

Case Study

Payoneer Sees Unlimited Potential for the Insights Anodot Can Provide

About Payoneer

Payoneer enables millions of businesses and professionals from more than 200 countries and territories to connect with each other and grow globally through its cross-border payments platform. With Payoneer's fast, flexible, secure, and low-cost solutions, marketplaces, networks, businesses, and professionals throughout the world can pay and get paid globally as easily as they do locally.

The Challenge

Anodot helps Payoneer address several big challenges:

- Prevent revenue loss by accurately forecasting demand for funds in numerous currencies
- Provide mission critical monitoring-as-a-service to internal groups
- Improve MTTD and MTTR by replacing static thresholds with advanced machine learning techniques
- Eliminate wasted engineering effort by preventing false positives on operational metrics

The Solution

Payoneer has used Anodot anomaly detection and business forecast solutions for more than two years. An internal team uses Anodot Autonomous Detection to monitor for technical issues in the payment platform's operations. This team provides the alerts as a service to other groups who then investigate the issues. The treasury department uses Anodot Autonomous Forecast to accurately predict the funds needed in various currencies in locations around the globe to satisfy customer withdrawals each day.

Payoneer's platform streamlines global commerce for more than 5 million small businesses, marketplaces, and enterprises from 200 countries and territories. Leveraging its robust technology, compliance, operations, and banking infrastructure, Payoneer delivers a suite of services that includes cross-border payments, working capital, tax solutions, and risk management. Airbnb, Amazon, Google, Walmart, and Rakuten are among its many customers. The company is headquartered in New York and operates out of 24 global offices.

With millions of daily financial transactions happening on its platform 24x7, Payoneer closely monitors 190,000+ performance metrics in every area across the company. They are watching for any indication that something is even slightly off kilter with the business – for example, an unexpected decline in people registering for a new account, or a glitch in an API with third party software – in order to address issues quickly.

Payoneer also hones its forecasts of how much money, and what currencies, need to be sent to bank accounts around the world. Payoneer can save significant money and avoid customer complaints when accurate forecasts closely cover cash withdrawal needs.

Anodot helps Payoneer stay on top of its business through timely anomaly detection of various metrics and highly accurate forecasts for currency distributions. Here are a few examples of how Payoneer uses the Anodot solutions:

- **Monitoring Operational Areas with Anodot Autonomous Detection**
 - Taking Quick Action on Instances of Fraud
 - Monitoring for Cybersecurity Issues
 - Spotting Trends in Customer Care
 - Log Analysis to Quickly Spot Issues
- **Forecasting Currency Needs with Anodot Autonomous Forecast**

Use Case

Monitoring Operational Areas with Anodot Autonomous Detection

Millions of people worldwide depend on Payoneer to transact their own business with customers and suppliers. Given that the company's operations span so many countries and involve a massive number of partners and their APIs, Payoneer continuously monitors nearly 200,000 metrics to ensure it meets SLAs and general reliability and performance targets.

Aviv Oren is EMEA Regional Manager of Production Services. He supports internal teams – whether it's Product, Marketing, R&D, Finance, IT, or other groups – who need to know about anomalous conditions or activities. Oren calls it monitoring-as-a-service. "We are the ones getting alerts from Anodot on technical issues and we notify the appropriate groups about them," he says.

“Before we used Anodot, we tried detecting events using a static threshold. That resulted in a lot of false positives. We got alerts when there really was no issue but we had to check to make sure things were OK. That process wasted a lot of our time,” says Oren.

However thresholds can't account for seasonal patterns. “People tend to withdraw their money for the weekend and that resulted in a lot of alerts for exceeding the daily threshold,” says Oren. “We used to have

a lot of pending email alerts on Saturdays, which we had to check, but they were actually false positives. Once we started using Anodot, the machine learning detected the Saturday seasonality and we stopped getting the alerts because the activity is actually expected. Now we know why.”

