FROST & SULLIVAN

BEST PRACTICES

2026 GLOBAL ANTI-DDOS COMPETITIVE STRATEGY LEADERSHIP

NSFOCUS

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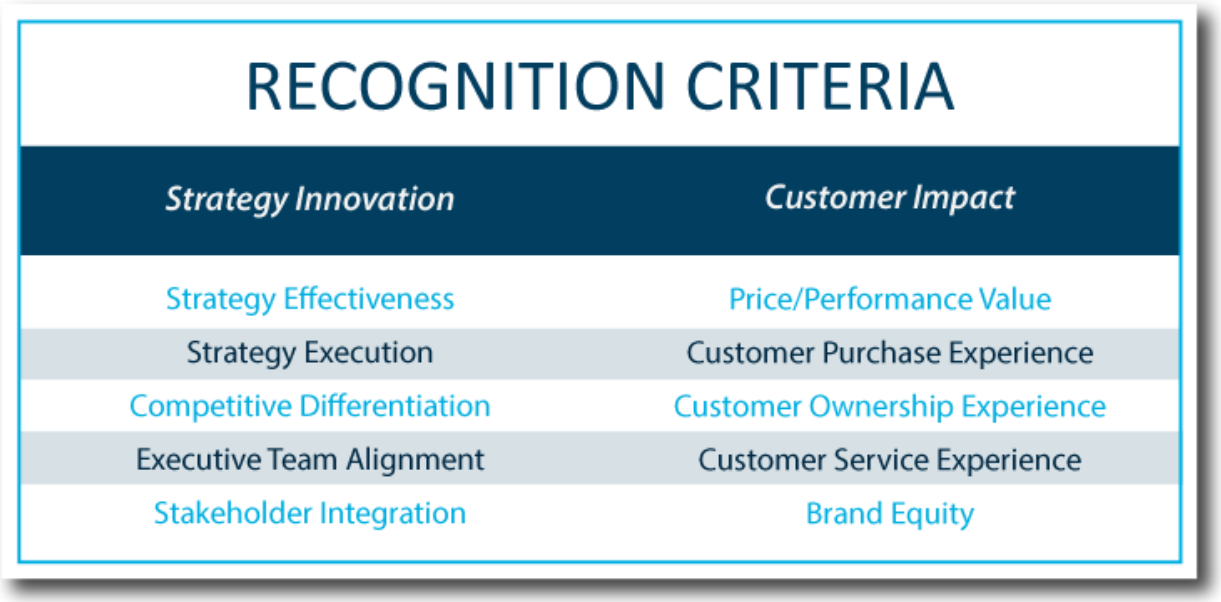
Best Practices Criteria for World-Class Performance

Frost & Sullivan applies a rigorous analytical process to evaluate multiple nominees for each recognition category before determining the final recognition recipient. The process involves a detailed evaluation of best practices criteria across two dimensions for each nominated company. NSFOCUS excels in many of the criteria in the anti-DDoS space.



The Changing Dynamics of Global DDoS Protection

The global anti-distributed denial-of-service (DDoS) market has evolved from defending small-scale volumetric floods to confronting large-scale, multi-vector attack campaigns. DDoS attack volumes surge by about 150% year over year. The largest recorded attack reached 31.4 terabits per second (Tbps), while most attacks peaked between 1 and 5 Tbps. Botnets have escalated too, with one controlling over 260,000 Internet of Things and small office/home office devices as of June 2024, enabling campaigns with massive distributed traffic sources.

Structural pressures compound these threats. On the workforce side, the United States government and academic sources estimate a global cyber talent shortage of 164,000 to 3.5 million roles.[1] Given these circumstances, operational false positives remain a critical risk. One study achieved only a 1.3% false-positive rate using improved clustering methods on an intrusion detection dataset, underscoring the difficulty of accurately distinguishing legitimate from malicious traffic at scale.[2]

Geopolitical escalation is another driver. Scholarly analysis shows that state-sponsored cyber activities mirror physical conflicts, with public incident databases documenting frequent attacks timed to events like elections or regional unrest. DDoS campaigns have become a component of hybrid warfare, exploiting high-velocity bursts to disrupt critical services during sensitive geopolitical moments.[3]

[1] https://ncses.nsf.gov/760/assets/0/files/ncses-cwdi-supply-demand-report.pdf
[2] https://scholarworks.waldenu.edu/dissertations/11146/
[3] https://www.nature.com/articles/s41599-025-04897-7

In response, the market has shifted dramatically toward hybrid, automated, and service-oriented defenses. Hybrid models (including intelligent layering of on-premises systems and cloud scrubbing) together with artificial intelligence (AI)-assisted anomaly detection, hardware acceleration, and closed-loop operational learning, are now central to balancing scale, precision, and cost. These approaches are essential in reducing manual effort while maintaining low-latency protection.

