Edison Interactive

The leader in connected device ecosystems reduced API call latency to twenty milliseconds using HarperDB's distributed application and data platform

Results

Increased API call speed by 250 times, from 5 seconds to 20 milliseconds

Reduced the number of calls to the origin API interim cache layer by 99 percent

Improved competitive advantage by being able to control and customize the user experience in real time

Challenge

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One of the biggest things that we've struggled with is latency surrounding the speed and real-time decision-making on the hardware in complex environments."

A trusted technology partner to Fortune 500 companies, Edison Interactive offers a device-agnostic cloud content management system for connected devices. The company is known for its vast network of premium displays, digital signage, and infotainment solutions in various industries, including transportation, recreation, hospitality, and more.

Edison Interactive manages the content on hundreds of thousands of connected devices, but the process of calling application programming interfaces (APIs) was not optimized. Any call would have to go from the device through an API, go to Edison Interactive's cloud network, and go back to the device. This led to a latency that could reach as high as five seconds, or "an eternity, in this world of instant gratification," according to Nick Stanitz-Harper, Co-Founder and Chief Revenue Officer at Edison Interactive, who noted that expenses increase with the length of the latency.

"We have an interesting business because we have hardware and software that plays into every one of our deployments, whether in hotel rooms, golf carts, rental vehicles, healthcare, you name it," said Nick. "One of the biggest things that we've struggled with is latency surrounding the speed and real-time decision-making on the hardware in complex environments."

The second challenge that high latency causes is difficulty with machine learning and artificial intelligence algorithms being able to make decisions in real time. When real-time data isn't available, the end user doesn't have the right experience.

"Those algorithms have to respond immediately to provide the proper content wherever the screen is being used," said Nick. "Things also get worse when the internet signal is spotty."

To enrich and enhance the end user's experience, Edison Interactive rebuilt its application on top of HarperDB.

250x Faster
API Call Speed

Solution

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The performance gains cemented the value of our move to the mobile edge computing platform."

Edison Interactive created Launchpad, a platform-as-a-service application that leverages HarperDB's integrated Custom Functions to reduce the complexity of deploying and managing distributed applications.

Launchpad is an overarching, web-based system that controls all devices in the market. It's how Edison Interactive's customers set branding and themes while also creating the unique content that gets displayed on each device.

Modern applications like Launchpad are easily deployed in a globally distributed paradigm. However, the databases that power them often remain in a single cloud region. This results in internet latency delays caused by the application calling back to the database. This latency often leads to a poor end user experience.

HarperDB solves this problem by seamlessly distributing both the API endpoints and data that power Launchpad. In partnership with HarperDB, Edison Interactive's development and engineering teams recreated databases inside Verizon's multi-access edge computing platform.

"The HarperDB platform simplified our transition to a distributed architecture," said Nick. "Custom Functions reduced the work our engineering team had to do down to hours, instead of months. The performance gains cemented the value of our move to the mobile edge computing platform."

The application was deployed on Verizon's 5G Wavelength Infrastructure on Amazon Web Services, and delivered the lower latency Edison required. In addition, data transfer costs and processing overhead were lowered as a result of filtering and shaping payloads within Launchpad, rather than on the clients themselves.

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I unequivocally recommend HarperDB.
The software platform helps us quickly put the right content
in front of the right people at the right time.
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Nick Stanitz-Harper | Co-Founder and Chief Revenue Officer, Edison Interactive

HarperDB

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