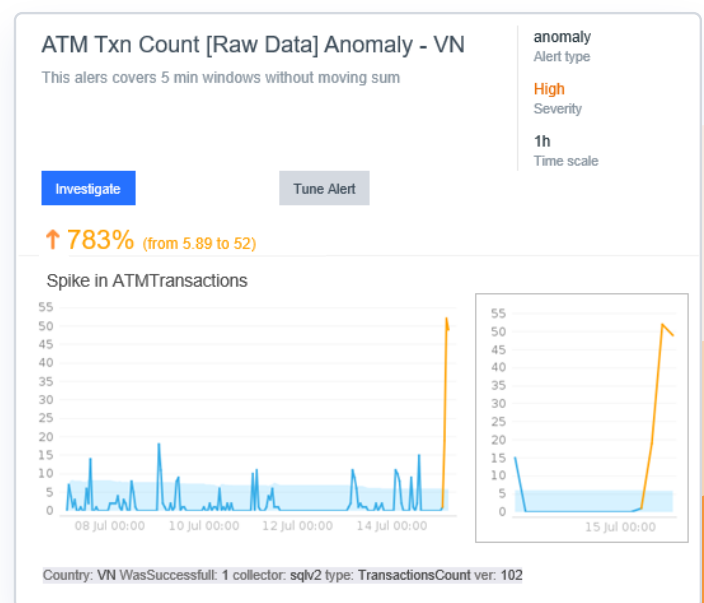
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Taking Quick Action on Instances of Fraud

Oren cites one example where Anodot was used to detect fraudulent activity in a particular country. It involves correlating several metrics to detect anomalous behavior. Anodot correlates multiple metrics including error counts and transaction volumes broken out by account and payment method. For example, detecting an unusual series of ATM withdrawals as a result of the fraud gives the risk department the ability to detect and track the anomaly. The behavior is detected very quickly, enabling Payoneer to take action to stop further fraud.

The illustration below is an actual Anodot alert that triggered a risk review and investigation regarding potential fraud in Vietnam.

Real-Time Alert for Abnormal Spike in ATM Transactions



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“Anodot is a far more reliable alerting system than the static thresholds that we used to do. It has eliminated the numerous false positives that would overwhelm us.”

Aviv Oren, Regional Manager of Production Services

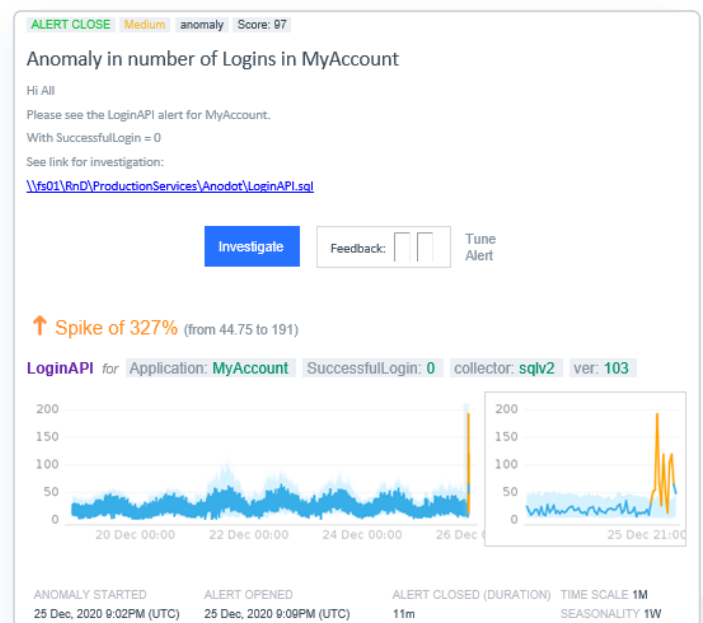


Monitoring for Cybersecurity Issues

Oren's team also monitors cybersecurity metrics to help detect malicious activity against the company's numerous applications and systems. For example, the number of successful logins and unsuccessful login attempts are fed into Anodot. The Production Services team gets an alert when there's an unusually large number of successful logins, an increase in unsuccessful logins, or even a drop in successful logins. Anomalies in these metrics could be indicative an application's login page is being attacked or harvested. Production Services then quickly notify the cybersecurity team, triggering a more in-depth investigation.

The illustration below is an actual Anodot alert showing an anomaly in the number of logins to a particular application. The spike alert helped Payoneer detect a harvesting attack of this web page.

