FROST & SULLIVAN

AZION
RECEIVES THE 2023
NEW PRODUCT
INNOVATION AWARD

Identified as best in class in the North American edge serverless computing industry

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. Azion excels in many of the criteria in the edge serverless computing space.

AWARD CRITERIA

New Product Attributes	Customer Impact
Match to Needs	Price/Performance Value
Reliability	Customer Purchase Experience
Quality	Customer Ownership Experience
Positioning	Customer Service Experience
Design	Brand Equity

Match to Needs

As businesses turn to edge computing, that is, the movement of data processing closer to where the data is generated to improve efficiency, other innovations are emerging. One such innovation is edge serverless, an outgrowth of cloud serverless where computing power provides serverless functions closer to end users.

By processing data closer to end users, serverless edge computing makes data available immediately, accelerates response times, and reduces network outages. Creating serverless computing applications on the edge, however, and distributing them to reach end users are complex tasks requiring high technical skills and significant labor hours.

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>
> **- Michael Valenti**
> **Senior Research Consultant**

Founded in 2011, Azion Technologies Inc. in Palo Alto, California, has developed an edge computing platform. Based on feedback from developers, the company created its Azion Build suite of products to simplify the creation of edge serverless applications. Azion Build enables developers to make any edge application from scratch or adapt a previous design by employing a range of tools and capabilities. Using Azion's updated platform to bring applications from the cloud to the edge will raise resilience to unexpected challenges and speed while lowering costs. In addition, the Azion serverless edge platform heightens business agility through the

streamlining of processes by empowering developers to build and scale their global applications, without needing to retool lower-level infrastructure or operating systems.

For example, Caixa, the 5th largest bank in the world in number of customers (168 million), hosts approximately 800 applications on its platform. In the first month of its partnership with Azion, Caixa was able to shut down over 1,000 servers while handling large access peak due to its year-end lottery game. Since then, Caixa has continued to grow, with approximately 35 billion Edge Functions executed per month on Azion's programmable security solution. Using the Azion real-time data processing capabilities, Caixa was able to ingest over 25TB of threat intelligence data per month into its SIEM. Furthermore, Azion's tools helped mitigating frauds and attacks, such as credential stuffing and phishing.

Quality

The Azion Build suite is equipped with edge functions that developers use to fabricate novel event-driven, serverless web applications on the edge of their enterprises' data networks. The WebAssembly support in the Azion suite empowers developers to construct near real-time native applications based on such high-level and widely used programming languages as C/C++ and Rust.

Azion Build supports the Jamstack architecture for building websites quickly and optimizing cost, scale, security, and speed. Azion supports dozens of web frameworks, such as Next.js and Vue.js, that simplifies web app development and the building of dynamic web pages at the edge. Azion based its frameworks support on the JavaScript and WebAPI standards, so that developers can create high-performance static and dynamic websites that are easy to use and optimized for search engines. The solution needs little coding to build self-rendering applications that are easily built, deployed, and updated.

Another important proprietary functionality is Azion's command-line interface (CLI) that enables developers to complete complex tasks in minutes, such as creating, deploying, managing, updating, and deleting edge functions. Moreover, developers use CLI to provision the a large set of applications templates as well as integrations available on the platform.

Engineers have equipped the Azion suite with AI to help developers build websites quickly and optimize them for speed, scale, security, and cost. Azion provides a ChatGPT plugin with access to all its APIs, as well as an integration to ChatGPT on its Edge Function IDE, which enables developers to quickly understand a code block, create or optimize code from natural language directly from the Azion Edge Platform.

The Azion Build suite uses the company's load balancer to combine multiple cloud, data centers, and on-premises assets to provide the backend that is based upon availability, load requirements, and performance needs. This flexibility in meeting different needs can be seen in VTEX (NYSE: VTEX), a global digital commerce platform used by over 2,500 active online stores in 32 countries. VTEX counts Adidas, Nestlé, Coca-Cola, Stanley Black & Decker, Whirlpool, and Sony among its clients and constantly seeks ways to improve its software, including API architecture and development tool.

