

## REPORT REPRINT

# Fastly shares use cases for serverless Compute@Edge, now in limited availability

**NOVEMBER 10 2020**

**By William Fellows**

In beta since May, Fastly's Compute@Edge serverless compute environment is now in limited availability, with general availability set for Q1. It features Terraform API support, command-line interface support, extended language support and new observability features.

---

THIS REPORT, LICENSED TO FASTLY, DEVELOPED AND AS PROVIDED BY 451 RESEARCH, LLC, WAS PUBLISHED AS PART OF OUR SYNDICATED MARKET INSIGHT SUBSCRIPTION SERVICE. IT SHALL BE OWNED IN ITS ENTIRETY BY 451 RESEARCH, LLC. THIS REPORT IS SOLELY INTENDED FOR USE BY THE RECIPIENT AND MAY NOT BE REPRODUCED OR RE-POSTED, IN WHOLE OR IN PART, BY THE RECIPIENT WITHOUT EXPRESS PERMISSION FROM 451 RESEARCH.



---

**S&P Global** Market Intelligence

### Introduction

In beta since May, Fastly's Compute@Edge serverless compute environment is now in limited availability, with general availability set for Q1 2021. The company has announced new support for Terraform APIs; command-line interface support; extended language support, including AssemblyScript (in beta); and new observability features as part of the release.

### 451 TAKE

The diversification of content-delivery network providers to the edge is a natural progression – from keeping content close to people to keeping it close to where it is required (a CDN), which foreshadows keeping compute close to where it's required (at the edge). CDN vendors' programmable serverless offerings enable their customers to perform lower-latency operations at the edge, where response times are crucial. Fastly is seeking to differentiate on the quality of its service delivery, developer experience, security and reliability, believing the normal CDN experience to be a race to the bottom among other vendors. Fastly intends to add its recent Signal Sciences acquisition to its forthcoming Secure@Edge offering, which will combine its security portfolio with its Compute@Edge serverless environment to expand developers' security options.

### Details

Compute@Edge is a form of serverless computing that runs on Fastly's CDN and allows users to augment its operations and developers to 'program' the CDN. Fastly was early in letting users write code to execute on its platform, but other CDN providers have been introducing edge computing recently in the form of serverless functions. Most of those efforts are based on JavaScript, but Fastly instead chose WebAssembly.

Fastly targets a user base that wants to 'engineer' the CDN. It believes WebAssembly is a foundation for a more performant and flexible place to deliver websites and applications, which is what it hopes edge will become. The WebAssembly ecosystem is young but growing fast, and Fastly is collaborating with the community, working on four major OSS projects as part of the WebAssembly Community Group and the Bytecode Alliance. Compute@Edge supports the Rust programming language in its first incarnation. It's considering support for JavaScript in 2021, and is building out additional tools for handling state and observability. Its own Lucent compiler and runtime enables customers to run WebAssembly outside of the browser. It chose this approach versus Google's Chrome V8 engine, which can compile WebAssembly, in order to ensure that it could create and destroy sandboxes for each requirement, support globally deployed Linux servers, and provide a standard interface for systems programming.

In addition to the Bytecode Alliance members (Intel, Red Hat, Mozilla), it counts Datadog, Splunk and Sumo Logic among its observability partners, and GitHub, New Relic and Perimeter X among its technology partners. It typically sells to large organizations that run development and CDN teams, but is seeking to extend its addressable market with Compute@Edge to make CDN more accessible to buyers that would not be traditional CDN customers – CAPTCHA vendors, for instance – in addition to bringing greater flexibility for existing customers. It will price per request and per resource. Fastly reported a Q3 net loss of \$24m on revenue up 42% at \$71m. Fastly expects to be at 1,000 employees by year-end.

## REPORT REPRINT

Early use cases for Compute@Edge include online retailers assigning waiting room tokens to purchasers at the edge, to increase end-user responsiveness and filter out bot traffic; media companies doing back-end health checks by monitoring origin health with an edge microservice and updating video delivery on the fly so end users see the first frame quickly and never experience playback interruptions; e-commerce companies doing (microservices) authentication at the edge; and food-delivery services, creating a cache layer to return search requests even when the origin doesn't respond. Customers include RVU, Vox Media, HashiCorp and loveholidays.