loveholidays

Loveholidays is Taking Ownership of Its Data and Bringing GDPR Compliance, Data Science, and Personalization In-house with RudderStack

rudderstack

CASE STUDY

HIGHLIGHTS

- RudderStack's JavaScript SDK reduces load times, giving loveholidays an edge over competing travel sites.
- Loveholidays used RudderStack to build an in-house personalization engine that is ten times faster than calling an external API (20ms vs. 200ms), resulting in a 2% uplift in conversions and saving the company $500k a year in SaaS costs.
- RudderStack has given loveholidays granular analytics and a powerful personalization platform to improve conversion.

KEY STATS

- RudderStack takes four fewer hours to generate daily user attribution reports, which are now available at 7:00 a.m.
- RudderStack sends event stream data to loveholidays' BigQuery warehouse every 15 minutes, enabling near real-time data science.
- RudderStack gives loveholidays 100% ownership of their data, ensuring customers and suppliers that their information is securely stored on GDPR-compliant servers in the UK and EU.

"Speed equals performance, which leads to better conversion rates. My team used RudderStack to build an in-house personalization engine that returns hotel recommendations in 20 milliseconds. That's ten times faster than a third-party API, and our customers love it. We've seen a 2% uplift in conversions since launching this feature, which is rather impressive, and we're saving $500,000 a year on SaaS costs."

David Annez
Head of Engineering, loveholidays.com

OVERVIEW

Loveholidays was the fastest-growing online travel agency in the United Kingdom in 2019. It is also number one on the Sunday Times BDO Profit Track 100, with the fastest-growing profit of any private UK company in the last three years. Celebrating its 10th anniversary in 2022, Loveholidays offers hotel and vacation packages to UK and Irish travelers, with an emphasis on short-haul beach destinations in Southern Europe and North Africa.

Loveholidays' unique search engine serves 20 million unique users a month and allows site visitors to truly explore their travel options. Users don't even have to enter a date or destination to start planning a holiday. Instead, they can make selections based on hotel rating, TripAdvisor score, budget per person, holiday type, etc. The "hottest deal finder" scans flight and hotel options for the lowest possible rates and rewards travelers with no set itinerary with a surprising array of travel options. Loveholidays also offers all-inclusive last-minute deals and "City Breaks" destinations for people who prefer the hustle and bustle of an urban environment.

The site's discovery features are the cornerstone of the loveholidays user experience, but speed is another crucial consideration. With so many options to choose from, vacationers want to click through to their dream destination with minimum delay. Lightning-fast searches are the other feature that sets loveholidays apart.

CHALLENGE

Eliminating Reporting and Personalization Bottlenecks and Optimizing User Privacy

To optimize the user experience, loveholidays needed better visibility into customer events on its site. The company also wanted to improve personalization by offering a customized list of hotels based on user ID without compromising response times. GDPR compliance was a further requirement, and any solution chosen had to comply with UK and European Union privacy laws on data storage and sharing.

At the time, loveholidays was using Google Analytics 360 for user attribution, eventing, and reporting, but the tool created more problems than it solved. The company wanted deeper insight into how visitors used the website, but they couldn't collect or export all of the needed data from Analytics 360. Scheduling created another bottleneck: Analytics 360 was inflexible and only exported data every 24 hours, making continuous intelligence impossible and forcing loveholidays to wait for daily reports to be generated. Finally, Analytics 360 stored customer data on US servers. Despite Google's robust privacy tools, there was a risk storing this information outside the EU might run afoul of future GDPR rulings.

"We wanted to do more," says loveholidays Head of Engineering David Annez. "We wanted to perform deeper analyses to understand intricate customer behaviors. But Analytics 360 couldn't generate the depth of data we needed, and we couldn't scale due to limited visibility."

"Conversion reporting often took days," Annez adds. "Since we didn't own our data, we couldn't access it on our terms or reassure loveholidays customers we had 100% control over their privacy. That's why we decided to host it on our servers."

Taking ownership of their data had a further benefit. Loveholidays could use it as a launching pad to create an in-house personalization system that serves returning customers with hotel recommendations.

