



2018 North American MPLS/IP VPN Services  
Competitive Strategy Innovation and Leadership Award



2018  
**BEST PRACTICES**  
AWARDS

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## Background and Company Performance

### Industry Overview

Growth in the U.S. multiprotocol label switching/Internet protocol (MPLS/IP) virtual private network (VPN) services market has been slowing since 2013. MPLS VPN service is in the mature stage of its lifecycle, resulting in slowing growth rates. Despite slowing growth rates the MPLS/IP VPN services market is a multi-billion dollar market with revenues exceeding \$14 billion in 2017. Key trends influencing MPLS market growth rates are as follows:

- MPLS VPN services market revenues are sustained by customers that continue to value the cost benefits (operational expenditure reduction) of moving their voice, data, and video applications to a single IP-based network. Plus, the ability to prioritize network traffic using class of service, to monitor network and application performance through self-service portals, and to interconnect distributed enterprise locations in a fully meshed architecture are the primary reasons enterprises prefer MPLS VPNs over other WAN services.
- As Carrier Ethernet has made deep inroads into enterprise WAN networks, it is acting as an enabler to MPLS. Ethernet access is fast becoming the de facto choice of enterprises for connecting to MPLS. As Ethernet access links offer cost-effective, higher speed ports, the speed consumed on MPLS ports is increasing.

Finally, service providers with a deep network footprint in MPLS and Dedicated Internet Access (DIA) broadband services are now bundling public and private networks to compete more effectively in the managed SD-WAN services market. WAN management is a complex process and enterprises that want to manage their own WANs effectively must have expert network managers on staff to run and operate a global WAN. The process can be daunting when it involves multiple transport and access providers from across the globe. That is where a managed SD-WAN service can help.

Service providers such as CenturyLink have the expertise and technology to integrate disparate operations and management systems across various access types and providers presenting a unified view for enterprise network teams. As a matter of fact, CenturyLink has stated that over 80 percent of its SD-WAN customers are keeping their MPLS as part of their next generation network. And more than 40 percent of the 80 percent are deploying new MPLS with their SD-WAN solution.

### *Strategy Innovation and Customer Impact*

#### **Strategy Effectiveness**

CenturyLink is a leading provider of MPLS VPN services in the US market. The company ranks in the top 3 of Frost & Sullivan's market share analysis. With the completion of the Level 3 acquisition in November 2017, CenturyLink's market share has increased from 10% to 16%, which is a significant jump in a market worth \$14 billion in 2017. Organic growth in a mature market is extremely tough and slow, which makes the increase in CenturyLink's

market share even more noteworthy.

### **Strategy Execution**

CenturyLink's combined network capabilities (including Level 3 assets) include 450K+ global route miles of fiber across 60+ countries and over 100K connected buildings. Level 3's acquisition brought a strong Ethernet portfolio to CenturyLink. Combined with its MPLS footprint and expansive global Internet presence and connectivity to over 2,200 data centers, CenturyLink is favorably positioned to provide a comprehensive hybrid network solution to enterprise customers. While integration activities in terms of single ordering system for both the networks are underway, CenturyLink's IP and Data (which include MPLS/IP VPN, Ethernet and DIA services revenues increased by 20% in 2017 due to the acquisition.

Both CenturyLink and Level 3 have deep expertise in integrating assets from the merger and acquisition spree the companies have been on since 2005. The learnings from past integration activities should enable CenturyLink to achieve its integration timelines (Q2 2019), and further its competitive positioning in the market with enterprise hybrid networking solutions helping customer enable their digital transformation

### **Competitive Differentiation**

Convergence of enterprise applications—voice, data, and video—is the most important reason for MPLS dominance in the enterprise WAN networks. MPLS comes with inherent built-in security features, and allows service providers to apply Quality of service (QoS) to available bandwidth for traffic prioritization. This has resulted in a high attach rate of Voice over Internet protocol (VoIP) and session initiation protocol (SIP) trunking services along with MPLS/IP VPN services. While the industry average has been in the 50-55% range, CenturyLink reports an above average attach rate of VoIP/SIP with its MPLS at 85%.

Cloud networking is another area where CenturyLink attracts a large base of business customers, thanks to MPLS and Ethernet services that support dynamic bandwidth and connection capabilities.

