



AN INFLUXDATA CASE STUDY

Icinga Uses InfluxDB to Add Long-Term Data Storage and Analytics

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Icinga Expands Their Monitoring Platform's Storage Capabilities

Company in brief

Icinga is an open source monitoring system designed to check availability of network resources, notify users of outages, and generate performance data for reporting. Icinga aims to provide their users a coherent view of the state of their infrastructure at any moment in time to help software development teams improve the reliability and performance of their applications.

Case overview

Icinga's integration with InfluxDB started off with a Telegraf plugin made by a member of Icinga's developer community who created and open-sourced their plugin for the rest of the community. This plugin allowed Icinga users to write their metrics directly to InfluxDB for storing their time series data. As the popularity of the plugin grew, Icinga added native InfluxDB support into Icinga so their users could write data to InfluxDB from the Icinga CLI without needing external plugins or tools.

The business challenge

While Icinga was very good at providing their users insight into what was happening with their infrastructure at a current moment in time, they lacked functionality for digging deeper into historical data and finding the root cause of problems.

By integrating with InfluxDB, Icinga was able to add these features to their product without requiring a massive engineering investment to build these features themselves. InfluxDB provided the long-term storage and querying capabilities for time series data that Icinga itself did not provide.

| The technical challenge

Modern development teams don't want to just put out fires when they happen — they want to be able to predict and prevent fires from starting in the first place. Icinga's primary focus is helping their users know the current state of their infrastructure at any moment in time and creating alerts to notify engineers if something has gone wrong.

Those who don't know history are doomed to repeat it. If Icinga's users don't have the ability to store their metric data long-term and the ability to analyze it for trends, they wouldn't be able to identify the root cause of many of the problems that Icinga was helping them monitor and alleviate. Icinga's challenge is adding the functionality to allow their users to be proactive and predict and prevent errors before they happen.

| The solution

To solve the problem of persistent storage of time series metrics, Icinga added a native integration for writing data to InfluxDB with the release of Icinga version 2. Icinga was able to do this relatively easily due to InfluxDB providing a native HTTP API for developers to work with. This HTTP API also made it easy for Icinga to add authentication as well as SSL encryption for transferring data that needs to be secure during transfer from Icinga to InfluxDB.

Icinga placed a heavy emphasis on making this integration easy to use for their customers and provides a default configuration file out of the box that will work for most typical use cases. This default configuration can be enabled with a single command from the Icinga CLI. For developers who need some customization, they provide easy access to the config file for modification directly from the Icinga command line interface.

Icinga also added features to improve resiliency on both sides of this storage system. On the Icinga side, they created a high availability mode so that multiple Icinga nodes are able to write data to InfluxDB. If one of those nodes goes down, the second node can take over so that metrics continue being delivered to InfluxDB. In the case that the InfluxDB instance goes down, Icinga added a memory buffer which would allow the Icinga node to store metric data locally on disk until Icinga detected the InfluxDB instance was active again. The metrics could then be sent in a batch to the InfluxDB node, and the memory buffer would be cleared.

Icinga's InfluxDB integration also allows users to add additional metadata, tags, and defined threshold values to their metrics before being written to InfluxDB. This extra metadata can be used to make data easier to analyze and visualize in dashboards by allowing for more refined queries.

| Results

The Icinga team was able to add several features to their platform that users required and do it much faster than if they had tried to reinvent the wheel themselves. Having an open source time series database like InfluxDB was critical for expanding Icinga's platform capabilities. Adding the integration with InfluxDB expands the potential market for Icinga. Development teams that are already using InfluxDB are now able to more easily adopt Icinga by simply adding to the tools they are already using and are familiar with. This reduces the friction involved with using Icinga for developers and long-term will benefit Icinga in terms of acquiring more users and more revenue.

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“There are so many fantastic time series databases out there that there is not really a need for us to create one more time series database. So we go the way that we want to integrate with other time series databases, in this case with InfluxDB. So there’s a native integration in Icinga that pushes all of these collected metrics directly into InfluxDB, and it can be started and enabled pretty easily. It’s just one CLI command.”

Blerim Sheqa, CPO, Icinga

| What’s next

Icinga plans to become the go-to open source infrastructure monitoring solution for organizations. The Icinga stack now covers 6 core areas that cover all aspects of monitoring. InfluxDB will continue to be a core component of Icinga involved with analytics, visualization and notifications.

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 influxdata.com and follow us [@InfluxDB](https://twitter.com/InfluxDB).



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