



Lumen Recognized for

2021

New Product Innovation

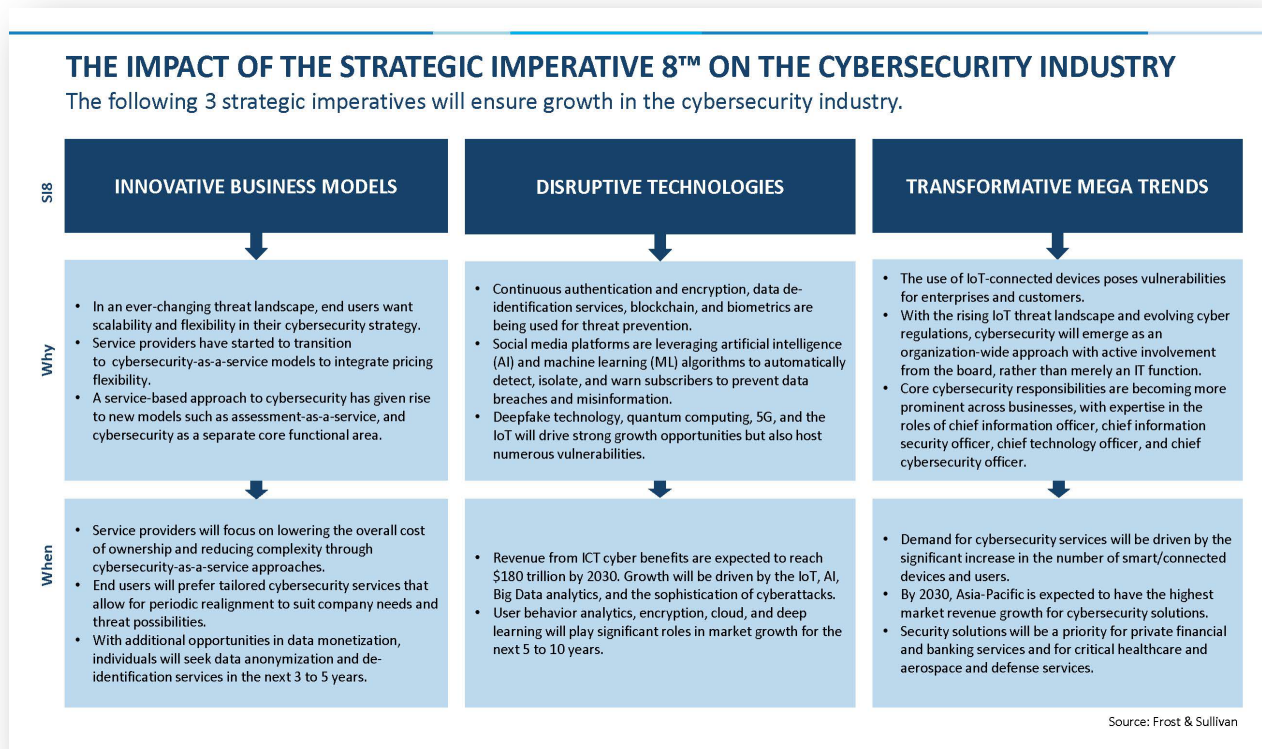
Global Holistic

Web Protection Industry

Excellence in Best Practices

Strategic Imperatives

Frost & Sullivan identifies three key strategic imperatives that impact the cybersecurity industry: innovative business models, disruptive technologies, and transformative Mega Trends. Every company that is competing in the cybersecurity space is obligated to address these imperatives proactively; failing to do so will almost certainly lead to stagnation or decline. Successful companies overcome the challenges posed by these imperatives and leverage them to drive innovation and growth. Frost & Sullivan’s recognition of Lumen is a reflection of how well it is performing against the backdrop of these imperatives.