To this end, VTEX uses Azion Edge Application to deliver efficient and reliable serverless applications and to speed up the delivery of content at the edge, making digital commerce strategies more flexible and

thus providing global connectivity. The rule targeting lowers latency and accelerates the response to all users, particularly those in underserved regions that have poor Internet quality.

Reliability

Azion consistently exceeds customer performance expectations by addressing the following two major pain points: simplifying the build-and-deploy process and ensuring superior performance and reliability in every country where Azion operates. To the first point, Azion removes dependencies from a centralized origin infrastructure, such as a cloud provider or data center, and enables customers to build applications with a modern serverless and edge-compute architecture, thereby delivering faster response times and lower latency than competitors. In addition, Azion enables composable architectures and provides programmability and extensibility across every component of its platform. Azion empowers customers to build edge serverless applications and educates them on open standards, thus avoiding vendor lock-in and enabling the platform to run on the cloud, network edge, on-premises, or remote devices.

Azion ensures reliable high performance by providing robust connectivity in more than 100 edge locations globally and guarantees 100% uptime, backed by a service level agreement (SLA). In addition, the Azion software-defined routing enables responses in real time to any congestion or failures within the network and on the public Internet, thus enhancing efficiency, flexibility, and scalability. This commitment to reliability provides Azion's customers with twenty times faster deployments, ten times faster applications on average, and a one-day time to value, compared to standard edge computing solutions.

EXAME, one of the most popular journalism websites in Brazil, was challenged with providing the first thorough real-time coverage of voting in both state and national elections in 2022. EXAME is among the three biggest journalistic websites in Brazil, according to data from IVC, which is an organization that certifies audience data from print and online media in the country. Even with a high volume of simultaneous access on its webpages, EXAME faced one of the biggest challenges in its digital history in 2022: carrying out its first complete and real-time coverage of the vote counting for the state and national elections. This process entailed providing millions of Brazilian viewers with high-definition video streams with low latency and ensuring their availability during the vote counting to retain as many viewers as possible.

Using Azion's Edge Application, EXAME optimized the application delivery as well as its images loading time by running serverless code at the edge and personalizing caching rules, while maintaining service availability and performance at peak usage. In addition, EXAME registered a record six million daily viewers, or half of its monthly total, by using Azion's tools.

Design

While the Azion Build platform can perform sophisticated tasks, the company designed its updated solution to be easy to use by providing a serverless computing model that relieves users from the burden of managing or operating the underlying infrastructure. For example, Azion provides the necessary building blocks for building, securing, and running applications on its proprietary managed infrastructure. Azion further simplified its platform by providing customers with the best tools to create at scale, with the compliance that large enterprises require. Complementing the use of open standards, the Azion

platform supports well-known programming languages as well, such as JavaScript and WebAssembly-compiled languages (e.g., Python, C, C++, Go, and Rust). Furthermore, Azion supports the most popular web frameworks, such as Next.js and Remix; databases, such as KV and SQL; and AI models, such as ONNX.

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Ease of use is the key to how Radware (NASDAQ: RDWR), a global leader of cyber security, uses Azion's solutions. Radware seeks to deliver cyber security solutions to customers across the globe and thus worked with Azion to build its Web Application Firewall and Bot Manager solutions to run on Azion's Edge Functions. As a result, Radware can provide its customers with increased speed, reduced infrastructure resources, simpler operations, and reduced costs.

Price/Performance Value

Azion improved the price/performance value of its Build platform by designing its Azion Cells edge computing engine to run up to 100 times faster than the best container technology while consuming one-tenth the resources of container technology. Azion's unit, therefore, is price competitive, whether running from prototypes to critical applications on the edge or on-premises, ranging from retail shops to bank branches. Indeed, the Azion platform can reduce the total cost of ownership by up to 80%, compared to cloud computing technology.

