

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

# 2024 COMPANY OF THE YEAR

*IN THE SOUTH KOREAN  
WEB APPLICATION  
FIREWALL INDUSTRY*

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

2024  
BEST  
PRACTICES  
AWARD

**Penta**SECURITY  
cloud · iot · blockchain

## 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. Penta Security excels in many of the criteria in the web application firewall (WAF) space.

AWARD CRITERIA	
<i>Visionary Innovation &amp; Performance</i>	<i>Customer Impact</i>
Addressing Unmet Needs	Price/Performance Value
Visionary Scenarios Through Mega Trends	Customer Purchase Experience
Implementation of Best Practices	Customer Ownership Experience
Leadership Focus	Customer Service Experience
Financial Performance	Brand Equity

### *Addressing Unmet Needs and Implementation of Best Practices*

The evolving threat landscape due to accelerated digitization has increased the complexity of securing organizations’ assets. Technological advancements and growing reliance on the web, mobile applications, application programming interfaces (APIs), and multicloud environments have required chief information security officers to defend against not only injection attacks such as existing SQL injection and cross-site scripting but also API, bot, and distributed denial of service (DDoS) attacks.

Many organizations in South Korea adopt WAF solutions, predominantly cloud-based WAF solutions, to protect their APIs, applications, and data in multicloud environments because they are more susceptible to cloud-related risks. Many local organizations require scalable solutions to address security issues early in the software development life cycle before deploying the applications into the production environment.

These factors boost the demand from local customers in South Korea for a comprehensive web security solution combining technologies such as API security, DDoS security, and bot mitigation in addition to the existing WAF function. Headquartered in Seoul, South Korea, Penta Security Inc. (Penta Security) has offered web and data security products and services since 1997. Compared to the intrusion prevention system or the next-generation firewall solution introduced as an alternative for web firewalls that lack comprehensiveness, Penta Security’s WAPPLES and Cloudbric WAF+ include the protection of APIs, SSL, and L7 security, meeting customers’ needs.

Penta Security's WAPPLES differentiates its WAF from other industry participants through its patented logic-based detection Contents Classification and Evaluation Processing (COCEP™) engine. Unlike WAFs based on signature-matching detection, Penta Security's WAPPLES does not rely on signature updates and lengthy learning periods. This feature allows the company to conduct security patching and fix vulnerabilities without delay.

WAPPLES utilizes logic-based rules to analyze attack patterns and filter malicious traffic. WAPPLES collects and clusters the traffic log data to learn the attack pattern when it recognizes an attack. This results in a near-zero false positive rate, which enables customers to meet their security and performance needs. The

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**– Ying Ting Neoh**  
**Industry Analyst**

COCEP™ engine is easy to use and has a self-inspection function that detects and resolves suspicious access or behavior patterns. It also has a machine learning-based regular inspection tool that allows engineers to provide the same quality maintenance to all customers. Thus, there is less reliance on security experts, research labs, or threat intelligence teams as new threats emerge without compromising accuracy.

Cloud-based WAF has recorded increasing demand, with the South Korean government and public institutions recently announcing plans to transition to public clouds. Penta Security stands out because its WAF fits different deployments, from on-premises and software appliances to cloud-based Cloudbric

WAF+. Its WAPPLES supports public cloud environments (e.g., Amazon Web Services [AWS], Microsoft Azure) and cloud environments local to Asia-Pacific (e.g., Alibaba Cloud, Kakao Cloud, NAVER Cloud, NHN Cloud). The accessibility and scalability offered by the company allow it to stand out among local customers in South Korea compared to international industry participants that do not support domestic cloud environments.

In ensuring the implementation of best practices, Penta Security meets the compliance needs in South Korea. In South Korea, the Standards for Technical and Managerial Protection Measures for Personal Information based on the Personal Information Protection Act stipulates that information and communication service providers must incorporate WAF. Meanwhile, other government and industry standards, such as the Security Verification Scheme implemented by the South Korean National Intelligence Service, ensure the quality of WAF functions to protect local customers' sensitive information across various sectors. Besides helping customers meet security standards, its WAPPLES is International Computer Security Association Labs-certified. It also has ISO 9001, 14001, and 27001 certifications issued by Korea Quality Assurance for its quality, environmental, and information security management practices.

Frost & Sullivan's analysis shows that Penta Security outshines its competitors due to its ability to understand and meet local customer needs and by providing offerings that exemplify the implementation of best practices, which have benefited its customers tremendously.

### ***Leadership Focus and Visionary Scenarios Through Megatrends***

Penta Security continues to enhance its WAF offerings by leveraging industry megatrends. The company understands customers' need for comprehensiveness beyond WAF with the shift toward web application and API protection, increased migration to cloud environments and container technology, and customers searching for integrated management to easily manage on-premises and cloud-based solutions or services.