NSFOCUS leads this transformation, offering a carrier-grade hybrid anti-DDoS portfolio including anti-DDoS System (ADS), network traffic analyzer (NTA), ADS manager (ADSM), cloud DDoS protection service (DPS), and managed security service (MSS). Its integration of hardware acceleration, AI-enriched detection, and security operations center (SOC)-led operations address rising scale, cost, staffing constraints, and threat sophistication.

Strategy Built for Real-world Anti-DDoS Operations

Founded in April 2000, NSFOCUS is an established cybersecurity company with over 25 years of industry experience. The company operates globally with over 4,000 employees, dual headquarters in Beijing, China, and more than 50 offices worldwide, including its international business headquarters in Milpitas, California. NSFOCUS protects four of the 10 largest global telecommunications companies and four of the five largest global financial institutions, reflecting its strong positioning in high-stakes, infrastructure-grade environments.

> *"NSFOCUS aligns its competitive roadmap directly with the operational realities of the global anti-DDoS market, where customers continue to operate across on-premises, hybrid, multi-cloud, and edge environments longer than originally planned. Contrary to pushing a single deployment model, the company structures its anti-DDoS strategy around architectural flexibility, unified policy control, and consistent operational workflows across regions."*
>
> ***- Rabin Dhakal***
> ***Best Practices Research Analyst***

NSFOCUS aligns its competitive roadmap directly with the operational realities of the global anti-DDoS market, where customers continue to operate across on-premises, hybrid, multi-cloud, and edge environments longer than originally planned. Contrary to pushing a single deployment model, the company structures its anti-DDoS strategy around architectural flexibility, unified policy control, and consistent operational workflows across regions. The company continuously invests in its hybrid portfolio delivered by NSFOCUS SOC experts, enabling customers to adopt protection models that fit their existing networks. With over 200,000 customers globally, including telecom carriers, cloud service providers, managed security service providers, and large enterprises, the company has built a reputation for sustaining business availability under real-world attack conditions.

NSFOCUS expertly operationalizes and executes its strategy at scale. The company embeds AI-assisted security operations into its anti-DDoS roadmap, focusing on automated attack classification, clustering of multi-vector patterns, mitigation recommendations, and incident summarization. Moreover, it explicitly prioritizes explainability and evidence behind AI-driven decisions. NSFOCUS designs this approach to shorten the mean time to respond, reduce false positives, and preserve low-latency service delivery, particularly for latency-sensitive industries (e.g., finance, gaming, and e-commerce). Importantly, the company positions AI as an operational enabler, allowing customers to validate actions, retain policy-level control, and meet audit and reporting expectations.

The company reinforces its service strategy through a carrier-grade operating model and repeatable delivery frameworks. In deployments with telecom operators, NSFOCUS established in-country scrubbing capacity, integrated mitigation workflows directly into operator networks, executed joint runbooks supported by 24/7 monitoring, defined service-level agreement (SLA) and key performance indicator structures, and regular validation activities.

Together, these elements demonstrate a well-conceived tactic consistently executed through operational maturity, scalable architectures, and closed-loop learning from real-world incidents. Frost & Sullivan commends NSFOCUS for its clearly articulated competitive strategy, which aligns hybrid, on-premises, and cloud anti-DDoS capabilities with tangible operational requirements and delivers repeatable outcomes at a global scale.

Engineering Competitive Advantage through Scale, Precision, and Control

NSFOCUS combines carrier-grade mitigation capacity with operational practicality, creating barriers to entry that are difficult for competitors to replicate. ADS is the foundation of this differentiation; its high-end models deliver mitigation capacity of up to 1 Tbps per appliance and support cluster deployment for scale-out environments. The company designs this architecture for internet service providers and large-enterprise networks where bursty traffic patterns and extreme volumetric attacks are common, allowing customers to scale capacity predictably. This stateless design further enables consistent performance when handling highly concurrent attack traffic, preserving service stability under sustained attack conditions.

