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2020 BEST PRACTICES AWARD



Tempered

2020 NORTH AMERICAN
NETWORK SECURITY AND REMOTE ACCESS
TECHNOLOGY INNOVATION LEADERSHIP AWARD

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Background and Company Performance

Industry Challenges

Network security is obviously crucial for any business in any industry due to the current move to digitalize information. The shift toward a distributed workforce, cloud, and the proliferation of Internet of Things (IoT) devices infrastructure require greater mobility and better security. This trend, however, unfortunately leads to increased complexities within the network - and can often leave organizations highly vulnerable to sophisticated cyberattacks.

TCP/IP was designed over 45 years ago and is the foundation of the Internet; however, the fundamental problem with this protocol is that it lacks the basic mechanism for security, mobility, and trusted authentication. As a result, devices connected to the network are vulnerable to cyberattacks that could severely damage an organization's infrastructure. IT teams are taking countermeasures to address the security shortcomings on the network through traditional solutions, such as virtual private networks (VPNs), virtual local area networks (VLANs), access control lists (ACLs), and firewalls. These traditional solutions, however, pre-date modern security threats and are not designed to address the complexity and scale of modern networks. Furthermore, traditional solutions are quite complex and time consuming, requiring ongoing change management and significant resources. Such hindrances appear more with the increase in the number of devices connected to the network, which is even worse for IoT devices; traditional networking and security solutions just weren't built for the volume and variety of IoT devices. As such, Frost & Sullivan points out that properly securing these IoT endpoints is a huge challenge for enterprises.

Frost & Sullivan's own research indicates that traditional IP-based networking is simply not adequate to ensure today's network security needs, which can be solved with a zero trust-based network architecture model that is based on cryptographic identities.

Technology Leverage and Business Impact

Commitment to Innovation and Technology Incubation

Host identity protocol (HIP) is an open standard network security protocol that the Internet Engineering Task Force (IETF) has recognized as the next paradigm shift in networking that can solve the underlying flaws of TCP/IP around mobility and identity.

Founded in 2014, Tempered, a US-headquartered startup, is the first to offer a HIP-based secure networking platform. Frost & Sullivan regards the company as an innovative pioneer in providing a true zero trust software-defined perimeter, based on HIP, which addresses the fundamental identity problem in IP networking. Unlike other networking and security technologies, Tempered's platform is purpose-built to simplify the management of enterprise networks across any infrastructure, from the data center to the home office to the IoT edge. The startup was co-founded by David Mattes and Jeff Hussey, who formally helped launch F5 Networks and now serves as Tempered's CEO. In addition, Jeff is a successful entrepreneur and has a proven track record in the networking and security markets.

Tempered's Airwall solution creates a unique cryptographic identity for every endpoint in the network and replaces the traditional method of an IP address as an identifier. The cryptographic identity-based approach helps organizations connect devices instantly and segment devices according to identity-based micro-segmentation, thus attaining next-level network security in the infrastructure. Frost & Sullivan notes that one of the key advantages of Tempered's approach, compared to other competitors, is that it significantly reduces the attack surface. Even if a breach occurs, it cannot spread laterally, as the security is based on the device identity. Tempered's holistic network security solutions deliver fast, flexible, and scalable protection for devices that are located anywhere worldwide. These solutions are the most extensible in the industry and can be deployed in ways that are compatible with any device, without disrupting operations. Moreover, Tempered's solutions are cost effective and extremely easy to deploy across physical, virtual, and cloud environments, compared to firewalls and VPNs. All of these features enable global suppliers, vendors, and employees with secure remote access in any circumstance.

Furthermore, Tempered's solutions deliver better network security with less complexity and do not require separate networking and security policies. The company's Airwall platform creates natively secure and segmented networks that can significantly simplify the network's management needs, making IT teams more productive. These features help Tempered's customers lower their operational and capital expenditures. The company's core product, Airwall™, makes devices invisible across the network, protects critical physical infrastructures from cyber threats, and enables secure remote access.

Frost & Sullivan observes how the startup has been improving its solutions to properly accommodate the growth of IoT devices. As a part of these efforts, the company recently announced new hardware and software enhancements to its Airwall platform, designed to safeguard data, applications, and devices across remote, cloud, and IoT environments. Furthermore, the company continues to build technology alliances with vendors building secure systems for Smart Buildings, which is expected to help Tempered strengthen its offerings for IoT network security environments even further.

Application Diversity

Tempered's native zero-trust secure networking solution serves a range of industries, including smart buildings, government, healthcare, manufacturing, financial services, education, and energy (e.g., oil drillers and electrical substations). Tempered helps customers achieve total invisibility and foolproof their networks against threat vectors, without requiring forklift upgrades to the underlying network.

The following are case studies that nicely validate the company's unique network security capabilities:

The facilities Automation Services (FAS) support services group at The Pennsylvania State University needed to unify and segregate plant services across the university's buildings statewide. The requirement was seemingly impossible to accomplish, because the university shared infrastructure with over 640 buildings, featured no isolation, and was exposed to thousands of attack vectors. Relying on VPN-based network security was

difficult due to the university's large vendor ecosystem, with the complicated and ineffective manual configuration of remote VPN access for outside vendors. The FAS group deployed Tempered's Airwall solution on its own, and within 20 minutes, it connected, isolated, and cloaked the building controls across the entire infrastructure and segmented network access controls for employees, clients, and vendors. All these operations were achieved without having to modify existing systems or infrastructures. With the Airwall solution, the FAS group witnessed significant hardware cost savings and ten times faster deployment than with alternative solutions in the industry. Furthermore, Airwall helped the university reduce its attack surface by 90%, reduce alarms by 50%, and easily connect new remote buildings.