Integration of public and private network bandwidth plays an important role in the hybrid deployment model, as it provides scalable application performance, data privacy, and resiliency while moving workloads between public clouds and private data centers. With a market-leading hybrid IT services platform combined with its global network strengths, CenturyLink is well positioned to compete in the cloud services market.

Additionally CenturyLink's hybrid network provides inherent network security complimented by managed, advanced security features from its Adaptive Network Security solution. This network-based security platform provides a full range of next generation security that reaches on-net and remote users on mobile devices with Internet Service Provider access flexibility.

## Customer Ownership Experience

The emergence of SD-WAN has caused quite a bit of ripple in the MPLS market. An SD-WAN solution automates the assignment of network using performance-based application aware routing based on pre-defined policy. The ability to dynamically share bandwidth across private and public WAN services results in cost savings. Faster branch site deployments are achieved through the consolidation of virtualized network elements onto a single customer edge device that is shipped, preconfigured to the customers specifications.

Leading MPLS VPN service providers have collaborated with SD-WAN vendors to offer managed SD-WAN offerings, which include network services and end-to-end management of SD-WAN solutions. While SD-WAN has not had material impact on MPLS revenues so far, in the future, as enterprises embrace Internet-based links, and are able to improve application performance using SD-WAN, some of the MPLS revenues will potentially shift to internet-based services.

CenturyLink has multiple SD-WAN vendor solutions available—a global SD-WAN based on the Versa software/technology across NA, EMEA, Asia Pacific and LATAM, and a managed Cisco SD-WAN solution based on Viptela software and technology that is being enabled across Cisco's vEdge series and Enterprise Network Computer System series (ENCS) in the US, with plans to expand globally beginning in 2019. The company is well positioned to bundle MPLS with DIA, broadband, and wireless LTE for its SD-WAN customers with the expanded global scale of network reach to more than 30 countries post Level 3 acquisition. Additionally, CenturyLink has reported an increase in demand for its MPLS services from new SD-WAN customers, thus validating that preference for MPLS VPN remains strong among businesses.

The increased use of DIA services while deploying SD-WAN means greater demand for Ethernet-based DIA circuits. Service providers that have the network reach and capability to offer their own broadband services and Ethernet-based DIA services stand to gain from the demand SD-WAN is creating in the market. Based on Frost & Sullivan's 2017 Ethernet research, CenturyLink has advanced to the #1 ranking in the business Ethernet market since its Level 3 acquisition, which enables the company to effectively capture a higher share of revenues in the managed SD-WAN market. All of these above factors help ensure that CenturyLink customers have a positive ownership experience.

## Conclusion

Frost & Sullivan's research indicates that CenturyLink's acquisition of Level 3 has significantly influenced the company's competitive positioning. CenturyLink's market share in the MPLS VPN Services Market increased from 10% in 2015 to 16% in 2017, resulting in increased revenue growth and a strong competitive positioning in the market. The 2018 award for Competitive Strategy Innovation & Leadership in the U.S. MPLS VPN Services Market is presented to CenturyLink in recognition of its impressive achievements.

## Significance of Competitive Strategy Innovation and Leadership

Any successful approach to achieving top-line growth must (1) take into account what competitors are, and are not, doing; (2) meet customer demand with a comprehensive, value-driven product or service portfolio; and (3) establish a brand that resonates deeply with customers and stands apart from other providers. Companies must succeed in these three areas—brand, demand, and positioning—to achieve best-practice levels in competitive strategy.



## Understanding Competitive Strategy Innovation and Leadership

As discussed above, driving demand, brand strength, and competitive differentiation all play a critical role in delivering unique value to customers. This three-fold focus, however, must ideally be complemented by an equally rigorous focus on Strategy Innovation and Customer Impact.

## Key Benchmarking Criteria

For the Competitive Strategy Innovation and Leadership Award, Frost & Sullivan analysts independently evaluated two key factors—Strategy Innovation and Customer Impact—according to the criteria identified below.

