



ExtraHop Helps Alaska Airlines Ensure That 25 Business-Critical Applications Do Not Fail



The ExtraHop System Accelerates Troubleshooting Efforts and Proactively Warns of Potential Problems in a Challenging IT Environment

BENEFITS

The Alaska Airlines IT team has continued to see sustained and consistent improvements in both application and network performance, in addition to much greater ease and speed in identifying and troubleshooting problems. The ExtraHop system has provided numerous benefits:

- An integrated, real-time view across all tiers
- No need for high-overhead, system-wide database profiling
- Proactive early warning of potential problems
- Easier troubleshooting and performance tuning of application servers and databases

For more information:
www.extrahop.com

Customer Profile

Alaska Airlines is the eighth-largest U.S. airline and the dominant West Coast air carrier, with over 16-million passengers annually. It is one of only three profitable airlines in the United States.

Alaska Airlines has a reputation in the industry as a technology innovator, both in the cockpit and on the ground, and the airline was the first in the United States to offer web check-in and online ticket sales and booking.

Situation

Modern airlines are extraordinarily dependent on technology, and running IT for an airline requires solving unusual challenges, nearly around the clock. Alaska Airlines designates over 25 applications as business critical, managing everything from aircraft weights and balances to e-commerce applications that drive billions of dollars in revenue.

These applications handle crew scheduling, baggage logistics, fuel requirements, maintenance, and every aspect of operations. They even track how much weight is carried and where it is distributed on over 200 flights

daily, which must be calculated accurately before a plane can leave the gate. To compound this complexity, the Alaska Airlines tier-1 datacenters are connected to airports across the United States, as well as to remote locations from Nome, Alaska, to Zihuatanejo, Mexico.

Many of Alaska Airlines' applications run on a highly scalable three-tier architecture. Application delivery controllers distribute load across a tier of web servers, which in turn rely on a tier of application servers and database servers. Layered in between these tiers are multiple network components, security devices, petabytes of storage, and authentication and directory services.

The number of devices and tiers translates into a massive number of moving parts. Statistically, this complexity would result in constant failure. Although some companies are willing to accept a certain level of failure, Alaska Airlines does not tolerate underperformance.

“ExtraHop has proven itself to be very valuable to Alaska Airlines—and no other solution in our environment has been able to analyze Informix the way that the ExtraHop system does. It has enabled us to quickly and accurately diagnose several issues that would have been impractical or impossible to pin down previously.”

“We have been extremely pleased with the service and support that we receive from ExtraHop Networks and consider them a valuable partner.”

—Kris Kutchera,
Vice President of Information Technology
at Alaska Air Group

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Solution

ExtraHop Networks approached Alaska Airlines with a simple value proposition: given the airline’s operational scale, even a small increase in effectiveness would translate into substantial revenue increases and improvements in customer-impacting metrics, such as on-time flight performance. Despite Alaska Airlines’ industry-leading IT position, IT performance could be improved further.

Alaska Airlines knew that they needed to treat each application as an integrated whole. For example, a customer trying to buy a ticket online does not care if a browser error is the result of a database problem or a network problem; the customer just wants to buy a ticket. Transactions needed to be monitored across all tiers to enable Alaska Airlines to measure and improve performance.

Prior to using the ExtraHop system, Alaska Airlines’ IT team had to be aware that a problem was occurring before they could intervene, and the IT team then would use native operating system tools to manually assess the health of the infrastructure running their Informix database servers. To obtain even more specific transaction-level data, they had to turn on database profiling, a prohibitive step to take in the production environment due to high performance overhead.

The ExtraHop system is the only solution that provides an integrated view across all tiers, and with the ExtraHop Database Module, Alaska Airlines’ Informix databases could be observed continuously from a passive, zero-overhead perspective, with traffic reconstructed to record both network- and application-level metrics. This information saved countless hours, providing an early warning of new problems and revealing the root causes of slowness and intermittent errors without the need for system-wide database profiling.

Scalability

Alaska Airlines purchased the ExtraHop 2000 appliance just three weeks after the initial demo. The ExtraHop 2000 handled only one 1Gbps VLAN, though—about a tenth of the critical traffic that the Alaska Airlines team was interested in monitoring—so they soon purchased the ExtraHop 5000 appliance for even greater scalability. With the ExtraHop 5000, they could expand coverage to 10Gbps of analyzed traffic, which included all of the applications and servers critical to their operations.

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The implementation of the ExtraHop 2000 and 5000 systems by the Alaska Airlines IT team has demonstrated how an industry leader can achieve previously unattainable levels of IT performance and reliability. With the ExtraHop system, Alaska Airlines IT team can continue to outperform and achieve operational excellence.