

## REPORT REPRINT

# Circonus targets its highly scalable time-series database at monitoring, IoT use cases

**JANUARY 22 2020**

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### Introduction

Now that more of the market has need for the kind of scalable streaming data and analytics capabilities that it offers, little-known Circonus is stepping up activity aimed at gaining more visibility in the market – bringing on a new CEO and describing its offering as machine data intelligence, for example. Its scale and analytics capabilities should appeal to businesses operating in modern technology environments.

### 451 TAKE

Circonus is a vendor whose time for growth may be here as demand for the kind of scalable monitoring system it offers grows in line with the adoption of complex, cloud-native technologies. Not only is Circonus designed to collect large volumes of data streaming at a very fast cadence, it is well suited to supporting the kinds of analysis that modern operations and DevOps teams want to make. For instance, Circonus supports teams that want to watch system performance against service-level objectives that they define, noting when too many end users have a poor experience. Circonus has been drowned out by other bigger names in the market but is taking some steps to raise its profile.

### Context

Founded in 2010, Circonus has 20 employees and offices in Fulton, Maryland, and Philadelphia. Total funding is \$13.3m, including a \$6.8m round announced in January 2020. Investors include Osage Venture, Bull City Venture Partners, Ben Franklin Technology Partners and NewSpring.

Circonus has about 30 customers and recently brought in a new CEO, Bob Moul, to drive growth. Moul previously spent time as president and CEO of integration PaaS Boomi before Dell acquired the company. Customers include MLB, Uber and Smugmug.

### Technology

Like many monitoring vendors, Circonus employs agents to collect data from infrastructure, supporting both its own agent and popular open source agents like StatsD. From there, however, its architecture is a bit different than most. The agents send data to a broker. Circonus can run the broker in the cloud for a customer, or customers can run the broker themselves on-premises, enabling just the broker to send data to Circonus in a way that should be attractive to customers with strict security requirements. On the back end, Circonus stores data in IronDB, a proprietary database that it developed.

Circonus's secret sauce is its histogram technology; it analyzes data as it is streamed and compresses it into a histogram. Doing so can dramatically reduce the storage requirements for the data. For instance, a stream of 100,000 data points per second could be compressed to the equivalent of five points a second, each point essentially a distribution model that represents tens of thousands of data points. The process is highly scalable, with Circonus talking in terms of one trillion measurements per second.

The software that compiles the histogram is a small piece of code that can be deployed at different layers of the stack, depending on customer preference. For very-high-frequency data streams, users tend to do the histogram analysis close to the edge, while others may send all the data to Circonus for the analysis.

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While Circonus offers out-of-the-box dashboards for infrastructure monitoring, its strength is in its ability to enable more complicated analytics, such as setting and tracking service level objectives. For instance, a user could set an SLO that an authentication attempt shouldn't take longer than 40ms. In Circonus, the user could set up a graph showing the number of authentications that are faster and slower than 40ms. Sophisticated organizations that are using SLOs to make important decisions about headcount and infrastructure, for instance, are taking an interest in Circonus and its functionality, according to the company.

### Target Use Cases

Circonus's roots are in infrastructure monitoring, but over the last couple of years, it has also been catering to IoT use cases. The company's ability to collect large volumes of data streaming in at a fast cadence and high-cardinality support make it a good option for IoT applications. It does have some IoT customers and said it adds value when a customer has begun collecting data from IoT sensors but lacks the ability to analyze it in the way they'd like. Circonus is working on building partnerships with integrators, consultants and device manufacturers so that it can land deals as part of an IoT deployment. We like this go-to-market approach because it allows Circonus to position itself as more than an IoT monitoring tool.

### Competition

One of Circonus's most notable competitors is InfluxDB with its open source time-series database. InfluxDB also targets both monitoring and IoT use cases; Circonus argues it can scale larger without as much investment.

Circonus competes in monitoring with other infrastructure monitoring vendors catering to users that want flexible data collection and analytics capabilities. It cites SignalFx (recently acquired by Splunk) and Wavefront (now owned by VMware) as competitors here. Where scale and flexible querying aren't top priorities, Circonus could compete with many of the other infrastructure monitoring vendors including Datadog, LogicMonitor, ScienceLogic and Zenoss.

### SWOT Analysis

#### STRENGTHS

Circonus has developed technology that enables it to collect and store very large volumes of streaming data such that it can appeal to the very largest customers.

#### WEAKNESSES

Some potential customers could be wary of Circonus's histogram technology if they have concerns about potential loss of fidelity or visibility into the process.

#### OPPORTUNITIES

As more businesses adopt cloud-native technologies, they'll find themselves in need of tools that can collect very large volumes of operations data, growing Circonus's potential addressable market.

#### THREATS

Circonus has been around for a decade but is relatively unknown, giving some better known competitors a leg up.