### Strategy Innovation

- Criterion 1: Strategy Effectiveness
- Criterion 2: Strategy Execution
- Criterion 3: Competitive Differentiation
- Criterion 4: Executive Team Alignment
- Criterion 5: Stakeholder Integration

### Customer Impact

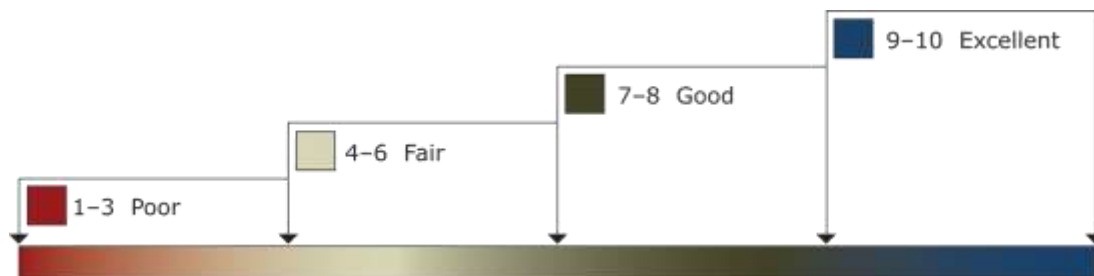
- Criterion 1: Price/Performance Value
- Criterion 2: Customer Purchase Experience
- Criterion 3: Customer Ownership Experience
- Criterion 4: Customer Service Experience
- Criterion 5: Brand Equity

## Best Practices Award Analysis for CenturyLink

### Decision Support Scorecard

To support its evaluation of best practices across multiple business performance categories, Frost & Sullivan employs a customized Decision Support Scorecard. This tool allows our research and consulting teams to objectively analyze performance, according to the key benchmarking criteria listed in the previous section, and to assign ratings on that basis. The tool follows a 10-point scale that allows for nuances in performance evaluation. Ratings guidelines are illustrated below.

#### RATINGS GUIDELINES



The Decision Support Scorecard is organized by Strategy Innovation and Customer Impact (i.e., these are the overarching categories for all 10 benchmarking criteria; the definitions for each criterion are provided beneath the scorecard.). The research team confirms the veracity of this weighted scorecard through sensitivity analysis, which confirms that small changes to the ratings for a specific criterion do not lead to a significant change in the overall relative rankings of the companies.



The results of this analysis are shown below. To remain unbiased and to protect the interests of all organizations reviewed, we have chosen to refer to the other key participants as Competitor 1 and Competitor 2.

<i>Measurement of 1-10 (1 = poor; 10 = excellent)</i>			
<b>Competitive Strategy Innovation and Leadership</b>	Strategy Innovation	Customer Impact	<b>Average Rating</b>
CenturyLink	<b>9</b>	<b>9</b>	18
Competitor 2	8	7	15.5
Competitor 3	7	7	14

### *Strategy Innovation*

#### **Criterion 1: Strategy Effectiveness**

Requirement: Strategy effectively balances short-term performance needs with long-term aspirations and vision for the company.

#### **Criterion 2: Strategy Execution**

Requirement: Adoption of best-in-class processes supports the efficient and consistent implementation of business strategy.

#### **Criterion 3: Competitive Differentiation**

Requirement: Unique competitive advantages with regard to solution or product are clearly articulated and well accepted within the industry.

#### **Criterion 4: Executive Team Alignment**

Requirement: The executive team is aligned along the organization’s mission, vision, strategy, and execution.

#### **Criterion 5: Stakeholder Integration**

Requirement: Strategy reflects the needs or circumstances of all industry stakeholders, including competitors, customers, investors, and employees.

### *Customer Impact*

#### **Criterion 1: Price/Performance Value**

Requirement: Products or services offer the best value for the price, compared to similar offerings in the market.

#### **Criterion 2: Customer Purchase Experience**

Requirement: Customers feel they are buying the most optimal solution that addresses both their unique needs and their unique constraints.

#### **Criterion 3: Customer Ownership Experience**

Requirement: Customers are proud to own the company’s product or service and have a positive experience throughout the life of the product or service.



