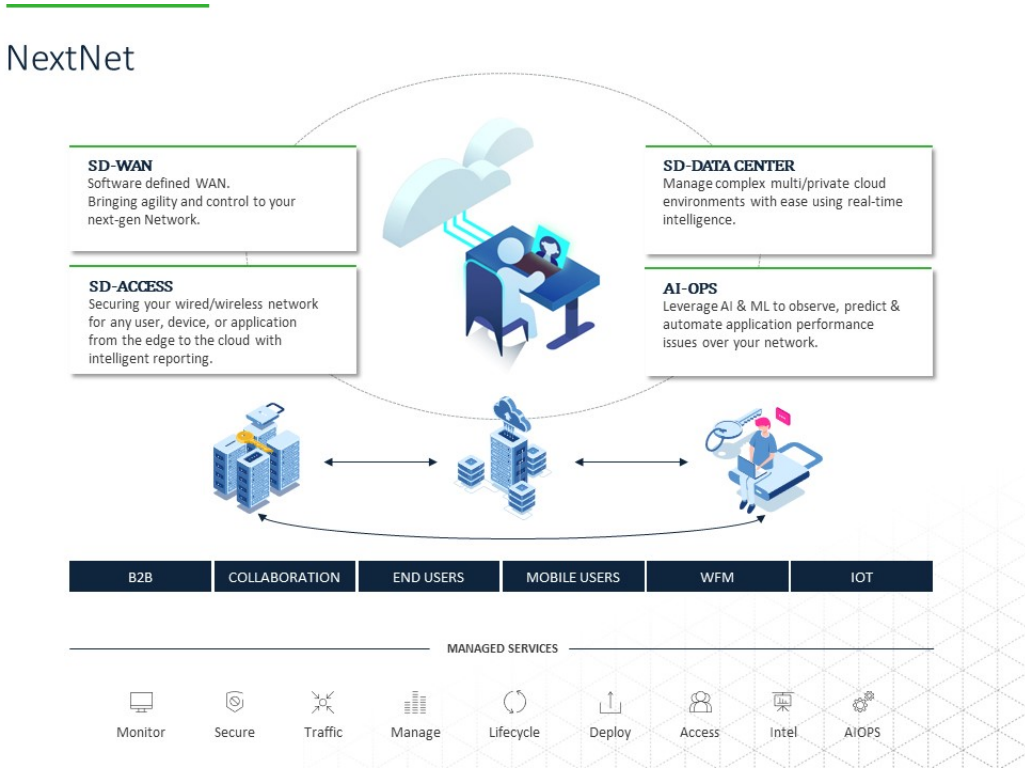
Operations

Enterprise-level tools for monitoring, troubleshooting and analytics of traffic need to be available. Having more information and details available to an operations team allows for most issues to be resolved before an end user even knows that there was a problem. This can then reduce overall operational costs for the business by not only finding problems dynamically in some cases, but then greatly reducing the overall troubleshooting time required when trying to resolve an issue.

Another aspect of a centralized system for the operations team that is fundamental to being able to reduce human errors is role-based security. This allows for an organization to provision the proper roles to individuals that they require. This can prevent the operations team that only needs to troubleshoot and resolve minor issues from making major changes to links or devices by mistake.

CHAPTER 5:

Worry-Free IT for the Software Defined Wide Area Network



Long View is proud to offer Long View's NextNet - SD-WAN service. This service provides our clients with a Managed Service offering based on the popular "Software Defined" networking suite of products geared towards Wide Area Network (WAN) connectivity.

SD-WAN provides secured, simplified and intelligent management for remote branches, and office connectivity to remote data centres and cloud workloads.