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# BEST PRACTICES

AWARDS

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2020 BEST PRACTICES AWARD

**SECTIGO**

**2020 GLOBAL TLS CERTIFICATES COMPETITIVE STRATEGY INNOVATION AND LEADERSHIP AWARD**

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## Background and Company Performance

### *Industry Challenges*

As consumers and enterprise decision makers become increasingly aware of security risks, digital trust has become a weighty issue, affecting the success of organizations across the world. Cyber adversaries can impersonate domain names and web pages, tricking consumers into revealing sensitive or confidential information and data. To prevent this impersonation, Certificate Authorities (CAs) exist to issue transport layer security (TLS) certificates that ensure the encryption of the communication between consumers and websites as well as to validate business or web page identity. TLS certificates secure exchanges between web browsers and web servers, between devices and servers, and for applications such as email, instant messaging, file transfer protocol, voice over internet protocol, and virtual private networks, among others, using Public Key Infrastructure (PKI) encryption.

The uninterrupted encryption and verification of domains, digital identities, and digital communication are essential in today's environments, where certificate expiration without renewal jeopardizes enterprise systems and cause application outage, and damage a company's reputation. However, too often, system administrators rely on spreadsheets for tracking and manual installation to manage certificates, often leading to forgotten or expired certificates and requiring significant time and resources to administer throughout their lifecycle.

Moreover, regulators across jurisdictions have passed and begun implementing new laws and protocols, such as General Data Privacy Regulation, Payment Card Industry Data Security Standard, and California Consumer Privacy Act, mandating new stringent policies regarding encryption of data-at-rest and data-in-transit. To comply with new regulations, enterprises are moving to include TLS certificates on websites as part of Hypertext Transfer Protocol Secure (HTTPS).

Frost & Sullivan forecasts that the total TLS market, encompassing Domain Validated (DV), Organization Validated (OV), and Extended Validation (EV) certificates, will rebound and experience healthy growth through 2024. TLS certificates have seen an uptick in market activity and expansion in the last two years, with OV certificates and DV certificates driving the movement. The DV certificate segment will be the primary driver, with OV and EV showing moderate growth in unit shipments and OV certificates pushing the most growth in revenue.<sup>1</sup>

Furthermore, recent years have seen the TLS landscape change drastically with high-profile mergers and acquisitions propelling consolidation. Diversifying product portfolios and developments in adjacent and convergent spaces and use cases, such as PKI-based technologies, will likely yield dividends in the long term. CAs have had to cope with a fast-changing threat landscape, along with the regulatory adjustment and downward price

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<sup>1</sup> *Global Transport Layer Security (TLS) Certificate Market, Forecast to 2024: Turbulent Market Dynamics Point Certificate Authorities to New Revenue Opportunities and Business Models*, (Frost & Sullivan, January 2020).

pressure on TLS certificates. They are experiencing demand from finance, healthcare, retail, and government segments to improve and maintain secure transmits.

The constant evolution of security protocols is pushing the TLS market forward. Major browsers and search engines are incentivizing HTTPS adoption, which includes a TLS handshake. Regulations mandating encryption and updated application program interfaces (APIs) also include HTTPS as a critical component. Together, these forces push new growth for TLS certificates.

Relatedly, The CA/Browser Forum has been pushing for shorter certificate lifespans; this means that Information Technology (IT) /security teams must check for changes more frequently and spend more time and effort on certificate management. Moreover, as an enterprise maintains certificates for multiple domains and subdomains across regions, products, subsidiaries, and purposes, the task of managing and renewing certificates takes massive amounts of time. Missing just one renewal can yield a significant negative impact on the business.

Also, as the DevOps community expands and experiments in short-lived containers, and massive numbers of Internet of Things (IoT) devices come online, CAs should support customers with processes that enhance visibility and governance capabilities, particularly for organizations with large, complex, and/or rapidly changing environments. With streamlined and automated certificate management and inventory tools, IT departments and teams across an organization can increase their productivity significantly. The CA's role has expanded beyond merely validating the organization's ownership of TLS certificates to include providing the tools to automatically install the certificates, by integrating with popular DevOps tools.

The disruption caused by the COVID-19 pandemic in 2020 has forced organizations to create, deploy, and audit their business continuity plans. Drastic scaling needs and remote workflows suddenly became urgent, underlining the value of certificate-based authentication and demonstrating how a CA must maintain a forward-looking focus on innovation and removing friction from the user experience to succeed in the market. In turn, PKI, more than passwords or tokens, has become an increasingly relevant digital identity strategy for enterprises with zero-trust security architectures.

### *Strategy Innovation and Customer Impact of Sectigo*

Sectigo, formerly Comodo CA, is a widely known and trusted commercial CA. With more than 20 years of experience in the market, Sectigo has grown over the years to include diversified PKI-based technologies. Issuing more than 100 million certificates in more than 200 countries, Sectigo continues to make strategic investments to expand its reach, capabilities, and portfolio.

