

AN INFLUXDATA CASE STUDY

Prescient Devices Uses InfluxDB as the Backbone of Its Edge IoT Management Platform





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Leveraging InfluxDB At The Edge And In The Cloud Gives Prescient Flexibility With Data Management

Company in brief

Prescient Devices is a company focused on changing how businesses think about and use edge data and IIoT. Prescient Designer is its edge data solutions platform that gives organizations the boost they need to transform their IT/OT processes. Prescient Devices empowers data engineers, system integrators, and innovators to easily design and orchestrate edge-to-cloud data solutions.

Case overview

Prescient Devices built a SaaS platform that enables users to quickly and easily build applications to manage distributed IoT devices. The platform has two primary components: Designer (where users build and deploy applications) and Edge (an agent that users install on edge devices). Prescient uses InfluxDB in both components to handle time-stamped data. Based on Node-RED, Designer provides an intuitive, low-code development tool, expanding the range of users beyond developers to include other experts. For companies, this InfluxDB-powered platform drastically reduces development time, accelerates innovation, and generates significant cost savings.

The business and technical challenges

Prescient Devices helps companies realize the value of their edge data in two dimensions: scale, and speed. Both of these dimensions have multiple facets, too. For example, scale not only refers to the ability to handle hundreds of devices, but also the volume of data that those devices can process. Similarly, speed focuses on how quickly companies can deploy and iterate edge applications, as well as how fast they can process data.

Because edge hardware and software vary widely, Prescient needed a solution that could handle data in any format from any device. Prescient users collect specific sensor data, like temperature, humidity, and acceleration, as well as data from cameras, databases, file, APIs, and industrial equipment.

To help companies with the digital transformation process, Prescient built a SaaS platform called Prescient Designer that empowers users to easily do distributed programming. Prescient developers built Designer using Node-RED, an open-source project started at IBM. Node-RED features a low-code visual interface that the development team carried over to Designer. Not only does this enable users to manage a fleet of edge devices and to deploy applications to those devices quickly and simply, but it also empowers non-developers to use the platform.

The solution

Prescient Designer is the cloud portion of Prescient Devices' SaaS ecosystem. Out of the box, Designer uses InfluxDB Cloud, and other tools like TensorFlow and Grafana. It's also extendable to accommodate tools for companies that need options other than Node-RED's open source modules.



Prescient Devices selected InfluxDB as its time series database for several reasons. The company started using Telegraf as a backend solution for collecting and handling data from edge devices. As a company that works with a lot of industrial IoT (IIoT) customers, Prescient developers knew how critical time series data was. As an open-source solution, InfluxDB supported Node-RED, which reduced the amount of engineering work necessary, and helped users feel as though they were not dependent on, and locked into a proprietary solution. InfluxDB also runs well on low-resource devices, which are common in edge use cases. Plus, both existing and prospective customers asked about InfluxDB support, so using InfluxDB as its time series database was a natural choice.

Prescient Designer has a visual workspace where users can see their whole system. They also develop applications using the Designer interface, including components in the cloud and at the edge.



For edge devices, Prescient built Prescient Edge, an agent that contains a runtime, Node-RED, an open source instance of InfluxDB, and TensorFlow. Users can also develop their own applications in Designer and include them in Edge deployments.

Prescient built two separate data streams into its SaaS ecosystem, each with its own security credentials. There is a control stream for application management and deployment, and a data stream that handles user data. Designer connects to Prescient's broker on one side, and the edge devices connect to the broker from the other end. This system also supports custom brokers for users that must uphold specific compliance requirements, e.g., HIPAA, GDPR.

Designer sends edge data to Grafana dashboards so users have real-time intelligence on their devices.

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For us, InfluxDB checked all the boxes that we needed... We are building on top of Node-RED, and InfluxDB provides first-party and first-class support for Node-RED., so we didn't have to do any engineering work to add that support, which is awesome. It's open-source too, so customers don't feel like they're necessarily locked in or dependent on any proprietary software.

Pablo Acosta, VP Of Engineering, Prescient Devices

Results

Prescient Designer drastically reduces the amount of time necessary to create distributed IoT solutions. It enables users to build solutions in as little as two weeks, make changes to applications within hours, and deploy those changes within seconds.

Prescient Designer's intuitive, visual builder allows subject matter experts, business analysts, and other non-developers to build IoT management applications. The low-code platform enables continuous innovation that leads to twelve times faster implementation and lowers costs six-fold. This saves users' companies hundreds of thousands of dollars in development hours.

About InfluxData

InfluxData is the creator of InfluxDB, the leading time series platform. We empower developers and organizations, such as Cisco, IBM, Lego, Siemens, and Tesla, to build transformative IoT, analytics and monitoring applications. Our technology is purpose-built to handle the massive volumes of time-stamped data produced by sensors, applications and computer infrastructure. Easy to start and scale, InfluxDB gives developers time to focus on the features and functionalities that give their apps a competitive edge. InfluxData is headquartered in San Francisco, with a workforce distributed throughout the U.S. and across Europe. For more information, visit <u>influxdata.com</u> and follow us <u>@InfluxDB</u>.

