Moving an Airline to the Cloud

insum

Client

Canadian Airline

Case Study

Services Provided

- ***Consulting***
- ***Cloud Migration***
- ***Ongoing Cloud Monitoring Optimization and Support***

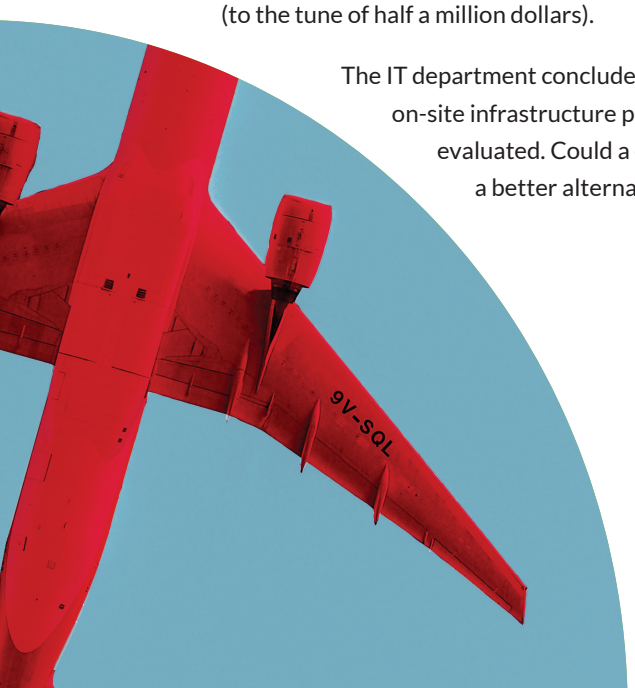
A Mission Critical Application Constrained by its Environment

A successful Canadian airline depends on a mission-critical application to tightly control the scheduling of its over two thousand flight crew members. This powerful software takes into consideration laws, regulations, labor agreements, rank, seniority and the personnel's flight route preferences, before producing its crew assignments. Performance is a highly important characteristic of this application, yet its servers were increasingly struggling to support it.

Overseen by the airline's IT group, the application's activity cycle stretches over a 2-week period every month and consists of data collection followed by a period of intense calculations. Server capacity consumption had gotten to the point where calculations took practically 24 hours, most of which were spent at the servers' maximum processing capacity. Users were noting performance problems; manual interventions were increasing, and so was the risk of failure. Practically speaking, the 6-year old servers had reached the end of their useful life.

Adding to this, a recent change in Disaster Recovery regulations now required a high-availability back-up of the application and its infrastructure. If the aging server cluster already needed to be replaced, this change in regulation now required doubling it. An onsite infrastructure scenario was now becoming quite costly (to the tune of half a million dollars).

The IT department concluded that its initial on-site infrastructure plan had to be re-evaluated. Could a cloud solution be a better alternative?



Advantage Cloud

As an administrator of several cloud instances, the airline's IT department was quite familiar with the advantages of "lifting and shifting" to the cloud. First, savings on physical servers and office space means a much lower cost of ownership. Secondly, since infrastructure maintenance is up to the cloud provider, IT teams can be freed up and reallocated to work on other important projects. Lastly, and most importantly in this case, the ability to adjust cloud capacity according to demand ensures that you're not paying for unused resources.

Particularly attractive in this case was how well the cloud could align with the application's characteristics: It didn't run two weeks out of the month, so costs during this period would be next to nothing. For its intense calculation peaks, maximum resources could quickly be spun up, as much as required, ensuring optimal performance.

This "pay as you use" aspect of the cloud was especially appropriate for the company's Disaster Recovery environments, which do not require resources unless they are put into action. Why pay for physical servers you are not using?

> ***"To create an effective DR solution on-site, the machines had to be sized for the application's most intense period of usage, even if we would only use them 2 weeks out of the month. For us, this was a non-optimal use of resources."***
>
> *Manager of Technology Integration, Canadian Airline*

All of these arguments made the shift to the cloud a winning business case, more easily justifiable to upper management. The only remaining challenges were deciding which cloud to go with and finding a partner that could smoothly tackle the technical details of migrating this mission-critical application.

Selecting the Right Cloud

Like many other companies, the airline has a multi-cloud environmnent. For this project, it considered the Microsoft® Azure Cloud (which it uses extensively for its Microsoft products) as well as the Amazon Cloud. The manufacturer of the scheduling application had also invited them to move the system to their own Google Cloud.