NSFOCUS further differentiates itself through software-hardware co-design, including support for field-programmable gate array-enabled network interface cards on released ADS models. By offloading critical filtering rules to hardware, the company accelerates line-rate traffic filtering with deterministic low latency performance, particularly under high packet per second and bursty attack scenarios. This approach reduces central load, preserves system headroom for advanced processing, and delivers more predictable performance for customers operating under strict SLA requirements. Unlike software-only mitigation approaches, this combination of hardware acceleration and flexible policy control results in stable, measurable mitigation outcomes during real-world attacks.

Beyond volumetric defense, NSFOCUS distinguishes itself through advanced protection against Layer 7 and distributed stealth DDoS attacks. ADS incorporates granular detection and enforcement capabilities, such as Secure Sockets Layer/Transport Layer Security keyword-based inspection leveraging protocol metadata, domain name system subdomain whitelisting with dynamic self-learning, and a dedicated carpet-bombing mitigation algorithm designed to suppress low-rate, widely distributed attacks across multiple targets. The platform also provides encrypted traffic protection without decryption, leveraging behavioral analytics and protocol characteristics to enhance detection accuracy while avoiding the operational risks and overhead associated with traffic decryption.

NSFOCUS's approach to operational intelligence and service enablement bolsters its competitive edge. Platforms such as Active Defense Business Operation System (ADBOS) and MagicFlow traffic analytics platform extend differentiation beyond mitigation into centralized operations, visibility, and monetization. ADBOS facilitates role-based access control, billing model definition, and service

specification, allowing customers to resell DDoS mitigation as a managed service. MagicFlow consolidates traffic direction analysis, DDoS posture monitoring, attack traceback, and border gateway protocol routing anomaly detection into a single operational view, supporting faster situational awareness and response.

Frost & Sullivan is impressed with NSFOCUS's ability to differentiate through enterprise-class mitigation capacity, advanced Layer 7 protection, and software–hardware co-design, creating defensible advantages that are difficult for competitors to replicate in live operating environments.

Delivering Exceptional Anti-DDoS ROI at Global Scale

NSFOCUS delivers strong value in the global anti-DDoS market by focusing on total cost of ownership rather than headline pricing, aligning technical capability, operational efficiency, and deployment flexibility with customer realities. The company's strategy allows customers to choose between on-premises ADS, hybrid architectures combining ADS and NTA with Cloud DPS, or fully service-led models supported by NSFOCUS MSS, enabling organizations to match spend precisely to architecture, traffic profile, and risk tolerance. This flexibility helps customers avoid forced over-investment in capacity or cloud usage that does not align with their operational needs.

From a performance perspective, NSFOCUS's top-notch mitigation capability lowers long-term costs. The stateless architecture of ADS enables consistent handling of large-scale, highly concurrent attack traffic without limiting session counts, lowering the need for excess hardware or parallel systems. This combination of scale and efficiency allows customers to achieve strong protection outcomes with fewer infrastructure components, directly improving return on investment.

Operational efficiency further strengthens NSFOCUS's price-performance ratio. The company invests systematically in AI-assisted security operations, including automated attack classification, clustering of recurring multi-vector patterns, recommendations for mitigation actions, and streamlined incident summarization. By minimizing manual triage and accelerating response, these capabilities lower ongoing staffing requirements and operational workload. Customers benefit from faster stabilization during attacks and less day-to-day effort to maintain effective protection, resulting in measurable reductions in operating costs without sacrificing accuracy or latency.

Lifecycle economics are also a core component of NSFOCUS's value proposition. The company offers tech-refresh programs that allow customers to upgrade hardware at preferential pricing as traffic volumes and threat profiles evolve. This approach reduces upgrade friction, limits capital expenditure spikes, and helps customers maintain up-to-date protection capabilities while preserving budget predictability. Combined with flexible licensing options across ADS, NTA, and virtual deployments, this lifecycle model supports smoother long-term investment planning and improves total cost of ownership over multi-year deployments.

Frost & Sullivan recognizes NSFOCUS for delivering excellent value by combining high-capacity mitigation, operational efficiency, and flexible deployment models that optimize total cost of ownership without compromising protection effectiveness.