Real-Time Alert for Anomalous Spike in Attempted Log-Ins





Spotting Trends in Customer Care

Payoneer monitors the types of calls coming into its Customer Care team. Every time a customer calls the care center, the service agent logs the subject and the sub-subject of the reported issue. From time to time, there is a trend where the call center is getting a lot of complaints about a specific subject.

Before deploying Anodot, the Customer Care team would try to analyze all the reports generated by all the service agents and hope to notice the increase in a particular subject over time. This manual process was time-consuming, labor-intensive, and prone to errors.

Log Analysis to Quickly Spot Issues

Yuval Molnar is Senior Director of Production Services at Payoneer. His group created an integration between the Coralogix log analysis platform and Anodot Autonomous Detection. The metadata from every service Payoneer has – now some 1,000+ services – goes into Coralogix and then is fed into Anodot to look for anomalous behaviors within the logs.

“I call it basic health insurance, because everything is automatic and being monitored for anomalies,” says Molnar. “Now we have a monitor in place that checks anomalies in terms of number of errors or number of logs, which is awesome. This is something that we didn't have before and it's a game

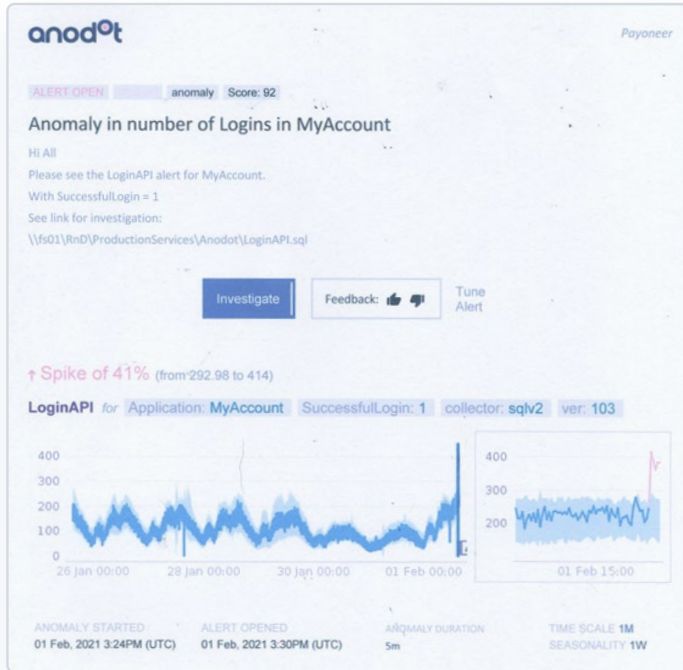
changer because we completely eliminated false positive alerts and we vastly accelerated time to detection of real problems. Now, when something pops up, we know for sure that something happened and we need to investigate.”

Now, the service agents' reports are fed into the Anodot Autonomous Detection system. If there is indeed a trend where a particular subject is increasing in frequency, Anodot will automatically produce an alert. This gives the ability to escalate the issue to supervisors much sooner than leaving it to chance that someone would spot the issue using a manual process. The sooner an issue is raised, the sooner it can be investigated and, if necessary, remediated.