Best Practices Criteria for World-Class Performance

Frost & Sullivan applies a rigorous analytical process to evaluate multiple nominees for each award category before determining the final award recipient. The process involves a detailed evaluation of best practices criteria across two dimensions for each nominated company. Lumen excels in many of the criteria in the holistic web protection space.

AWARD CRITERIA

<i>New Product Attributes</i>	<i>Customer Impact</i>
Match to Needs	Price/Performance Value
Reliability	Customer Purchase Experience
Quality	Customer Ownership Experience
Positioning	Customer Service Experience
Design	Brand Equity

Reshaping Enterprise Customer Security Needs in the Wake of the 4th Industrial Revolution

Lumen Technologies (Lumen) is a newly envisioned company backed by years of expertise, assets, and capabilities in the global telecommunications industry. In September of 2020, CenturyLink, one of the leading telecommunications companies in the United States, rebranded with the name Lumen to create a fresh and advanced company designed to propel into the fourth industrial revolution and adapt to the robust data and application needs that unfold. Headquartered in Monroe, Louisiana, Lumen is enhancing the user journey (how businesses interact with their customers and the way customers

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-Steven Lopez, Best Practices Research Analyst

interact with their web-facing environments). The company leverages the rise of emerging data technologies through enhanced connectivity to secure application experiences with its comprehensive Holistic Web Protection solution. Since its rebirth, Lumen refocuses its mission, strategic approaches of improving the customer experience, and leverages employee expertise to deliver a swift and secure Holistic Web Protection solution. The company’s solution enables next-generation enterprise web applications and empowers enterprise customers to face new cybersecurity challenges. The overall

company shift of Lumen tackles the evolution of modernized application delivery architecture, undertaking the challenge that organizations face today when overcoming constraints from legacy infrastructure; moreover, moving towards an agile environment by making digital interactions faster and more secure.

Furthermore, Lumen recognizes that customers seek comprehensive solutions that fight against multi-vector security attacks, including multiple attack points and technologies. Distributed Denial-of-Service (DDoS) solutions remain critical defense advantages to protect enterprise web applications against increasing ramifications of complex attacks. Many businesses struggle with adapting to the fourth industrial revolution; Lumen provides a connected security platform that collectively engages adaptive networking, Edge Cloud architecture, and collaboration, enabling secure application and content delivery outcomes. The platform positions its customers to acquire, analyze, and act on data efficiently with the goal of delivering secure application experiences. Lumen recognizes cybersecurity as one of the key components of success for the next generation of businesses; therefore, establishing connected security plays an integral part of the Lumen platform. The Lumen platform is meant to assist and enable businesses to identify and mitigate various cybersecurity threats stemming from the fourth industrial revolution.

Network and Application Layer Protection

Frost & Sullivan's research indicates that Holistic Web Protection solutions integrate three key security technologies: DDoS mitigation, web application firewall (WAF), and bot risk management (BRM). Such factors as the growing sophistication of attacks and the lack of cybersecurity professionals make a compelling case for the adoption of Holistic Web Protection solutions. Enterprises across the world are looking for ways to strengthen their security posture with state-of-the-art products and services.¹ Lumen's security strategy focuses on enhancing the customer experience by providing a built-in, informed, automatic, and tailored security solution that brings together DDoS, WAF, and BRM technologies. By integrating DDoS, WAF, and BRM solutions, Lumen streamlines the enablement for swift, precise, granular, and cost-conscious enterprise security defenses. These offerings establish a reduction in false-positives and enable higher detection rates for both known and unknown threats between automated and human web traffic. Moreover, these integrated solutions leverage multi-tier threat intelligence data, attackers' behavior patterns, dynamic analytic engines, and machine learning (ML) intelligence. Lumen offers a complete portfolio of WAF/web application and API protection (WAAP) solutions, integrated with DDoS mitigation, tailored to customer needs and budgets. The offer includes an ecosystem of application delivery, performance, and security solutions to support dynamically changing application needs in a DevSecOps environment. Additionally, the company notes the intrinsic part that WAF and BRM play as part of a holistic solution to protect both network and application layers in all customer environments, including Lumen Edge platform service. Lumen's WAF and BRM offerings include a range of solutions delivered via a common orchestration and automation platform that operates at Lumen Edge, with partners to help tailor to specific customer needs. The comprehensive WAAP solution portfolio offers customers another critical differentiation in application delivery, performance and security to support mission-critical, response-dependent applications. These solutions are agile service modules that can be easily spun up and leverage artificial intelligence (AI)-based threat identification, monitoring, observing, responding, and blocking. By integrating Lumen DDoS mitigation solutions with WAF solutions, Lumen offers a complete capability designed to protect network and application layers. Ultimately, streamlining the security strategy set in place to simplify,