**Criterion 4: Customer Service Experience**

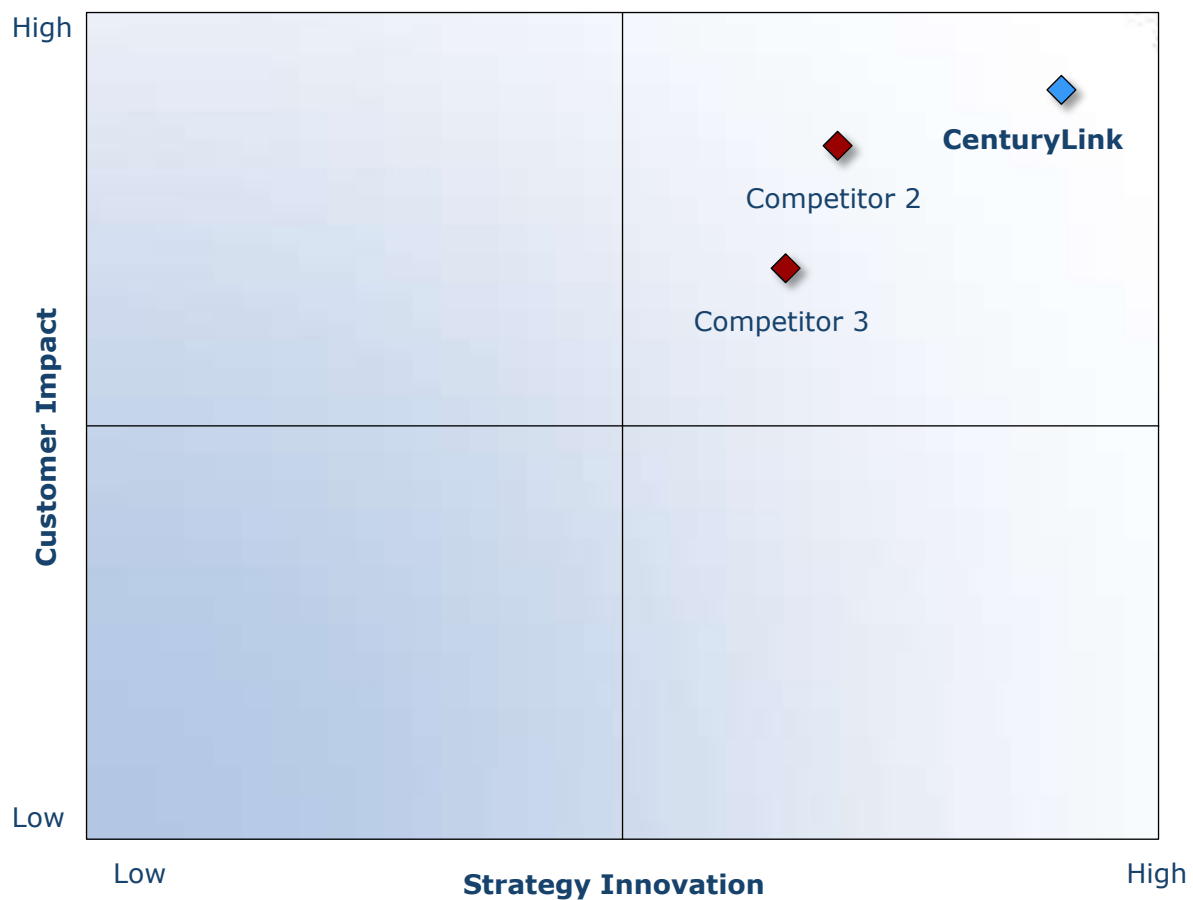
Requirement: Customer service is accessible, fast, stress-free, and of high quality.

**Criterion 5: Brand Equity**

Requirement: Customers have a positive view of the brand and exhibit high brand loyalty.

*Decision Support Matrix*

Once all companies have been evaluated according to the Decision Support Scorecard, analysts then position the candidates on the matrix shown below, enabling them to visualize which companies are truly breakthrough and which ones are not yet operating at best-in-class levels.



## Best Practices Recognition: 10 Steps to Researching, Identifying, and Recognizing Best Practices

Frost & Sullivan analysts follow a 10-step process to evaluate Award candidates and assess their fit with select best practice criteria. The reputation and integrity of the Awards are based on close adherence to this process.