Operational Trust as the Foundation of Customer Experience

NSFOCUS delivers a coherent and confidence-driven customer experience across the full lifecycle, from initial evaluation through long-term ownership and ongoing service engagement. The company structures evaluations around well-defined proof-of-concept success criteria and transparent sizing methodologies, helping customers avoid over- or under-provisioning of ADS, NTA, or Cloud DPS.

Customer ownership experience is strongly shaped by how NSFOCUS performs during real-world DDoS incidents. Across global deployments, customers consistently experience stable mitigation with minimal service disruption, reinforcing trust in day-to-day operations. In one Cloud DPS case, the company mitigated a sustained sequence of attacks over four days, including traffic spikes reaching 399.2 gigabits per second (Gbps) and 360 Gbps, blocking more than 99.8% of malicious traffic and allowing only a few megabits to reach the customer network. Mitigation occurred automatically at zero seconds upon attack arrival, and services were not affected. These outcomes directly influence customer confidence, as protection effectiveness is validated under the most demanding conditions.

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>
> ***- Vivien Pua***
> ***Senior Industry Analyst***

NSFOCUS operates a SOC-led, programmatic service model, treating anti-DDoS as an ongoing operational discipline. Customers benefit from structured onboarding, standardized incident runbooks, clear escalation paths, and around-the-clock monitoring by NSFOCUS SOC experts. During incidents, the company maintains communication through defined processes, and after mitigation, customers receive actionable reporting and tuning recommendations. This service approach is reinforced by periodic governance meetings, as seen in global enterprise and telecom deployments, where policies are proactively fine-tuned to reflect evolving traffic patterns and business priorities.

Consistency across regions is another defining element of NSFOCUS's customer experience. For multinational customers and service providers, the company focuses on delivering the same service quality, reporting standards, and operational workflows regardless of geography. Deployments supported by Cloud DPS, hybrid architectures, and MSS are governed by standardized processes, enabling customers to achieve uniform protection outcomes across different countries and network environments. This consistency reduces operational uncertainty and allows customers to scale protection without retraining teams or redesigning workflows for each region.

Finally, NSFOCUS reinforces customer experience through closed-loop feedback mechanisms. Feedback collected after onboarding, major incidents, and regular service reviews is documented and fed into a shared improvement backlog spanning product, support, and service delivery teams. This structured feedback process ensures that customer experience improvements are systematic rather than ad hoc, contributing to higher renewal rates, stronger long-term relationships, and increased customer advocacy in the global anti-DDoS market.

Frost & Sullivan praises NSFOCUS for providing a predictable, confidence-driven customer experience across purchase, ownership, and service, consistently proving its value during real-world DDoS events through disciplined SOC-led operations and transparent communication.

Building Brand Trust through Proven Anti-DDoS Performance

NSFOCUS anchors its reputation in predictable outcomes, operational maturity, and credibility demonstrated during real-world incidents. Rather than relying on broad marketing claims, the NSFOCUS brand is closely associated with dependable performance under pressure, particularly in environments where service continuity and low latency are critical. The company strengthens its credibility through documented deployments and references from customers across multiple regions. NSFOCUS has a proven track record of protecting over 25% of the Fortune Global 500 companies, including four of the five largest banks and six of the world's top 10 telecommunications companies.

The brand is further strengthened by NSFOCUS's consistent association with carrier-grade operating models and large-scale deployments. Partnerships with telecom operators across multiple markets enhance the company's perception as an infrastructure-grade provider rather than a point-solution vendor. This positioning elevates brand standing among customers who prioritize operational rigor and service reliability over feature breadth alone.

NSFOCUS also emphasizes brand equity through professional enablement and operational artifacts. The use of standardized runbooks, reporting templates, reference architectures, and executive-ready incident summaries enables customers to demonstrate the maturity of their own security operations internally. This capability contributes to a sense of ownership pride and strengthens long-term brand loyalty, as customers associate the company with professionalism, transparency, and control.

Frost & Sullivan applauds NSFOCUS for building a strong global brand equity grounded in operational credibility, carrier-grade performance, and trust earned through validated outcomes in high-impact DDoS environments.

Conclusion

NSFOCUS stands out in the global anti-distributed denial-of-service (DDoS) market by demonstrating a rare combination of strategic clarity, execution maturity, and measurable customer impact. Its competitive strategy is grounded in real operational conditions, enabling protection across on-premises, hybrid, and cloud environments through anti-DDoS System (ADS), network traffic analyzer (NTA), ADS manager (ADSM), cloud DDoS protection service, and managed security service delivered by NSFOCUS security operations center experts. This approach allows customers and service providers to deploy protection models that align with existing architectures while maintaining consistent operational control.