> "Third-party personalization tools are incredibly slow," explains Annez. "You can lose a customer in the time it takes to load suggestions returned by a SaaS. We couldn't take that risk, so we decided to build our own."
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> David Annez
> Head of Engineering, loveholidays.com

SOLUTION

Adopting a Dedicated CDP That Puts Data Ownership First

The transition to a robust reporting, personalization, and privacy framework meant rethinking loveholidays' approach to its technology stack. The company ditched Analytics 360's one-size-fits-all approach for a dedicated CDP. After briefly considering Segment, Annez went with RudderStack. Part of the reason was cost, but the selection was primarily due to RudderStack's increased performance, focus on technical users, hands-off approach to storing data, and support team.

"I wanted to build on a high-power CDP," says Annez. "But Segment lacked the performance to drive conversions. RudderStack worked with us to build a custom JavaScript SDK that was powerful enough to meet our needs. It was so good they rolled it out to the rest of their customers. You don't get that kind of attention from a company like Google or Segment. You can't ask them to give you something different."

RudderStack's warehouse-first architecture further enables data science insights and ensures regulatory compliance. Even though user event data from loveholidays' app and website is processed in RudderStack's cloud, it is immediately routed to back loveholidays' BigQuery warehouse. No personal or event replay data is stored on RudderStack's servers.

"I'm extremely comfortable entrusting our event stream and user data to RudderStack," says Annez. "Everything comes back to us and is stored on our secure GDPR-compliant infrastructure. I can safely tell customers, suppliers, and regulators that our data geographically resides on EU and UK servers and is not shared with third parties.

Annez is even more enthusiastic about the impact of data ownership on loveholidays' teams: "Every business unit has access to the same-well documented data. They can analyze events with their respective tools and spot opportunities faster. We're no longer waiting for a daily data dump from Google, and we can transfer data to BigQuery on our schedule and switch on real-time analytics, as needed. It's an incredible amount of control."

RESULTS

In-House Data Science and Personalization that is GDPR Compliant

Within fifteen minutes of installing the RudderStack SDK, event data started flowing into loveholidays' BigQuery warehouse. The first big change was accelerating the data transfer frequency from 24 hours to 15 minutes using RudderStack Reverse ETL to retrieve information from BigQuery. Daily attribution reports are now ready at 7:00 a.m., about four hours earlier than they were with Analytics 360.

"We don't have to wait to start analyzing customer behavior," says Annez. "Everything's ready first thing in the morning. And it's higher-quality data, too. We can track customer-facing and internal-facing information to gauge our performance as an online retailer and an organization. We didn't have any insight into our inner workings with our old tools."

Loveholidays also ramped up A/B testing with RudderStack Event Stream and built a veritable experimentation platform in-house without relying on a dedicated testing SaaS. The company created its own data models to track improvements. "We're saving $500,000 a year on testing services," estimates Annez, "But the real value is in spinning up A/B tests and seeing results ."

The most striking improvement is loveholidays' new in-house personalization engine. Using RudderStack Reverse ETL to transfer data from BigQuery into the company's Redis in-memory data store, loveholidays can serve customized hotel recommendations to customers in 20 milliseconds.

"It takes 200 milliseconds for an external API to return a list of hotels," adds Annez. "That's where our competitors stumble. With RudderStack, we're connecting to systems internally, and we can optimize them and make them as fast as possible, which means our customers see recommendations almost instantly on-site. I must also stress that every system we bring in-house reduces our risk of failing to meet our GDPR commitments."

Showing recommended hotels to customers instead of the default list has seen a 2% increase in conversion given they are hotels the customer is looking for.

Thanks to Rudderstack, loveholidays has brought analytics and personalization in-house while complying with privacy regulations and saving money and time. "It's the perfect foundation if you want to take ownership of your data and connect your systems," concludes Annez. "I feel confident we'll be using it for years to come."

Destinations: BigQuery, Google Cloud Storage, Redis, Sentry

Sources: BigQuery, HTTP, Javascript, Node, React Native, Webhook

Warehouse: BigQuery