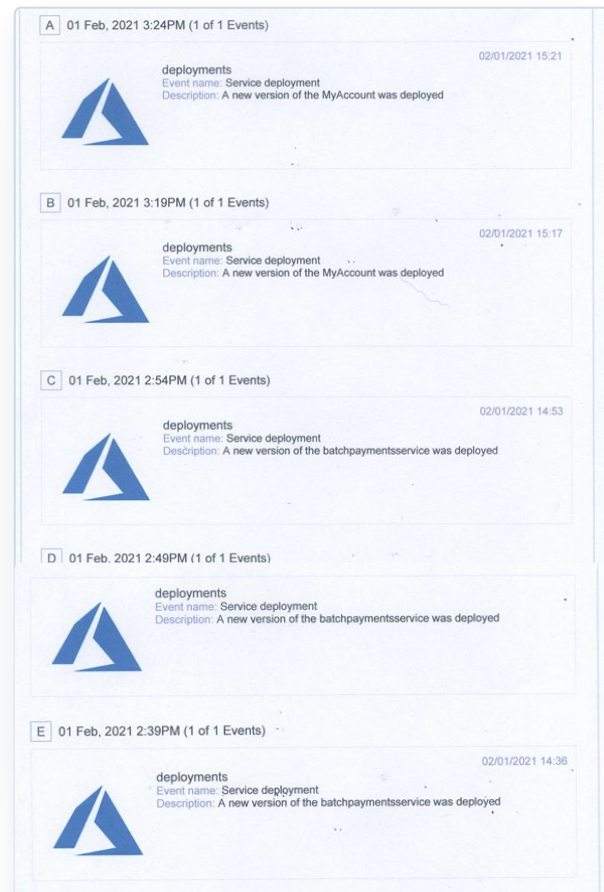
Molnar cites an example where they had an anomaly in the number of logins to a service called MyAccount. The alert from Anodot includes not only the anomalous behavior but also correlated log entries from Coralogix showing events that occurred around the time of the unusual behavior. This correlation of anomalies to events greatly reduces mean time to resolution.

The following illustration is the actual Anodot alert.

Real-Time Alert for Anomalous Drop in Outgoing Transfers



Molnar says there are many instances where his team would never have found an issue with a service if it weren't for his combined Coralogix and Anodot solution.



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“We need to get the whole picture just to connect the dots as soon as we can to understand that some of the events that came along with the alert might be the root cause for the failure. It has proved itself many times when some deployments were made prior to the alert or some kind of infrastructural change was done. So it helped us to find the immediate spec really fast. And this is, again, a game changer.”

Yuval Molnar, Senior Director of Production Services



Use Case

Forecasting Currency Needs with Anodot Autonomous Forecast

Oren Levy is the team leader in the cash management area of Payoneer's Treasury department. His team uses Anodot Autonomous Forecast to determine how much money, and which currencies, to distribute to the company's bank accounts, based on expected volume. The more accurate they are with their forecasts, the more effectively they can allocate funds to maximize profitability.

The nature of Payoneer's business is that customers can withdraw funds from their own accounts at any time. Payoneer must have sufficient funds available, in the currencies that customers prefer, to meet withdrawal demands. If too much money is allocated for withdrawals, it ties up capital that could be put to better uses. If insufficient funds are sent to the accounts, it results in disappointed customers who experience a delay in getting access to their money. Striking the right balance between having enough money – but not too much – is the goal of cash management.

This team must make forecasts for account locations in more than 100 countries around the world in 50 different currencies.

Levy and his colleagues used to compute these forecasts manually, relying mainly on their own experience and using crude tools like spreadsheets and a general treasury tool known as Kyriba. "It's very time-consuming to make the calculations for so many accounts every day, or every other day," says Levy. One of the complexities is having to understand behavioral patterns such as customers withdrawing more funds before a weekend or holiday. It's all too much to do this forecasting manually.

Payoneer has been using Anodot's forecasting solution for more than a year with the primary goal of reducing cases of insufficient funds, as they cause real customer complaints. A benefit of the Anodot system is its ability to learn patterns in the data pertaining to customer withdrawals. For example, Levy cites the

case of one commercial customer which withdraws its deposits in certain percentages over a matter of days: 80% the first day, 15% the next, and 5% on the final day. Anodot's machine learning recognizes such patterns and builds the forecasts accordingly.

Levy also must manage the funds held in specific currencies, such as USD, euro, GBP, and so on. If there are excess funds in a given currency, Payoneer sells those currencies. Anodot is even more critical in identifying currencies where there is a projected shortfall. Once a shortfall is identified,

Payoneer knows exactly how much currency to buy to cover the expected payout activity.

In the future, Levy would like to integrate the Anodot forecasts to other systems that allocate the funds between the payment service providers and the banks. Automating this process is a major project that would really facilitate money management for the company. Until then, simply having much more accurate forecasts in much less time is a real boon to Payoneer's cash management processes.



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 Silicon Valley with sales offices worldwide.

To learn more, visit us at www.anodot.com

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