A SAP Hybris on Amazon Web Services IDO Case Study

About IDO

IDO (Istanbul Deniz Otobusleri Sanayi ve Ticaret A.S) was founded in 1987 in Istanbul by the Greater Metropolitan Council for the purpose of promoting sea transport and helping to ease traffic jams.

The Company's mission is to provide fast, safe and comfortable sea transportation with continuously developing, innovative and sustainable activities in line with customer expectations.

IDO - aiming to meet the expectations of IDO passengers, employees, suppliers, community and partners in balance - has adopted "perfection" concept as fundamental driver of learning, innovation and continuous improvement.

IDO is the biggest Ferry Company (passenger and vehicle carrying) in Turkey and it's the 5th biggest in the World. IDO provides public transportation in Istanbul and wider region surrounding Sea of Marmara.

Istanbul's sea transport was largely carried out by Turkish Maritime Operations City Lines before 1987. In that year, Istanbul Ulasim and Ticaret A.S. (Istanbul Transport and Trade Ltd) was founded by the Greater Metropolitan Council, bringing a second marine transportation organisation into existence. Later in 1988 the organisation underwent a title change, becoming IDO - Istanbul Deniz Otobusleri Sanayi ve Ticaret (Istanbul Sea Buses Industry and Commerce), Ltd.

In February 2005, the Greater Istanbul Metropolitan Council expressed its desire to take over Türkiye Sehir Hatlari Isletmesi by submitting a protocol to the High Board of

Privatisation (HBP). The takeover operations were carried out by IDO on behalf of the Greater Istanbul Metropolitan Council. Following the takeover, the Greater Istanbul Metropolitan Council became the sole authority responsible for marine transportation in Istanbul and this responsibility was largely transferred to IDO.

In June 2011, IDO was privatised and started to be steered by TASS Joint Venture (Tepe-Akfen-Souter-Sera) management.

IDO operates a total of 16 lines with a fleet of 24 Sea Buses, 9 Fast Ferries and 18 Conventional Ferries. Its 53 ships go to 28 destinations. Overall capacity for IDO fleet is over 30000 people and 3000 vehicles.

The Challenge

The main challenge for IDO is to offer passengers for the ferry line the ultimate customer experience at Istanbul's busiest hours. IDO's passengers want to be able to buy a ticket any time of the day, every day of the week reliably on any device. Therefore, what they don't want is a system that is either unpredictable offline or even predictable offline. What they also don't want is, even if the system is available, that it is slow and unresponsive. So, they want a predictable and a high level of service.

In this sense, the most important and prior performance criteria for the web site and mobile application is the superior availability, fast transactions and user convenience. The challenge faced is the demand volatility. IDO has very volatile demand structure. In the summer season and especially on holidays, the demand rises up to ten, sometimes one hundred-fold. IDO had the challenge of not compromising from the performance criteria (availability, fast transaction, customer satisfaction) while keeping costs low and keeping the efficiency high and not having any unused capacity.

Managing this environment under one roof, optimised in its totality, under one SLA, with the necessary expertise was one of the bigger challenges.

IDO needed a scalable and a cost-effective solution for e-commerce. It was very important to offer customers a smooth customer experience. This was the motive to move to cloud.

In 2017, IDO has ticketed more than 60 million people and vehicles. The share of tickets sold via online channels is over 45%. More than 1.2 million tickets for people and 200k tickets for vehicles has been sold solely on the mobile app. IDO's website has over 7 million registered users and had more than 75 million pageviews for 2017.

The Solution

IIDO decided to use the SAP Hybris e-commerce platform to allow it to update its current ticket sales channels. Utilising the correct and appropriate technology, which Hybris would run on became a priority. Performance, reliability, high accessibility and security were the top KPI's in the decision-making process.

With the Hybris platform in mind, Amazon Web Services (AWS) - providing single point access, agility, high availability, performance and compatibility – provides an all-round solution for all basic business requirements and these features played the utmost importance in the selection process. In choosing a provider for the cloud initiative, out of the box functionality is an important criterion. Also, creating, generating or populating virtual environment on demand real time is important.

Elastic BeanStalk was chosen for the Hybris based ticketing system and the main reasons were its ability to automate capacity preparation, load balancing, scaling and application health monitoring.

It was not possible to upscale or downscale the SAP Hybris ticketing system at a moment's notice before AWS. Ticketing demand fluctuates highly on a seasonal and time of day basis and it was critical to be able to scale the system in seconds. Also, for database needs, SAP HANA on AWS is being used on SAP certified servers for SAP Hybris.

The Benefits

The most mission critical system in the environment is the e-commerce platform. Within this platform, IDO manages all Sales Channels like its web site, mobile application, ticket booths and also kiosks. These systems, all included, encounter around 20 transactions per second, which can go up to 100 transactions per second in high season and total up to 60.

million Tickets and half a billion total transactions in each year. The question was how should it be implemented – there are always choices to be made, and on this occasion the choice was to use the AWS Cloud.

The cloud allows to build highly available systems with no single point of failure, in a very economical way to build in large amounts of redundancy at a low cost. This means that it is possible to build systems approaching 99.999% of availability. It ensures that all the services of the application have the same degree of Reliability and Serviceability.

For the ticketing system, previously, it was not possible to upscale or downscale the system at a moment's notice before AWS. Ticketing demand fluctuates highly on a seasonal and time of day basis and it was critical to be able to scale the system in seconds.

It is crucial for users who are using the online ticketing system to conclude their transactions swiftly. Especially in the holiday season, longer distance lines create peak user traffic and so the solution was designed so that there would be no delays in the ticketing services.

A dramatical decrease in costs has been achieved. Availability percentage has increased and the performance glitches that tend to occur on high demand are no more happening.

There has been very valuable savings in support and maintenance costs by running SAP environment on AWS. IDO's physical servers, including database and application servers, were decommissioned. Utilisation of resources has drastically developed, leading to unprecedented efficiency rises.

The response was that the current systems, especially the ticketing system, would produce under heavy and volatile load and the stability of the environment was one of the most important issues that has been solved with AWS services. AWS's service-oriented architecture and their customisation capacity for evolving customer needs enabled to utilise the environment to the fullest.

The success of this cloud adoption Project, can be measured in the net sales increase (40%), cost reductions and performance rises. It is especially meaningful that this Project was delivered for a Public Serving Company and provided general welfare in the form of high availability, reliability and swiftness.

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