

F R O S T & S U L L I V A N

FROST & SULLIVAN BEST PRACTICES AWARD

NETWORK TRAFFIC ANALYSIS - NORTH AMERICA

Visionary Innovation Leadership 2019

AWAKE

FROST & SULLIVAN

2019

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Contents

| | |
|---|----|
| Background and Company Performance | 3 |
| <i>Industry Challenges</i> | 3 |
| <i>Focus on the Future and Best Practices Implementation of Awake Security</i> | 3 |
| <i>Conclusion</i> | 6 |
| Significance of Visionary Innovation Leadership | 7 |
| Understanding Visionary Innovation Leadership | 7 |
| <i>Key Benchmarking Criteria</i> | 8 |
| Best Practices Recognition: 10 Steps to Researching, Identifying, and Recognizing Best Practices..... | 9 |
| The Intersection between 360-Degree Research and Best Practices Awards..... | 10 |
| <i>Research Methodology</i> | 10 |
| About Frost & Sullivan | 10 |

Background and Company Performance

Industry Challenges

Enterprises continuously focus on cybersecurity as breaches and hacks regularly adapt to defensive maneuvers. As cybercriminals grow more sophisticated, they create and deploy more complex attacks through evolving tactics, techniques, and procedures (TTPs) that are difficult for conventional cybersecurity solutions to detect. Such TTPs simulate and abuse insider privileges; thus, they do not exhibit any abnormal activities, enabling them to go unnoticed by traditional network traffic analysis (NTA) solutions. In response to this threat, organizations are adopting more advanced solutions to protect their critical assets against such cyberattacks.

While data security and device usage policies are a major concern for security teams, they are also a management concern as the Internet of Things (IoT) and bring-your-own-device (BYOD) practices increase. Cybersecurity budgets are growing globally among every industry vertical. With increased cybersecurity funding, more startups have emerged in the space and leveraged advanced technologies to develop solutions that help enterprises improve their security resiliency.¹

Artificial intelligence (AI) and machine learning (ML) are adopted widely across industries due to the multifaceted benefits that the technologies deliver. Such sectors include healthcare, education, information and communication technologies, logistics, maritime, aviation, aerospace and defense, entertainment, and gaming. The cybersecurity industry widely uses AI and ML, by both hacking and security companies, making the security landscape more complex. Many organizations, regardless of size, face significant challenges in their daily security operations, and they report the threat management costs—threat detection and response—are too high. AI-driven cyberattacks continue to increase in number and frequency, requiring security professionals to use more advanced technologies to combat such malicious attacks.

Currently, the complex challenges in security operation suggest the need for a more intelligent, adaptable, scalable, automated, and predictive security strategy to address continuously evolving threats more effectively. Security companies increasingly develop AI and ML-equipped solutions to strengthen their competitiveness. AI and ML enable a smarter, more proactive, and automated approach to cyber defense, from threat prevention, risk detection/hunting, or vulnerability response, to predictive security strategy.²

Focus on the Future and Best Practices Implementation of Awake Security

Founded in 2014, Santa Clara, California-headquartered Awake Security develops advanced NTA solutions to protect the hybrid cloud. The Awake Security Platform uses AI and ML capabilities to detect and visualize behavioral mal-intent and policy compliance violations across core, perimeter, cloud, Internet of Things and operational technology networks. The solution provides comprehensive forensics reporting with context, enabling

¹ *Envisioning the Next Generation Cybersecurity Practices* (Frost & Sullivan, December 2018)

² *Artificial Intelligence (AI)-based Security Industry Guide* (Frost & Sullivan, September 2019)

operators to understand and remediate network vulnerabilities with ease. Awake Security serves clients in various industries, such as oil and gas, pharmaceutical, banking and finance, telecommunications, and many more.

Innovative Network Traffic Analysis Technology

The Awake Security Platform discovers, profiles, and classifies network devices, users, domains, and applications (apps) by analyzing, processing, and monitoring network traffic—including layer 2 through layer 7 network data—and performs encrypted traffic analysis. The company's platform is one of the only technologies on the market that provides clients with a detailed analysis to help secure their ecosystem from attacks targeting traditional and cloud infrastructure, bring-your-own-devices, contractors, and third party systems, as well operational technology and IoT systems. The platform significantly differentiates through its human brain simulation, which combines the technology's accuracy and speed with the concept of human expertise and learning. The autonomous AI and ML solution learns through repeated network traffic data exposure and uses the information to improve the network's security posture by identifying threats before system damage occurs. Importantly, Awake does not rely on traditional baselining of behaviors, but instead compares behaviors across similar devices and the broader set of entities in the organization. This enables rapid time-to-value and avoids the false positives and negatives seen with solutions that use just unsupervised machine learning. Independent testing proves out the value of this approach and shows Awake is more than twice as accurate and produces almost 1500% less noise than the competition.

Moreover, the company's platform not only focuses on typical hacking indicators of compromise, but it also detects behavioral threats, including attacker TTPs that mimic an employee accessing the ecosystem, non-malware threats, and employees that are actually acting maliciously. In fact, independent testing shows the Awake Security Platform offers 2.5X better detection than the competition.

Awake Security designed its advanced solution with three components—Awake Sensors, Awake Nucleus, and Ava—that enable clients to obtain unmatched actionable insight and detect and remediate network threats.

