



#### CUSTOMER SUCCESS STORY

## Frontier Airlines Reduces Look-to-book Ratio By 64%

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## Overview

Frontier Airlines is a low-cost air carrier with more than 350 daily flights to about 100 destinations in the US, Canada, Dominican Republic, and Mexico. Headquartered in Denver, Frontier Airlines is the proud recipient of the Federal Aviation Administration's 2016 Diamond Award for maintenance excellence. Frontier was also recently named the industry's most fuel-efficient airline by the International Council on Clean Transportation (ICCT).

## Challenges

**Bad bots abused Frontier's booking engine, skewing their look-to-book ratio** Frontier noticed a higher than expected look-to-book ratio.

This appeared to indicate that many website visitors were viewing flights but not making purchases. It was unclear whether there was an issue with marketing or poor website optimization – but subsequent data analysis revealed that 50 to 60% of the traffic was not legitimate. Rather, it was generated by bot operators that were scraping pricing data and artificially inflating true look-to-book ratio.

**Inflated look-to-book ratio caused potentially huge overage fees**

Frontier partners with a third-party reservation system to power the booking engine infrastructure on its site. Costs were structured in a way that required it to meet a certain look-to-book ratio. The influx of bots inflated Frontier's ratio, resulting in potentially large overage fees.

**Dealing with the bad bot problem internally wasted valuable team time and resources**

"We were spending time we didn't have," said Kevin Pennock, Director of Application Development. "Whether it's five minutes or five hours, that's not where my solutions architect, data analytics team, or I should be focused. I don't want to have to bother with bot analytics, trying to

**64%**

Reduction in look-to-book ratio

**Eliminate**

Scrapers from stealing data

**Protecting**

Frontier's web and mobile APIs

figure out what bot operators will do next and how to respond.”

### Bot visits skewed site analytics, hindering the company’s ability to optimize the customer journey

Frontier puts an emphasis on directing its customers to the website for the best pricing and experience. This makes optimizing the customer funnel extremely important. But bots polluted Frontier’s analytics, making it harder to tell where legitimate users originate from and how bona fide customers interact with the site. This hindered the marketing team’s ability to optimize the site so as to maximize both revenue and customer experience.

Manual IP blocking was time consuming and ineffective – sophisticated attackers shifted IP addresses and user agents to avoid detection

Prior to using Imperva Bot Management, Frontier worked with its reservation system vendor to combat bots. Back then it could identify IP addresses associated with bot activity, then block corresponding access.

Such a cumbersome approach proved fruitless in recent years. Bot sophistication had dramatically increased, and Frontier observed attackers rotating IP addresses and changing user agent data.

“Our prior approach was very reactionary,” says Pennock. “By the time we were able to identify the culprit and work to mitigate their attack, the bad guys had already switched to a different tactic.”

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## The Result

### 64% reduction in look-to-book ratio

In the three years prior to implementing Imperva Bot Management, Frontier did not meet its monthly look-to-book ratio. A month after deploying Imperva Bot Management, it was able to reduce the ratio 64%, surpassing the goal.

### Imperva quickly pays for itself with infrastructure cost savings

Hitting its target look-to-book ratio eliminated the potential for monthly overage charges for Frontier’s reservation system infrastructure.

“In the last three months, we’ve been able to hit our look-to-book targets resulting in zero overage charges,” says Pennock. “Our savings have more than paid for our investment in the Imperva Bot

Management service.”

## Analyst Managed Services eliminates Frontier’s IT team burden

By completely outsourcing bot investigations and mitigation to Imperva’s Analyst Managed Service team, Frontier has been able to eliminate time spent internally on bot defense.

“When we find any non-human traffic on the site, we reach out to Imperva and there is always someone available to help. We just drop information in our dedicated Slack channel [a cloud-based collaborative chat tool] and that’s the end of it for us,” says Pennock.

“Imperva has been a great partner. They work hand-in-hand with our team to help us identify which traffic is bad and troubling patterns.

“Sophisticated bots are constantly attacking companies like ours,” said Andy Bernard, Software Solutions Architect. “The Imperva Analyst Managed Services team has spent days counteracting particular bots --- which is much better than us having to do that on our own.”

## Protecting Frontier’s web and mobile APIs

When Imperva started protecting Frontier’s desktop site, the airline saw attacks shift to its mobile API. The airline then added Imperva Bot Management for Mobile Apps protection.

“We observed the API getting more traffic than the website, but Imperva has been responsive in stopping that abuse as well,” said Bernard.

Eliminating bot traffic decreases query load on production servers, reducing infrastructure costs and improving user experience

## Seamless integration with third-party mobile app developer

When new threats targeting its mobile API were identified, Imperva worked with its app developer, to integrate them.

“Mobile integration was really hands-off for us. We pushed our development partner to make sure it happened, but Imperva worked directly with them to quickly and seamlessly get their SDK implemented in our mobile app. There was nothing we needed to do; this removed the burden from my team and gave us confidence it would get done right,” says Pennock.

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