STEP	OBJECTIVE	KEY ACTIVITIES	OUTPUT
1 <b>Monitor, target, and screen</b>	Identify Award recipient candidates from around the globe	<ul style="list-style-type: none"> <li>• Conduct in-depth industry research</li> <li>• Identify emerging sectors</li> <li>• Scan multiple geographies</li> </ul>	Pipeline of candidates who potentially meet all best-practice criteria
2 <b>Perform 360-degree research</b>	Perform comprehensive, 360-degree research on all candidates in the pipeline	<ul style="list-style-type: none"> <li>• Interview thought leaders and industry practitioners</li> <li>• Assess candidates' fit with best-practice criteria</li> <li>• Rank all candidates</li> </ul>	Matrix positioning all candidates' performance relative to one another
3 <b>Invite thought leadership in best practices</b>	Perform in-depth examination of all candidates	<ul style="list-style-type: none"> <li>• Confirm best-practice criteria</li> <li>• Examine eligibility of all candidates</li> <li>• Identify any information gaps</li> </ul>	Detailed profiles of all ranked candidates
4 <b>Initiate research director review</b>	Conduct an unbiased evaluation of all candidate profiles	<ul style="list-style-type: none"> <li>• Brainstorm ranking options</li> <li>• Invite multiple perspectives on candidates' performance</li> <li>• Update candidate profiles</li> </ul>	Final prioritization of all eligible candidates and companion best-practice positioning paper
5 <b>Assemble panel of industry experts</b>	Present findings to an expert panel of industry thought leaders	<ul style="list-style-type: none"> <li>• Share findings</li> <li>• Strengthen cases for candidate eligibility</li> <li>• Prioritize candidates</li> </ul>	Refined list of prioritized Award candidates
6 <b>Conduct global industry review</b>	Build consensus on Award candidates' eligibility	<ul style="list-style-type: none"> <li>• Hold global team meeting to review all candidates</li> <li>• Pressure-test fit with criteria</li> <li>• Confirm inclusion of all eligible candidates</li> </ul>	Final list of eligible Award candidates, representing success stories worldwide
7 <b>Perform quality check</b>	Develop official Award consideration materials	<ul style="list-style-type: none"> <li>• Perform final performance benchmarking activities</li> <li>• Write nominations</li> <li>• Perform quality review</li> </ul>	High-quality, accurate, and creative presentation of nominees' successes
8 <b>Reconnect with panel of industry experts</b>	Finalize the selection of the best-practice Award recipient	<ul style="list-style-type: none"> <li>• Review analysis with panel</li> <li>• Build consensus</li> <li>• Select recipient</li> </ul>	Decision on which company performs best against all best-practice criteria
9 <b>Communicate recognition</b>	Inform Award recipient of Award recognition	<ul style="list-style-type: none"> <li>• Present Award to the CEO</li> <li>• Inspire the organization for continued success</li> <li>• Celebrate the recipient's performance</li> </ul>	Announcement of Award and plan for how recipient can use the Award to enhance the brand
10 <b>Take strategic action</b>	Upon licensing, company may share Award news with stakeholders and customers	<ul style="list-style-type: none"> <li>• Coordinate media outreach</li> <li>• Design a marketing plan</li> <li>• Assess Award's role in future strategic planning</li> </ul>	Widespread awareness of recipient's Award status among investors, media personnel, and employees

## The Intersection between 360-Degree Research and Best Practices Awards

### *Research Methodology*

Frost & Sullivan's 360-degree research methodology represents the analytical rigor of our research process. It offers a 360-degree-view of industry challenges, trends, and issues by integrating all 7 of Frost & Sullivan's research methodologies. Too often, companies make important growth decisions based on a narrow understanding of their environment, leading to errors of both omission and commission. Successful growth strategies are founded on a thorough understanding of market, technical, economic, financial, customer, best practices, and demographic analyses. The integration of these research disciplines into the 360-degree research methodology provides an evaluation platform for benchmarking industry participants and for identifying those performing at best-in-class levels.

### 360-DEGREE RESEARCH: SEEING ORDER IN THE CHAOS



## About Frost & Sullivan

Frost & Sullivan, the Growth Partnership Company, enables clients to accelerate growth and achieve best in class positions in growth, innovation and leadership. The company's Growth Partnership Service provides the CEO and the CEO's Growth Team with disciplined research and best practice models to drive the generation, evaluation and implementation of powerful growth strategies. Frost & Sullivan leverages more than 50 years of experience in partnering with Global 1000 companies, emerging businesses and the investment community from 45 offices on six continents. To join our Growth Partnership, please visit <http://www.frost.com>.