By 2023, its COCEP™ engine-powered WAPPLES not only offered machine learning-based regular inspection and self-inspection and incorporated big data analysis but also provided a 24/365-based customer response management system and information delivery system. Its Cloudbric WAF+ performs threat internet protocol (IP) blocking based on a threat database certified by the Cyber Threat Alliance and offers provision and management of free SSL/TLS certificates based on international encryption security protocols.

The company is developing advanced API security functions (XML, JSON, YAML, GraphQL protection rules), advanced threat IP and bot reputation check functions, and more add-ons. It also strengthens the support

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environment to respond to cloud environments, for example, through the AWS Gateway Load Balancer. Given that more customers demand a service that can respond to countless web threats based on malicious IPs or black hat alternatives to GPT models like WormGPT, these advanced functions will set Penta Security apart.

Frost & Sullivan finds that Penta Security demonstrates leadership focus and visionary strategy in leveraging WAF industry megatrends in South Korea through integrations with in-house and third-party security solutions and commitment to technological

innovations to offer customers a comprehensive suite of application security portfolios. As a cybersecurity leader in the South Korean WAF space, Penta Security balances providing application security with performance.

### ***Customer Ownership and Service Experience***

Penta Security offers three service models—the on-premises application model (WAPPLES), software appliance model (WAPPLES SA), and security-as-a-service model (Cloudbric WAF+)—to make its offerings available to all business sizes. This provides customers with various deployment and service options depending on their business needs.

Backed by over 200 employees, Penta Security provides round-the-clock support to resolve customer difficulties and service failures through two online communication systems: the Incident Management System and the Information Delivery System. These systems allow customers to easily connect with security experts for in-depth technical support and accurate information. The company has also extended the preconfigured detection rules of the COCEP™ engine. It can now defend against vulnerabilities using

over 40 security rules and custom rules, enabling customers to strengthen protection and increase bandwidth for throughput efficiency. In addition, Penta Security offers customers a WAF management platform, including its WAPPLES Control Center, which remotely connects multiple WAPPLES, be they hardware or software appliances installed in various network bands; and a controllable management console that synchronizes policy and detection settings and manages system and statistic status, logging, reporting, and monitoring.

Penta Security's extensive connections and channel partners include distributors and resellers in South Korea and worldwide, such as Prospera Aswindra Teknologi, ACE Pacific Group, and R3. Besides offering local customers access to advanced technologies, world-class experience, and support, these collaborators expand Penta Security's reach in engaging with customers globally. Frost & Sullivan recognizes Penta Security's efforts to make its application security solutions accessible to different customer segments while aligning with local customer needs. This further strengthens the company's leadership position in South Korea's WAF industry.

### ***Financial Performance***

Rising data leaks and multicloud adoption expand organizations' attack surfaces, spurring the need to secure their web and mobile applications. This contributes to WAF demand in South Korea, a compliance-focused market. As a result, Penta Security's WAF solution registered healthy growth in the government; service provider; and banking, financial services, and insurance sectors in 2023. In the same year, the company successfully maintained its position in the South Korean market due to its broad portfolio and ability to retain optimal network performance after introducing WAPPLES to organizations' environments. Frost & Sullivan estimates that Penta Security leads the South Korean WAF industry with over 50.0% of the market share.

### **Conclusion**

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Owing to steady business performance in 2023, Penta Security has positioned itself as an industry leader in South Korea. The company's visionary strategy is based on its commitment to implementing best practices and leveraging the cloud industry's rapid growth to develop cloud-based WAF, a valuable addition to its application security portfolio and growth pipeline. Diversified offerings and go-to-market strategies enable Penta Security to uphold its brand value while fostering strong customer relationships.

With its strong overall performance, Penta Security earns Frost & Sullivan's 2024 South Korean Company of the Year Award in the WAF industry.

## What You Need to Know about the Company of the Year Recognition

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Frost & Sullivan's Company of the Year Award is its top honor and recognizes the market participant that exemplifies visionary innovation, market-leading performance, and unmatched customer care.

### Best Practices Award Analysis

For the Company of the Year Award, Frost & Sullivan analysts independently evaluated the criteria listed below.

#### *Visionary Innovation & Performance*

**Addressing Unmet Needs:** Customers' unmet or under-served needs are unearthed and addressed by a robust solution development process

**Visionary Scenarios Through Megatrends:** Long-range, macro-level scenarios are incorporated into the innovation strategy through the use of Megatrends, thereby enabling first-to-market solutions and new growth opportunities

**Leadership Focus:** Company focuses on building a leadership position in core markets and on creating stiff barriers to entry for new competitors

**Best Practices Implementation:** Best-in-class implementation is characterized by processes, tools, or activities that generate a consistent and repeatable level of success

**Financial Performance:** Strong overall business performance is achieved in terms of revenue, revenue growth, operating margin, and other key financial metrics

#### *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

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 Engine™

Frost & Sullivan’s proprietary model to systematically create ongoing growth opportunities and strategies for our clients is fuelled by the Innovation Generator™.

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### 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:

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