#### **Drastically Simplifying Management and Setup**

Impressing Frost & Sullivan, Sectigo prioritizes removing the friction from issuing, managing and installing certificates, succeeding in offering a remarkably fast and simple-to-use management platform and setup portal. The flagship Sectigo Certificate Manager

platform serves as a single platform to manage PKI for public and private TLS certificates. Sectigo built Sectigo Certificate Manager with automation in mind and consolidated control capabilities to simplify how enterprises and even organizations without experienced IT teams, manage and control processes. Rather than the constant and monotonous grind of manual certificate lifecycle management, Sectigo Certificate Manager presents a single pane-of-glass experience and streamlines certificate lifecycle management processes such as issuance, discovery, renewal, revocation, and replacement.

Moreover, Sectigo also facilitates previewing their products before purchase and offers a quick setup. In about two minutes, potential customers can sign up and login to the certificate management system to run several functions and discover certificates available in their environments. This free trial simplifies the pre-purchase experience, enabling customers to view how Sectigo's solution behaves and to assess the rich feature set. Further, this pre-purchase experience now extends the ability to create a private CA in a few minutes, with CA keys stored in a hardware security module (HSM). When customers simply add payment and contract information, the same environment migrates to a production system seamlessly. These features help bring the time to market down from months to minutes, removing enormous amounts of friction. Finally, Sectigo serves as a single point of contact for all TLS certificate needs, with a real person on the other end of the help line supporting customers at any level.

### **Striking Scalability and Wide-ranging Portfolio**

Across the spectrum of TLS needs, Sectigo presents an extensive and scalable portfolio. Included in the single pane of glass management, Sectigo Certificate Manager enables broad coverage, with its interoperability with leading devices, operating systems, protocols, and chipsets.

The Sectigo single pane of glass empowers the customer to administer PKI certificates beyond TLS to devices, users, and applications:

- Code signing
- Document signing to move away from paper documents, while ensuring the authenticity of the document and ensuring it was not altered after signature.
- Secure/Multipurpose Internet Mail Extensions (S/MIME) email certificates. Sectigo's email certificates can be deployed in a "zero-touch" manner, eliminating user involvement with leading mail applications.
- As organizations increasingly connect mobile devices to intellectual property within and outside the firewall, Sectigo has a mobile certificate management service that automates the installation to Windows, Mac, iOS, Android and ChromeOS – with or without an MDM. The mobile user and device can authenticate to Exchange, Web applications, WIFI and VPN without a password, ensuring the enterprise knows only authorized users and their device can access their IP. When coupled with TLS certificates to applications using DevOps tools, this covers 100% of access to IP.

- IoT devices using either a REST API or the Industry standard Enrollment over Secure Transport (RFC 7030).

The Sectigo solution is a SOC 3, WebTrust compliant cloud-based and flexible; customers can access service from anywhere. Sectigo manages and maintains the data center on the cloud, guaranteeing high reliability and uptime. Cloud-based service also ensures easy scalability (Sectigo has issued more than 100 million certificates), with the infrastructure built-in to accommodate the ballooning number of certificates and shortening lifecycles. The management platform grows along with the organization's needs, flexible to advance to the future, and supports massive scalability, facilitating Sectigo's unique breadth of offerings.

### **Leveraging Automation to Greatest Effect**

Sectigo's solutions achieve scalability and usability, alongside robust functionality, by focusing on automation. Leveraging open-source and standards-based protocols and strategic integrations, Sectigo achieves exceptional ease of use that drives value and ensures continuity for customers. The Sectigo Certificate Manager supports the increasingly adopted, open source Automated Certificate Management Environment (ACME) protocol, equipping users to automate certificate installation. Sectigo's ACME solution includes auto-renewal capabilities and functionality to automate certificate lifecycle management across the growing number endpoints, servers, and applications. With ACME integrations and representational state transfer (REST)-API integration packages, Sectigo enables users to run one command and issue certificates to thousands of servers within and outside the firewall. Additionally, regardless of the certificate automation scenario, Sectigo's solutions provide full visibility and ensure governance capabilities so that IT teams remain in control while benefitting from significant productivity gains. As another layer of robustness, in the unlikely event the automation should fail, then the SCM administrator is alerted that the certificate is near expiry.

Moreover, Sectigo has worked to build integrations and automation with partner platforms. With ServiceNow, a major information technology service management platform, Sectigo embedded the Sectigo Certificate Manager into the ServiceNow platform to support full certificate lifecycle management. Going further, Sectigo developed a plugin called Spoke that integrates with ServiceNow's workflow management to create a trigger to generate a notification ticket that demands an engineer's attention to follow through on a certificate issue or renewal. This industry first binds together IT systems to ensure no certificates will terminate without prior notice. Similarly, Sectigo can natively integrate with Microsoft Azure Key Vault, Microsoft Intune, Citrix ADC, F5 load balancer, and Apache, NGINX, Windows IIS and other web servers.