The company boosts differentiation through carrier-grade capabilities, including mitigation capacity of up to 1 terabit per second on a single ADS appliance, field-programmable gate array-enabled performance, and advanced protection against Layer 7 and distributed stealth DDoS attacks. These capabilities translate into tangible outcomes, while strategic partnerships, including deployments with telecom operators, further validate NSFOCUS's execution discipline and ecosystem alignment.

With its strong overall performance, NSFOCUS earns Frost & Sullivan's 2026 Global Competitive Strategy Leadership Recognition in the anti-DDoS industry.

What You Need to Know about the Competitive Strategy Leadership Recognition

Frost & Sullivan's Competitive Strategy Leadership Recognition identifies the company with a standout approach to achieving top-line growth and a superior customer experience.

Best Practices Recognition Analysis

For the Competitive Strategy Leadership Recognition, Frost & Sullivan analysts independently evaluated the criteria listed below.

Strategy Innovation

Strategy Effectiveness: Effective strategy balances short-term performance needs with long-term aspirations and overall company vision

Strategy Execution: Company strategy utilizes best practices to support consistent and efficient processes

Competitive Differentiation: Solutions or products articulate and display unique competitive advantages

Executive Team Alignment: Executive team focuses on staying ahead of key competitors via a unified execution of its organization's mission, vision, and strategy

Stakeholder Integration: Company strategy reflects the needs or circumstances of all industry stakeholders, including competitors, customers, investors, and employees

Customer Impact

Price/Performance Value: Products or services offer the best ROI and superior value compared to similar market offerings

Customer Purchase Experience: Purchase experience with minimal friction and high transparency assures customers that they are buying the optimal solution to address both their needs and constraints

Customer Ownership Excellence: Products and solutions evolve continuously in sync with the customers' own growth journeys, engendering pride of ownership and enhanced customer experience

Customer Service Experience: Customer service is readily accessible and stress-free, and delivered with high quality, high availability, and fast response time

Brand Equity: Customers perceive the brand positively and exhibit high brand loyalty, which is regularly measured and confirmed through a high Net Promoter Score®

Best Practices Recognition Analytics Methodology

Inspire the World to Support True Leaders

This long-term process spans 12 months, beginning with the prioritization of the sector. It involves a rigorous approach that includes comprehensive scanning and analytics to identify key best practice trends. A dedicated team of analysts, advisors, coaches, and experts collaborates closely, ensuring thorough review and input. The goal is to maximize the company's long-term value by leveraging unique perspectives to support each Best Practice Recognition and identify meaningful transformation and impact.

		VALUE IMPACT	
STEP		WHAT	WHY
1	**Opportunity Universe**	Identify Sectors with the Greatest Impact on the Global Economy	Value to Economic Development
2	**Transformational Model**	Analyze Strategic Imperatives That Drive Transformation	Understand and Create a Winning Strategy
3	**Ecosystem**	Map Critical Value Chains	Comprehensive Community that Shapes the Sector
4	**Growth Generator**	Data Foundation That Provides Decision Support System	Spark Opportunities and Accelerate Decision-making
5	**Growth Opportunities**	Identify Opportunities Generated by Companies	Drive the Transformation of the Industry
6	**Frost Radar**	Benchmark Companies on Future Growth Potential	Identify Most Powerful Companies to Action
7	**Best Practices**	Identify Companies Achieving Best Practices in All Critical Perspectives	Inspire the World
8	**Companies to Action**	Tell Your Story to the World (BICEP*)	Ecosystem Community Supporting Future Success

*Board of Directors, Investors, Customers, Employees, Partners

About Frost & Sullivan

Frost & Sullivan is the Growth Pipeline Company™. We power our clients to a future shaped by growth. Our Growth Pipeline as a Service™ provides the CEO and the CEO's growth team with a continuous and rigorous platform of growth opportunities, ensuring long-term success. To achieve positive outcomes, our team leverages over 60 years of experience, coaching organizations of all types and sizes across 6 continents with our proven best practices. To power your Growth Pipeline future, visit Frost & Sullivan at http://www.frost.com.

The Growth Pipeline Generator™

Frost & Sullivan's proprietary model to systematically create ongoing growth opportunities and strategies for our clients is fueled 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 6 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:

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