Through Azion's product suite, developers can reuse components to build and secure their applications in less than half the time, while also leveraging built-in features to package, run, and orchestrate the application. In addition, customers gain value from the consumer-based pricing model with a savings plan and lower costs of the platform, bandwidth, security, and compliance.

Customer Ownership Experience

One of Azon's customers is Dafiti, which is part of Global Fashion Group based and publicly traded in Singapore. Dafiti is a multi-label fashion eCommerce retailer that specializes in apparel, shoes, accessories, beauty, and home décor. The Singaporean firm uses the Azion Edge platform to build and run applications, including Azion Edge Application with Edge Functions; Application Acceleration; Edge Caching; Image Processor modules; and Edge Firewall modules that include web application firewall (WAF), network layer protection, data streaming, and mission-critical support.

After working jointly with Azion, Dafiti drastically improved its application architecture, thus reducing the overall complexity. Dafiti improved its eCommerce performance by 86% by adopting a modernization strategy and executing more workloads at the edge, instead of executing the strategy on its centralized cloud services. Simultaneously, Dafiti optimized data transfer costs by 45% using Azion, simply by running advanced optimization techniques and automatically processing over 17 million high-resolution photos through the image processor, resulting in tens of terabytes (TB) of data transfer saved in one month.

Customer Service Experience

Azion offers accessible, fast, and stress-free customer service by adopting an engineer-to-engineer mindset that connects its experts closely with customers to understand their specific requirements and challenges. The close collaboration on an engineer level with customers earned the software company a customer satisfaction score of 4.9 and a net promoter score of 84 in Q1 2023. Azion's customer service includes 24/7 access, documentation of all products and features, an artificial intelligence agent if requested, educational courses and partnerships with coding schools, and fast responses to reports of bugs and incidents.

Azion provides customers with real-time observability and debugging tools so they can develop full-stack applications and use them in mission-critical environments. Customers taking part in Azion's Mission-Critical Plan have a Slack Channel to facilitate contact with the company.

An example of how Azion works closely with its customers is its collaboration with the Universidad Iberoamericana (IBERO), a leading Mexican education institution that instructs more than 13,000 students. IBERO's domain servers were using an out-of-date system that needed to be configured through command lines, causing long learning processes and burdensome manual configuration. The university implemented the Azion Intelligent DNS solution, a modernized domain server solution, and Azion WAF and Edge Caching module to improve the user experience and shield its website from threats.

By working closely with Azion, IBERO has stabilized and secured its web platform and eliminated problems during enrollment. The IBERO IT team used the collaboration with Azion to optimize resources; significantly reduce costs, including removing 50% of unproductive domains with the help of Azion's engineers; and create a hybrid environment, empowering both Azion and IBERO to respond quickly to requests by raising service availability.

Conclusion

Azion witnessed the movement of computing applications from the public cloud to the edge of data networks and saw the challenges this migration posed to businesses as an opportunity for innovation. Azion fashioned its Build suite of products to simplify its customers' ability to create and deploy serverless edge applications to make their networks more resilient and faster while minimizing costs. Examples of Azion's acceleration capabilities, including increasing the speed for a customer's operations by 70% and reducing costs, are illustrated by cutting the unproductive domains of another customer in half. Increasing the availability of another Azion user to 100% illustrates the Build suite supporting availability.

With its strong overall performance, Azion earns Frost & Sullivan's 2023 North American New Product Innovation Award in the edge serverless industry.

What You Need to Know about the New Product Innovation Recognition

Frost & Sullivan's New Product Innovation Award recognizes the company that offers a new product or solution that uniquely addresses key customer challenges.

Best Practices Award Analysis

For the New Product Innovation Award, Frost & Sullivan analysts independently evaluated the criteria listed below.

New Product Attributes

Match to Needs: Customer needs directly influence and inspire product design and positioning

Reliability: Product consistently meets or exceeds customer performance expectations

Quality: Product offers best-in-class quality with a full complement of features and functionality

Positioning: Product serves a unique, unmet need that competitors cannot easily replicate

Design: Product features an innovative design that enhances both visual appeal and ease of use

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

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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)**