¹ *Global Holistic Web Protection Market* (Frost & Sullivan, November 2020)

integrate, and automate the solution's capabilities, Lumen achieves the outcome for optimal efficiency and cost-effective customer experience.

Threat Visibility at Scale through In-depth DDoS Mitigation

Lumen has a unique visibility of the global internet backbone; because of this visibility the company can see threats that other platforms cannot; i.e., Lumen can see and stop threats in real time. This visibility enables Lumen to harness threat intelligence, enriched using Black Lotus Labs, the company's threat research division. Black Lotus Labs advances an understanding of the threat landscape and leads the company's development of new threat detection and mitigation methods. Furthermore, Lumen uses Black Lotus Labs' global threat intelligence to provide faster and more effective DDoS mitigation to its customers. Lumen's DDoS mitigation is one of the differentiators of the company's Holistic Web Protection offering, which is an integral part of the Lumen platform. Lumen DDoS Mitigation Service is a global service backed by 85 Tbps of mitigation capacity across Lumen's global scrubbing center footprint with next-gen intelligent routing. DDoS Hyper is a self-serve version of this offer, leveraging the same underlying infrastructure. Since the solution's launch, the company notes that DDoS Hyper immediately received high customer experience ratings. Lumen's first customer (a large financial processing company) benefited financially from a swift turnaround time within 15 minutes. Key offerings from DDoS Hyper include an automatic and digital path. Deploying next-generation DDoS architecture, Lumen offers customers a robust DDoS mitigation service with competitive threat detection and mitigation capabilities. Black Lotus Labs enriches threat intelligence, which powers an automated threat detection and response capability, Rapid Threat Defense, which is a core element of both services (DDoS Mitigation and DDoS Hyper). Rapid Threat Defense increases rapid mitigation and protection by blocking DDoS bot traffic at the scrubbing center before it reaches the customer's network.² The company's Holistic Web Protection solution that is an integral part of the Lumen platform proves essential for customers seeking simplified yet effective security. Other differentiators related to DDoS drive Lumen's unique position in the market, such as the overall user experience the platform provides its customers. Lumen sets out to provide customers with seamless integration, self-explanatory use, and cost-effective benefits.

Match to Needs through Effective Feedback Mechanisms

Essential interactions, such as direct interviews and conversations, play a large role in ensuring that Lumen's product development matches market and customer needs. Lumen focused on simplifying security and enabling seamless user and buyer experiences. The company's product teams survey customers, gathering their user experiences while configuring the product simultaneously. These feedback surveys leverage two essential platforms that entail the Qualtrics surveying tool and the User Testing platform. These tools allow product teams to remain in a continuous feedback cycle by testing user views, e.g., user interface and pricing, and apprehend any user experience discrepancies as they appear; moreover, developing user experience while customers manage DDoS Hyper from the customer portal. Lumen uses its Digital Focus Groups and Secret Shopper approach towards uncovering customer pain points. Increasing performance of Lumen's DDoS security digital offering, DDoS Hyper, the company

² <https://www.lumen.com/en-us/security/DDoS-hyper.html> , Accessed December 2020

establishes and streamlines an informative loop that positions the company to manage the customer experience process even further using its Digital Buying Experience. Lumen's DDoS mitigation offerings currently include DDoS Mitigation Service and DDoS Hyper. The Digital Buying Experience applies directly to DDoS Hyper; however, the future vision is that all features and functionality will be available through DDoS Hyper. Gathering knowledge and insights from customers through project management conversations with Lumen's development team positions the company to build its DDoS product on a digital platform that will meet and uphold customer satisfaction.

