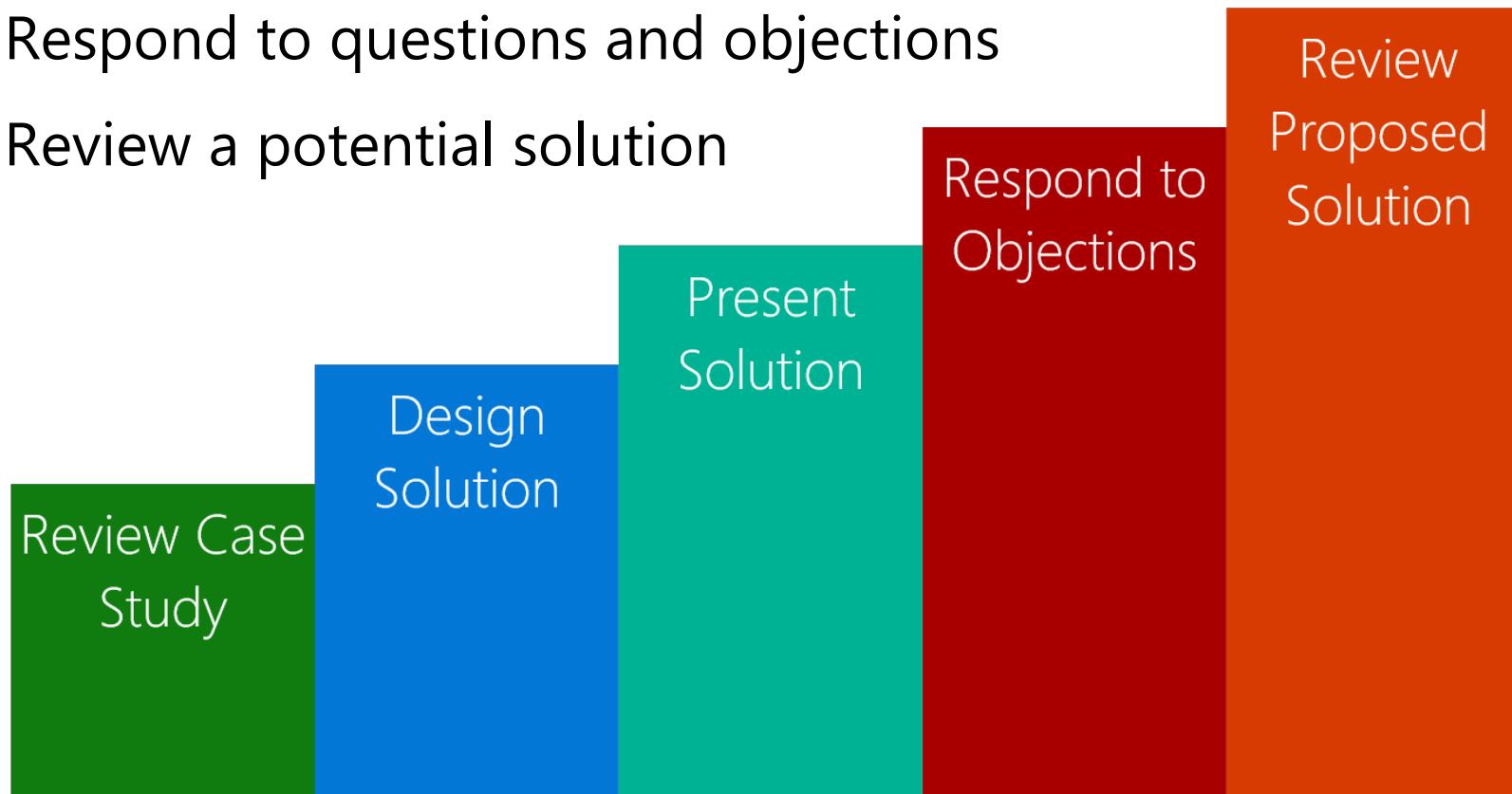


Building Serverless architecture - Case Study

- Case Study Overview
- Case Study Solution

Case Study Overview

- Review the case study requirements
- Design a solution to the customer business problem
- Present your solution
- Respond to questions and objections
- Review a potential solution