Awake Sensors continuously monitor on-premise, cloud and remote devices, users, and apps while storing gathered data where it was collected to provide clients with superior privacy and compliance. The sensors' data storage method also enables the Awake Security Platform to refer to previous activities and learn how to combat more advanced threats over time, providing security teams with high visibility of the ecosystem. Awake Nucleus employs what Awake Sensors learn and offers security operators actionable intelligence by constantly translating and monitoring entity behaviors and attributes with autonomous threat hunting models to detect various hacker techniques. Moreover, the capability automatically provides security teams with in-depth forensic and investigation data, allowing operators to remediate threats rapidly.

Ava, Awake Security's privacy-aware security expert system, is the first-of-its-kind in the world. The system enables clients to stay ahead of ever-evolving attacker techniques by providing security teams with threat research, autonomous hunting and investigations, as

well as expertise on demand. Ava leverages global and industry-specific data and playbooks to correlate threats into connected incidents and then triages and prioritizes those by risk enabling security operators to remediate the most harmful threats quickly. Moreover, the Awake Security Platform is an optimal solution for organizations that require high levels of data privacy or must meet strict industry compliance standards—e.g., healthcare facilities—as Ava monitors network activity without requiring it to be decrypted. Awake is a pioneer in the use of encrypted traffic analysis that relies on artificial intelligence to identify malicious intent without peeking at the underlying payloads.

The company also offers Awake Security's Compromise Assessment tool for free for four weeks. This assessment searches for network threats across an organization's entire ecosystem, including information technology, operational technology, on-premise, or cloud environments. The company offers the tool's users a comprehensive risk assessment report and an Awake Security expert to explain the network threats and provide remediation recommendations.

Revolutionary Technology Meeting Client and Market Demands

Customers can use the company's NTA platform directly or as a product-as-a-service offering—i.e., Awake Security experts detect threats on the client's behalf. The company deploys its solutions in a few hours, which enables clients to begin detecting and responding to threats quickly; competing technologies usually require weeks or months for technology implementation. The company's customers praise Awake Security for its innovative, cost-saving technology:

"The behavior-based machine-learning that they do incorporate is really impressive. It's the primary reason why we picked up the product. It gives us high-fidelity, anomaly-based detections."

—Senior Security Engineer, Pharma/BioTech Company

"The Awake Security Platform has exceeded our expectations and empowered us to secure our connected workplace more effectively and autonomously than ever."

—Rich Noguera, CISO, Yapstone

"With Awake, we not only adopt great technology but also their decades of security expertise. This empowers our team to prioritize the devices, users, and applications at risk, understand the threats targeting those and sets us up for quick, effective response."

—Toby Farrand, VP Engineering and Operations, Ooma

"When you compare the cost of hiring and retaining a sophisticated analyst, the Awake Security Platform pays for itself in a matter of months and goes on to save me money, longer-term. In addition, finding an analyst of that caliber in this market can be a challenge in itself."

—CISO, Oil and Gas Company

Awake Security's advisory board includes individuals with in-depth knowledge and expertise in AI, ML, cybersecurity, and network analytics. Moreover, in early 2019, Awake Security announced its technology alliance program, which enables the company to collaborate with innovative cybersecurity solutions vendors to generate a comprehensive security toolset. Awake Security's partnerships allow clients to increase their organization's security posture while saving security teams' valuable time. The company's partners include world-renowned brands, such as AWS, Carbon Black, Demisto, Gigamon, Google, Ixia, Microsoft, SentinelOne, Splunk, and Webroot.

Conclusion

With the ever-evolving threat landscape, organizations must protect their changing ecosystems across on-premise and cloud with superior cybersecurity solutions. Awake Security performs network traffic analysis to secure a client's ecosystem through artificial intelligence and machine learning capabilities while mimicking how the human brain learns. The company's solution monitors and detects abnormal behaviors across the entire infrastructure and provides actionable intelligence, enabling security operators to remediate threats rapidly. Awake Security receives high praises from clients for its revolutionary time and cost-saving technologies.

With its innovative technology, high customer satisfaction, and strong overall performance, Awake Security earns Frost & Sullivan's 2019 North America Visionary Innovation Leadership Award in the network traffic analysis industry.

Significance of Visionary Innovation Leadership

A Visionary Innovation Leadership position enables a market participant to deliver highly competitive products and solutions that transform the way individuals and businesses perform their daily activities. Such products and solutions set new, long-lasting trends in how technologies are deployed and consumed by businesses and end users. Most important, they deliver unique and differentiated benefits that can greatly improve business performance as well as individuals' work and personal lives. These improvements are measured by customer demand, brand strength, and competitive positioning.



Understanding Visionary Innovation Leadership

Visionary Innovation is the ability to innovate today in the light of perceived changes and opportunities that will arise from Mega Trends in the future. It is the ability to scout and detect unmet (and as yet undefined) needs and proactively address them with disruptive solutions that cater to new and unique customers, lifestyles, technologies, and markets. At the heart of visionary innovation is a deep understanding of the implications and global ramifications of Mega Trends, leading to correct identification and ultimate capture of niche and white-space market opportunities in the future.

Key Benchmarking Criteria

For the Visionary Innovation Leadership Award, Frost & Sullivan analysts independently evaluated two key factors—Focus on the Future and Best Practices Implementation—according to the criteria identified below.

Focus on the Future

- Criterion 1: Focus on Unmet Needs
- Criterion 2: Visionary Scenarios through Mega Trends
- Criterion 3: Growth Pipeline
- Criterion 4: Blue Ocean Strategy
- Criterion 5: Growth Performance

Best Practices Implementation

- Criterion 1: Vision Alignment
- Criterion 2: Process Design
- Criterion 3: Operational Efficiency
- Criterion 4: Technological Sophistication
- Criterion 5: Company Culture

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

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