As an added development value to ensuring innovation meets customer fulfillment, Lumen takes pride in having effective partnership communication, where the company can grasp any ideas from partners, paving a sturdy collaborative ecosystem consisting of enhancement efforts for both parties. Lumen believes that utilizing this partnering approach allows its development teams to foresee customer challenges before becoming problematic. Frost & Sullivan applauds Lumen for its customer engagement practices and robust involvement towards enriching innovation overall.

Price and Performance Value: Pursuing Customer Satisfaction beyond the Buying Phase

Lumen continues to place a high degree of importance on customer satisfaction for both existing and potential customers. Differentiating the company in terms of customer experience, Lumen established an internal Customer Experience and Journey group. Through this initiative, the company requires its employees to partake in a comprehensive annual employee training module, keeping employees updated on customer expectations. Lumen aligns around a well-oiled model that enables employees and product teams to manage and maintain the customer experience, no matter the initial demand, i.e., customers may seek a do-it-yourself approach, prefer step-by-step walkthroughs, or require Lumen's team to lead and finalize security service optimizing. Enhancing customer ownership remains a steadfast goal for the company as it takes strides towards administering its aligned business model. Lumen's new customer success model is a "customer first" division that enables customers to achieve their goals and business outcomes by protecting, nurturing, and growing its enterprise customer relationships. The team behind the customer success model is responsible for the product, customer, and revenue retention, including lifecycle management and revenue expansion.

Lumen offers a fixed and transparent monthly pricing for customers seeking predictability when managing budget constraints with unlimited size, duration, and mitigation frequency. The company's approach towards ensuring price value meets customer needs begins with its usage-based mitigation efforts, which Lumen is testing currently; this approach will offer customers a flat low-priced option through monitoring and pricing accordingly on a per-incident basis, i.e., a beneficial pricing option for customers rarely attacked but who also accept an increase in financial exposure. By leveraging feedback from its customer base, Lumen evaluates price points and makes adjustments accordingly to competitors. For pricing adjustments, Lumen strives for below margin avoidance through placing margin controls and offering management practices, resulting in a profitable business cycle for the company. Backed by extensive pricing research, at the corporate level, Lumen enforces strategic pricing practices as it identifies competitive pricing through collected company data and third-party information, as well as ML dynamic pricing. Understanding the prevailing market price and utilizing ML dynamic pricing grants Lumen the ability to leverage competitive data and offer superior pricing options.

Brand Equity and Growth Potential

Lumen invests in its brand from a media buying perspective, reporting approximately tens of millions spent in Q3 of 2020, including allocating investments towards repositioning its image and product delivery in the market, and the company plans on maintaining this aligned spending amount over the next few quarters. The company places significant importance and focus on building and strengthening brand equity. Moreover, Lumen began a new initiative to drive leadership across the business by focusing on the core sectors of its product service portfolio: Adaptive Networking, Edge Cloud and Information Technology Agility, and Connected Security and Collaboration. Lumen's service portfolio meets customer needs as enterprise employees switch to working remotely. Further bolstering the brand, the company launches an innovative buying experience platform that allows customers to quote,

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configure, and activate network and security through a single online interface. As the company prepares for 2021, Lumen will enhance service and capabilities to this digital buying platform. Defined by differentiated visibility, Lumen's security branding contributes positively to the company's branding position; the company has the largest global network and unique threat intel with its Black Lotus Labs division. Lumen also enforces its security experts to facilitate leadership keynote speeches during conferences.