A global five-star casino resort developer and operator, did not have a simple way to deliver VPN remote access to the corporate network for executives and employees. The network communication between remote teams and main office sites was not secured through encryption based on complexities and the larger number of service set identifiers (SSIDs). The resort group's IT teams were already stretched thin and realized that the traditional VPN-based solution would be unable to simplify things and would instead make them more complicated. The resort group deployed the Airwall solution on its network infrastructure - without ripping and replacing the existing network. The combination of Airwall's software and hardware solutions, powered by Tempered's industry-leading HIP, segmented and encrypted all communication between devices, applications, and databases. Furthermore, Tempered's solutions enabled remote access for workers offsite and worldwide. With little guidance from Tempered, the resort group conducted most of the network security work itself due to the simple and less expensive features of the Airwall solution.

With such capabilities, Frost & Sullivan analysts agree that Tempered's zero-trust secure networking solutions are poised to cater to a wide range of customers across various industry verticals.

Financial Performance and Growth Potential

Tempered has attracted funding from well-known venture capitalists in the market. To date, the company has raised \$56.1 million in funding led by Ignition Partners, IDG Ventures, Fluid Capital Group, Ridge Ventures, and Rally Capital Services. Recent funding activity in 2019 raised \$17 million for investing in engineering resources, forging strategic partnerships, and aggressively expanding the company's offerings into new geographies. Frost & Sullivan research shows that Tempered can truly impact the industry, especially in the North American, Asian, and Middle Eastern network security markets. With its advanced platform and unique value proposition, the company is spurring investor confidence and boosting revenues.

Tempered's recent strategic partnership with Grosvenor Cyber Solutions is a great example of the company's concerted effort on market expansion. This partnership will help Tempered launch its HIP-based secure networking and unique remote access capabilities in Australia and New Zealand (ANZ region), especially in the IT/OT and building automation system (BAS) space. Grosvenor Cyber Solutions has over \$2 billion in assets

under management across more than 20,000 buildings and is the first company in the ANZ region to partner with Tempered. This partnership is certainly boosting Tempered's network security solutions in this region.

Customer Acquisition

The 55-person startup has already acquired more than 100 customers across multiple regions, mostly from North America, but with a handful from the Middle East and Asia. Tempered's unique selling proposition empowers customers to safeguard their network infrastructure and provide safer remote access, without disrupting operations. Tempered's modern approach exceeds the restrictive and tedious rules of IP networking, thus empowering IT staff to focus more on strategic business initiatives.

With the COVID-19 pandemic creating a strong demand for a remote-work climate, companies are looking for innovative solutions, such as Tempered's Airwall, that can make their networks invisible to hackers and provide safer remote access than with expensive legacy network security solutions in the market. Frost & Sullivan analysis confirms that the shift toward remote working as a norm would significantly increase Tempered's customer base in the short term.

Conclusion

Frost & Sullivan applauds the way that Tempered has developed an innovative solution that solves networking and security problems better than traditional network security solutions. Tempered has a distinct competitive edge in that it provides the industry's first HIP-based network security solution – a true paradigm shift in the network security space.

Through its pioneering IDN based on HIP and cryptographic identities, Tempered helps customers set up a truly native zero-trust network architecture that can make the entire network and all devices invisible to cyber threats and hackers. Furthermore, the company's strong commitment to delivering simple and less expensive network security solutions enables customers to secure their remote access in any circumstances worldwide. The company's solutions are easily deployable and comparatively less expensive than other solutions from legacy network security solution providers.

With its strong overall performance, Tempered has earned the 2020 Frost & Sullivan Technology Innovation Leadership Award.

Significance of Technology Innovation Leadership

Technology-rich companies with strong commercialization strategies benefit from the demand for high-quality, technologically innovative products that help shape the brand, resulting in a strong, differentiated market position.



Understanding Technology Innovation Leadership

Technology innovation leadership recognizes companies that lead the development and successful introduction of high-tech solutions to customers' most pressing needs, altering the industry or business landscape in the process. These companies shape the future of technology and its uses. Ultimately, success is measured by the degree to which a technology is leveraged and the impact it has on growing the business.

Key Benchmarking Criteria

For the Technology Innovation Leadership Award, Frost & Sullivan analysts independently evaluated 2 key factors (Technology Leverage and Business Impact) according to the criteria identified below.

Technology Leverage

- Criterion 1: Commitment to Innovation
- Criterion 2: Commitment to Creativity
- Criterion 3: Technology Incubation
- Criterion 4: Commercialization Success
- Criterion 5: Application Diversity

Business Impact

- Criterion 1: Financial Performance
- Criterion 2: Customer Acquisition
- Criterion 3: Operational Efficiency
- Criterion 4: Growth Potential
- Criterion 5: Human Capital

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 practices 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 world	<ul style="list-style-type: none"> • Conduct in-depth industry research • Identify emerging industries • Scan multiple regions 	Pipeline of candidates that potentially meet all best practices 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 practices 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 practices 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 practices 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 practices 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 practices criteria
9 Communicate recognition	Inform Award recipient of recognition	<ul style="list-style-type: none"> • Announce 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 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 the 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, resulting in 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, helps clients 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 nearly 60 years of experience in partnering with Global 1000 companies, emerging businesses, and the investment community from 45 offices on 6 continents. To join Frost & Sullivan's Growth Partnership, visit <http://www.frost.com>.