> ***"Based on what we know, it is difficult for us to believe that anyone else than Oracle will do the best job at hosting an Oracle database."***
>
> *Manager of Technology Integration, Canadian Airline*

As the application ran on an Oracle database, the airline's IT department felt it was important to explore the possibility of using the Oracle Cloud. It had heard about Oracle Cloud's competitive costs. Also, the company's experiences with several Oracle products led it to believe that the Oracle Cloud would be the best technological match, but it needed proof. The new migration partner, once chosen, would first be tasked with producing a Proof of Concept (PoC) in order to verify that Oracle Cloud performance would be up to the high standards required.

Selecting a Cloud Partner

The airline could have chosen to work with its usual cloud integration partner or with its own in-house Oracle DBAs for this migration, but it didn't. The airline's Manager of Technology Integration explains: "It was crucial to select a partner with the technical expertise to smoothly migrate this complex application. Insum's Cloud portfolio, including its strength in Oracle technology, was more complete than that of our usual Cloud integration partner. And particularly in this case, we needed the excellent overall project skills that only Insum had."

Insum quickly provided a Proof of Concept which clearly demonstrated Oracle Cloud's ability to deliver the performance required for the application's highest calculation peaks. The project went ahead using the Oracle Cloud.

Successful implementation

The project was successful and had only minor technical challenges, notably the network latency between Oracle Cloud Data Center (located in Ashburn, Virginia) and the airline's offices in Montreal, Canada. The distance between the two locations (About 1000 km or 650 miles) slowed an application running on the end-user Windows desktop. This was solved by provisioning a Windows server running the application at the Oracle Cloud Data Center instead. The change was completely transparent to end users.

The airline's Manager of Technology Integration states: "We are quite happy with the way the project turned out. Of course, we don't have a one-size-fits-all (or one-manufacturer-fits-all) approach to the cloud. Here at our company, things work by project. Each project requires analysis, and a business case. Often, we will require a Proof of Concept. So, cloud is adopted one project at a time."

Oracle Cloud's running costs also met the airline's expectations. Again, The airline's Manager of Technology Integration: "Now that we are running real-life instances of Oracle Cloud, we have an idea of what the costs are, and our first impression is that they are quite competitive compared to Azure. That is an important consideration. For sure there will be other cloud projects. Anytime there is a new service or product to put together, there is now usually someone working on the business case that says, "Can we look at the costs of running this in the Cloud?". "And," he concludes "If the service or equipment runs on the Oracle database, we will absolutely evaluate the feasibility of the Oracle Cloud."

The Three Big Benefits of this Project

The airline has identified three big benefits stemming from this project and its association with Insum.

Smooth Transition to Ideal Performance

For one, without causing disruption, the new solution has completely solved the crew assignment application's performance issues. The Oracle Cloud provides ample processing power for its calculation peaks.

The implementation has also significantly reduced IT operational workload. The IT team no longer requires administrators to manage physical servers, doing away with firmware updates, disk replacements, backup management etc., not to mention the installation (racking, connectivity) of such hardware.

Reduced Costs

The second benefit is the considerable cost savings brought to the Disaster Recovery segment of the project. Reserving the necessary space on the Cloud comes at a very small fraction of the price of having on-site servers as a back up. In case of an emergency, an entirely new instance of the application can be "spun up" within minutes.

Ongoing Expert Help

Thirdly, the responsibility of optimizing the airline's Oracle Cloud has been handed over to Insum, at least for the first year. As cloud experts, Insum can pinpoint areas of potential enhancements and recommend adjustments to ensure the airline's cloud performance is always optimal. On the cost side, with Oracle Cloud offering numerous options, costs could potentially add up quickly. Insum is helping the airline select the right combination of features to optimize costs. An example of this is Oracle's recent offer of AMD processers as an alternative to the standard Intel® ones. The AMD processors offer identical performance at approximately half the cost.

Insum will keep everything running smoothly, while ensuring the airline takes full advantage of any updates or upgrades the Oracle Cloud may offer.

ORACLE Gold Partner

"Insum played a key role in this adoption. Since we were very tight on resources, not only did we turn to Insum's technical expertise, but we also relied on them to provide deployment support, some project management, some technological integration, as well ongoing monitoring optimization. It is a pretty wide mandate to be sure, but Insum proved efficient and is saving us a lot of time."

Manager of Technology Integration, Canadian Airline

About Insum

We are Oracle Cloud specialists, with Oracle OCI certified experts on staff. We've developed a methodical, proven approach to implementing Cloud migrations and Cloud maintenance, so you can get the most out of your investments. We look forward to hearing from you!

To learn more about us: www.insum.ca.

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