When gearing towards the future of the company, Lumen believes it is in an advantageous position to address enterprise and government customers' continuous needs and support their digital transformation. The company notes that it builds its core value around enhanced application delivery architecture to manage challenging, data-intensive workloads moving towards the cloud edge. From its previous long lifespan as CenturyLink, Lumen evolves into a technology company with unmatched developments thanks to its customer success model, a newly evolved web security platform, and embracing the shift towards customer-centricity. Realizing that the digital transformation increases customer threat exposure within web applications and domains, the need for Lumen's Holistic Web Protection solution proves beneficial in the market. In 2021, Lumen views the market as a highly competitive playing field, with industry-leading platforms being faster, agile, and designed from a more technology-based level. With the future bright for the company, Lumen will continue to increase focus on web applications on the Lumen Edge, enhancing their performance, delivery, and security.

Conclusion

Lumen Technologies (Lumen) introduces a simplified and comprehensive solution designed to boost enterprise customer web application security. The digital transformation resulting from the fourth industrial revolution requires enterprises to engage effectively with data and emerging technologies. The Lumen platform is meant to assist and enable businesses to identify and mitigate various cybersecurity threats stemming from the fourth industrial revolution through networking, Edge computing, security, and collaboration. The Lumen platform offers customers a web protection internet backbone with built-in, informed, automatic, and tailored security to a global customer base with its cutting-edge Holistic Web Protection solution that combines Distributed-Denial-of-Service mitigation, web application firewall, and bot risk management technologies. The company's focus on customer experience positions it to achieve optimal efficiency and cost-effectiveness. Therefore, utilizing robust customer experience models allows enterprise customers to benefit from transformative experiences. Frost & Sullivan applauds Lumen's reliability and product performance that simplifies and streamlines secure application experiences for its customers. For its strong overall performance and ability to enhance the customer experience, Lumen is recognized with Frost & Sullivan's 2021 Global New Product Innovation Award in the holistic web protection market.

What You Need to Know about the New Product Innovation Recognition

Frost & Sullivan's New Product Innovation Award recognizes the company that offers a new product or solution that uniquely addresses key customer challenges.

Best Practices Award Analysis

For the New Product Innovation Award, Frost & Sullivan analysts independently evaluated the criteria listed below.

New Product Attributes

Match to Needs: Customer needs directly influence and inspire product design and positioning

Reliability: Product consistently meets or exceeds customer performance expectations

Quality: Product offers best-in-class quality with a full complement of features and functionality

Positioning: Product serves a unique, unmet need that competitors cannot easily replicate

Design: Product features an innovative design that enhances both visual appeal and ease of use

Customer Impact

Price/Performance Value: Products or services provide the best value for the price compared to similar market offerings

Customer Purchase Experience: Quality of the purchase experience assures customers that they are buying the optimal solution for addressing their unique needs and constraints

Customer Ownership Experience: Customers proudly own the company's product or service and have a positive experience throughout the life of the product or service

Customer Service Experience: Customer service is accessible, fast, stress-free, and high quality

Brand Equity: Customers perceive the brand positively and exhibit high brand loyalty

About Frost & Sullivan

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The Growth Pipeline Engine™

Frost & Sullivan's proprietary model to systematically create on-going growth opportunities and strategies for our clients is fuelled by the Innovation Generator™. [Learn more.](#)

Key Impacts:

- **Growth Pipeline:** Continuous flow of Growth opportunities
- **Growth Strategies:** Proven Best Practices
- **Innovation Culture:** Optimized Customer Experience
- **ROI & Margin:** Implementation Excellence
- **Transformational Growth:** Industry Leadership



The Innovation Generator™

Our six analytical perspectives are crucial in capturing the broadest range of innovative growth opportunities, most of which occur at the points of these perspectives.

Analytical Perspectives:

- Mega Trend (MT)
- Business Model (BM)
- Technology (TE)
- Industries (IN)
- Customer (CU)
- Geographies (GE)

