Secure serverless compute environment, fewer limitations

Serverless computing is a transformative new technology quickly gaining popularity among developers for its simplicity, agility, and functionality. Interest around serverless continues to grow among business leaders who see value in decentralizing their architectures and deploying globally on the edge without needing to pre-plan resource availability. In fact, Gartner predicts that by 2025, half of global enterprises will have deployed serverless computing, up from only 20% now.

However, serverless comes with its own set of challenges. Cold start times* — the several hundred milliseconds of latency required to execute an inactive serverless function — cause delays in the user experience that too often have a major impact on conversion rates. Add in limited observability and resource contention, as well as emerging security concerns about side-channel attacks, and it becomes clear why organizations hesitate to move business-critical workloads to serverless. What’s needed is a different approach to serverless that’s highly performant, developer friendly, and secure.

*2019 Fastly Community Survey
Why Fastly?

Fastly’s Compute@Edge™ represents the next generation of serverless computing; purpose-built for better performance, reduced latency, and enhanced visibility and security.

Customers benefit from an instantly available, highly performant environment that essentially eliminates cold start issues. Compute@Edge resources are available within microseconds, are elastic (eliminating the need to pre-plan and deploy infrastructure) and can instantly scale to tens of thousands of requests per second.

Compute@Edge offers superior performance without sacrificing platform security and reliability. By creating and destroying sandboxes for each individual request flowing through the platform, Compute@Edge minimizes the attack surface area present in typical multi-tenant serverless environments while still providing superior execution times.

Instantly available, high-performance environment

Compute@Edge is built on top of cutting-edge technology ideally suited to developing and deploying websites, applications, and APIs on the edge. By combining WebAssembly and Lucet, Fastly’s WebAssembly compiler and runtime engine, we’re able to offer a faster and more secure experience for our customers than what is currently available off the shelf today.

✓ Access to unprecedented computing resources means there are no cold starts or roundtrip delays — just fast, always-on computing.
✓ At 35.4 microseconds, Compute@Edge provides a 100x faster code execution startup time than other serverless solutions.
✓ Deploy simple and complex workloads globally, on hundreds of servers strategically located close to end users.
✓ Built on Fastly’s edge cloud network, Compute@Edge provides access to critical data on the edge with low latency accessibility.

Serverless Benefits

- Simplify operations by outsourcing server management
- Skip the server set up and increase agility
- Reduce cloud spend. Only pay when your code runs
- Thwart malicious attacks and resource contention with isolated sandboxing

Features

DATA

- Cache commonly executed logic
- Store and use data at the edge
- WebAssembly implemented on global edge network
Delightful developer experience

Developer ergonomics matter. Our serverless compute environment delivers the functionality developers require without compromising performance.

✓ Exceptional observability. Outsourcing the management of servers often means that you lose visibility into performance or struggle with unfamiliar tooling and processes. With real-time logging and stats capabilities that don’t rely on sampling, Compute@Edge provides an up-to-the-second view into your services so you can find and fix issues faster.

✓ Language-agnostic and cloud-agnostic platform. Serverless computing is often at odds with maintaining portability of your applications — sometimes limited to a handful of supported languages or one cloud provider. With Compute@Edge, use WebAssembly-enabled languages and migrate between clouds or go multi-cloud without having to worry about painful serverless migration projects.

✓ Developer-friendly tooling. Our product and platform are architected to simplify your workflow and development processes, allowing us to function as an integrated part of your tech stack and enabling you to rapidly program, configure, and provision infrastructure.

Security and reliability at scale

You shouldn’t have to choose between security and high performance. Compute@Edge leverages unique technology to ensure that customers benefit from a secure and reliable platform — without hindering development agility.

✓ Edge-ready security. Compute@Edge’s isolation technology creates and destroys a sandbox for each request flowing through our platform in microseconds. This technology removes an entire class of security vulnerabilities — side-channel attacks — and significantly minimizes your attack surface area.

✓ Platform-powered reliability. Since resource contention is greatly diminished with our approach, you get a platform you can trust and are protected from the blast radius of buggy code or configuration mistakes from other users.
Over 90% of customers run our next-gen WAF in blocking mode.

145 Tbps edge network capacity.

800 Billion requests per day.

150 ms mean purge time.

95% CSAT

Enjoy world class support

With a customer satisfaction rating (CSAT) of over 95% for the past three years running, we pride ourselves on our customer relationships. Fastly’s world-class support includes help from engineers through chat, in-depth technical documentation, solutions packages, and more. With choices ranging from white-glove to self-service, we offer everything to fit your support needs.

Learn more about Fastly support ➔

Getting started

Find out why customers like Shopify, Stripe, and LaunchDarkly choose Fastly.

To learn more, please contact us at sales@fastly.com, and visit Fastly’s website for more information about our serverless compute environment, Compute@Edge.

---