

# Xandr Uses Anodot for Real Time Monitoring of Its Massive Scale Marketplace

## About Xandr

Xandr Inc. is the advertising innovator at the intersection of digital and TV. Xandr's combined assets – including trusted partnerships, powerful data-enabled technology and automation, and identity solutions – power one of the world's largest marketplaces for premium advertising. The company is headquartered in New York City with offices around the world.

## Challenge:

### Monitoring a Business with Tremendous Scale and Complexity

Xandr's marketplace operates at a scale and complexity that are hard to fathom. The company serves multiple billions of ads every single day, handles 45 million transactions per second, and processes more than 175 terabytes of data. Xandr's platforms make a lot of complex business decisions to reach the right customers for the marketers. When glitches occur and blank ads are served, all parties lose money. This has to be detected and resolved quickly before losses mount.

## Solution:

### Fully Autonomous, AI-Driven Anomaly Detection for Client-Specific Incidents

The extensive nature of Xandr's partnerships meant that issues could take a week or more to detect and resolve. Now Anodot ingests all of Xandr's data feeds in near real time, learns the patterns and seasonality of individual metrics, correlates issues, and directs analysts right to the root cause. Xandr and its clients can respond quickly – normally in less than a day – to prevent small issues from having big business impacts.



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**Ben John, Chief Technology Officer**

Xandr’s massive marketplace sits in the center of a global digital business ecosystem. Originally part of AT&T and Warner Media, Xander has access to all the brands, content, and direct-to-consumer relationships afforded by that affiliation. As Xandr becomes part of Microsoft through acquisition, the possibilities for reaching even more consumers, publishers, and marketers open up.

Ben John, Xandr’s Head of Engineering, Product, Customer Success, and Operations, likens the company to the role Uber plays in ridesharing. “Think of how Uber connects drivers to riders. Xandr is Uber for advertising,” says John. “It’s a marketplace where we connect the demand side and the supply side through an exchange that we built to monetize the content and leverage our platform for marketers to reach the right audiences.”

The complexity of the marketplace is tremendous. Xandr works with thousands of companies on each side – supply and demand – as well as supporting third-party applications such as payment systems, customer relationship management, and marketing tools. There are millions of moving parts in this marketplace

that are in constant flux. “A lot of things can go wrong when it comes to the technology and engineering of this platform,” says John. “We want to make sure we provide the best business value for our customers and make sure our consumers are leveraging those services.”

Xandr’s infrastructure includes thousands of servers and hundreds of applications across its global data centers. The company used a variety of disparate tools to monitor the performance of the infrastructure itself as well as the delivery of the ads. “The fragmented toolset created more complexity and confusion for us. We had to install agents on all those servers, which was very hard to manage and maintain,” says John.

“To determine what was happening in our environment, our people would look at all sorts of logs and monitors. They would get alerts about incidents. It was all very disjointed. They would try to correlate everything manually to understand the business impact, but that is really, really hard to do. And every minute, we were losing revenue, and our customers were losing revenue. Time is of the essence in a fast-paced business like ours.”

# Xandr Had Several Problems to Solve

## Fragmentation

The main problem Xandr was looking to solve was how to connect these disjointed views of the marketplace platform's health and performance to actual business outcomes. "The biggest gap in our toolset was too much fragmentation," says John. "I was adamant that we would not deploy a manual NOC because you can't scale that way. Instead, we want machines to detect systemic issues and resolve them. That was our number one priority."

## Detecting Client-Specific Problems

A second problem to solve was the ability to detect client-specific problems. "When you run a large platform, you can have four 9's of uptime, but a single customer in a specific region somewhere in the world may be impacted. That's something that's very hard to detect when you don't have total coverage of monitoring. We want to make sure we can identify clients' region-specific incidents that we should be able to resolve and prevent from recurrence."

## Alert Noise

John also set out to reduce the noise of excessive alerts. "Engineers can't deal with alerts that come in every 30 seconds, or every two minutes. But that's reality when we're running global data centers with thousands of servers and hundreds of applications," says John. "There may be many alerts that relate to the same event, but they just aren't automatically correlated. We need for the excessive noise of alerts to be distilled down to what's most important to the business."