### **Prioritizing Innovation**

Sectigo has demonstrated its commitment to innovation in forward-looking development and integration strategies. Keeping pace with the proliferation of DevOps, Sectigo integrates its PKI platform with nine of the leading DevOps configuration management and container orchestration platforms (Docker, Kubernetes, Ansible, HashiCorp Vault,



SaltStack, Jenkins, Chef, Puppet, and Terraform). These connections make Sectigo's code signing and container certificates widely applicable for DevOps environments and uniquely able to support IT teams across environments to ensure security, compliance, and ability to audit. Positioning the company well for future growth in those segments, DevOps connections allow users to integrate custom applications with Sectigo with little coding work. Unlike alternatives, Sectigo offers a full-stack solution for DevOps, featuring certificate issuance, provisioning, and management.

Additionally, Sectigo supports customer use cases beyond TLS certificates, preparing for the future with a purpose-built PKI issuance platform for IoT. The platform provides for the massive issuance needed, but also solves for constrained networks and constrained computing systems. The company has also been a pioneer with its Mobile Certificate Manager allowing IT teams to issue and manage certificates and keys mobile devices across the organization without user input. Finally, Sectigo has its eyes on the impending challenges to encryption posed by quantum computing. In a partnership with ISARA Corporation, Sectigo will be able to issue hybrid certificates that can function in today's live environments as well as using work with quantum-safe algorithms developed by the National Institute of Standards and Technology (NIST) to resist encryption cracking from quantum computers. Hybrid certificates can allow enterprises to forestall a rip-and-replace of infrastructure systems; they can keep current operations and transition to pure quantum-safe certificates when the time comes to transition. This quantum initiative, along with many others, represents Sectigo's commitment and ability to respond to customer concerns and deliver solutions in short order.

### **A Unique Team Assembled**

Sectigo has also assembled intangible value in human capital, including an exceptional team of industry veterans, with a comprehensive vision and experience that is reflected in every aspect of R&D and operations. From top to bottom (executives, engineers, product management, support, research and development, as well as sales and marketing), Sectigo offers uniquely deep insight to its customers and partners. The company's executive team has many decades of experience in PKI and enterprise security, which is reflected in their understanding of the industry from multiple perspectives and grounded vision. Sectigo technical teams demonstrate a dedication and institutional maturity that yields compelling results for large enterprises, in particular. Finally, the overall Sectigo organization, while leveraging the resources of a large company, demonstrates a nimble global operation aligned around a single undertaking, with impressive agility.

### **COVID-19 Contingences Underline Value Proposition**

During the course of the COVID-19 pandemic, during which millions of businesses and employees shifted to remote work and adapted to new protocols, Sectigo has supported customers with express service to meet the unique demands for digital identity management. Sudden changes in work environments and processes underline the value proposition of Sectigo's digital certificate approach, including the Sectigo Certificate Manager at the heart of the Digital Identity Management Platform. Discovering that many

customers were encountering severe obstacles to business continuity and productivity, such as inaccessible data centers, extra time and potential delays inherent in physically shipping hard tokens, or lost or forgotten usernames/passwords for authentication, Sectigo has ensured 24/7/365 service delivery and support for its customers adapting to the remote-first landscape.

Working consultatively to streamline operations and make it easy for teams without expertise in this technical area, Sectigo helps customers by delivering PKI-based certificates via the cloud with intuitive user experience. Sectigo's certificate-based authentication does not require learning new processes; a PKI-based identity certificate replaces passwords to enable remote provisioning with automation and built-in scalability. Rather than sending out physical tokens to employees (which may take several days to arrive and even longer for recipients to open packages) or relying on cumbersome short messaging service multi-factor authentication, Sectigo's digital certificates offer a simplified user experience with PKI-based identity certificates and serve as the strongest form of identity authentication. Moreover, using Sectigo's ACME-based solution includes auto-renewal mechanisms to allow customers to maintain peace-of-mind and never worry about expired certificates.

### *Conclusion*

As the number of encrypted communications (between servers and consumers/endpoints) mushrooms and the lifecycle of secure certificates shortens, enterprises need help with the complexity and volume of managing transport layer security (TLS) certificates. With a forward-looking vision and roadmap, Sectigo delivers a remarkably comprehensive and robust set of solutions that enable systems administrators to work effectively. Leveraging automation and open-source integration toolsets, Sectigo's portfolio furnishes a single pane of glass management that minimizes friction and maximizes ease of use to achieve massive scalability. Prioritizing innovation, the company consistently supplies advanced and future-forward tools. Sectigo's team represents an exceptionally experienced and institutionally mature foundation, and the workflow disruptions wrought by the COVID-19 pandemic only serve to underline the company's value proposition, the robust functionality of its feature set, and its customer-first orientation.

With its strong overall performance, strategic focus on innovation, and robust solution set that automates and simplifies certificate lifecycle management, Sectigo earns Frost & Sullivan's 2020 Global Competitive Strategy Innovation and Leadership Award in the TLS certificates market.



## Significance of Competitive Strategy Innovation and Leadership

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



## Understanding Competitive Strategy Innovation and Leadership

Driving demand, brand strength, and competitive differentiation play critical roles 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 Strategy Innovation and Customer Impact according to the criteria identified below.

### *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.

## 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>• Announce 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.



## 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>.