## Complex Management

In addition, John set the requirements that any solution they chose must be cloud-based, and ready to provide data integrations out of the box. "We don't want to have to manage an on-prem solution, and manage the upgrades and licenses," he says. "We just want to collect our metrics and push them to a system that can analyze the data, correlate the events, and tell us what's impacting the business." Anodot's ability to meet the requirements and solve Xandr's stated problems captured John's interest.

# Anodot Learns Data Behavior Patterns and Handily Identifies Anomalies

“Anodot is a machine learning-based system that reads the data, collects the correlation, and generates the feedback,” according to John. “We use agents to collect the data and then we push the metrics to Anodot in near real time. The more metrics that we push, the better results we are able to get. You want Anodot to learn your business, learn your metrics, learn the behaviors, learn the patterns of data traffic, such as what day of the week is peak, or what hour of the day is different from the rest of the day. Everything like that, the system will learn and optimize by itself.”

He says it’s important to define specific business and customer use cases. “For example, if you go to a website or a mobile app and you see a blank spot where an ad should be, that’s not good. It’s not a good customer experience, not better monetization for our customers, and Xandr is losing revenue as well. We should be able to capture events like that, so this is a good use case to have Anodot monitor for.”

Xandr has its Anodot results integrated through Slack to automatically notify people like engineers, account managers, code managers, and solutions consultants. This helps get issues resolved faster by the people with the knowledge, skills, and customer relationships to get to the underlying cause.

Without Anodot monitoring this use case, customers would be the ones calling their Xandr account manager to complain about the problem. Then IT would have to check the logs and the monitors to see what was happening. All the while, time is going by and the customer and Xandr are both losing revenue and the customer experience is impacted.



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## **Xandr's Results Over the Years of Anodot Usage**

Since adopting Anodot, Xandr has reduced its time-to-detection from a week or more to less than a day. Because Xandr's platform is integrated with so many partners, in the days before Anodot, it would require a lot of effort and time to figure out a problem. "Anodot helps us find so many incidents within a few hours or a day compared to multiple days and weeks," says John.

Xandr has had several good catches over the years. "Anodot has caught incidents that we were able to resolve quickly to save money for both Xandr and our customer," according to John. What's more, Xandr was able to save on resources that would ordinarily be used to run around to look at logs and check monitors.

"The benefits are definitely worth the investment we put in," concludes John. "Anodot is a great product and platform that is absolutely working for our scale and our needs. It solves the complexity of our platform and we are getting great results. And we're not done yet. I'm excited about Anodot's roadmap ahead. We plan to do so much more with them."

## Lessons Learned

Xandr has been leveraging Anodot for several years now on many use cases, and John says the solution is working well for them. “We get a lot of value from Anodot,” he says. “We continue to adopt it throughout numerous areas of our business.” John notes there are several important lessons they have learned as well as ideas they have developed for future uses of the solution.

“One lesson to take away from our experience with Anodot is to have clear ownership of projects on both the technical and the business sides,” John advises. “For example, someone on the technical or engineering side should commit to this and wake up thinking about this every single day. The business owner should help develop and coordinate customer-specific use cases.”

Next is to have clear metrics of how to measure the success of using Anodot. “We keep track of everything from how many instances we caught, to how much revenue we were able to save. We ask ourselves, how would the business function if we didn’t have Anodot? This helps us understand the value of using this tool,” according to John.

Another lesson is to continuously optimize the use cases, and make sure to fix the root causes of problems that are identified. “We don’t want to keep monitoring the same problem and just patch it each time. We need to go and fix the fundamental problem so the issue doesn’t surface again. Recurrences aren’t good for the customer nor for us,” says John.



Business metrics are notoriously hard to monitor because of their unique context and volatile nature. Anodot’s Business Monitoring platform uses machine learning to constantly analyze and correlate every business parameter, providing real-time alerts and forecasts, in their context. Our patented technology is trusted by Fortune 500 companies, from digital business to telecom.

Anodot reduces detection and resolution for revenue-critical issues by as much as 80%. We have your back, so you’re free to play the offense and grow your business.

Anodot is headquartered in Ashburn, Virginia and Ra’anana, Israel, with sales offices worldwide. To learn more, visit us at [www.anodot.com](http://www.anodot.com)

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