Customer Situation

- Contoso Ltd. manages a number of toll booths, taking photos of vehicles and billing the drivers.
- License plate detection is currently a manual process.
- They are trying to cope with being overloaded due to faster-than-expected growth.
- Contoso Ltd. added toll booth management as a one-off side project that works with their robust custom-built billing system. Their TollBooth software, which was meant to handle just a handful of local toll booths, had minimal development resources allocated to it. As such, Contoso has been using a manual process to identify license plates and send that data to their billing software. As a car passes through a toll booth, a medium resolution image is taken of the car to identify its license plate numbers/characters which will ultimately be used to look up and bill the customer. Currently, they periodically package and send those images to a 3rd party vendor, who manually identifies the license plate numbers and sends the list back to Contoso when they are done. At this point, Contoso collects batches of 1,000 transactions, saves the information to a CSV file hosted by an FTP server, where their downstream accounting system extracts the license plate information and bills the customer.
- They have recently been awarded a very large contract to add an order of magnitude more toll booths they need to manage. Now they are trying to quickly cope with this new growth and automate the license plate detection process.

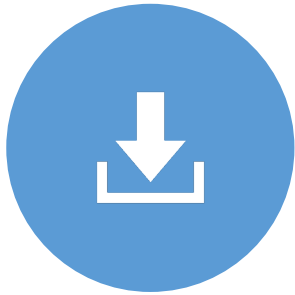


Customer Situation

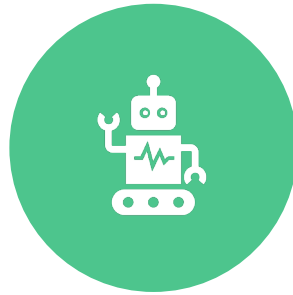
- Contoso is confident that their billing system can handle the load.
- They are concerned about how rapidly they can automate the license plate processing while ensuring the new automated solution can scale to meet demand, especially during spikes in traffic.
- They are confident that their billing software can handle the load, as it has been the primary focus of development from the start, and has expanded into other markets, proving its ability to handle large-scale transactions and data processing. However, Contoso is concerned about how rapidly they can automate the license plate processing portion of their TollBooth infrastructure, while ensuring that the automated solution can scale to meet demand, particularly during unexpected spikes in traffic.



Customer Situation



WANTS AN AUTOMATED
WORKFLOW TO EXPORT LICENSE
PLATE DATA AND SEND
CONDITIONAL ALERTS.



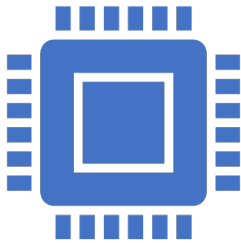
WOULD LIKE TO USE MACHINE
LEARNING SERVICE TO PERFORM
LICENSE PLATE RECOGNITION TASK.



NEEDS TO STORE IMAGES IN CLOUD
STORAGE AND DATA IN DATABASE
FOR EXPORT AND MANUAL
VERIFICATION.



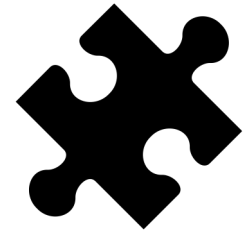
Customer Situation



Our directors want to see where we can take the notion of a serverless architecture and see if there truly are long-term performance and cost benefits.



With the unexpected windfall of the toll booths contract, they want to make sure we have a tested strategy we can fall back on in the future...





Customer Needs

- Automate manual process using serverless.
- Use ready-made machine learning service.
- Manually enter license plate numbers for images that could not be processed.
- Scalable solution that can handle unexpected demand.
- Automated workflow that exports data.
- Options to locally develop and automate deployment pipeline.
- Centralized monitoring dashboard with real-time and historical viewing options.

Customer Objection

- How can the serverless components talk to each other?
- Will the dynamic scalability of the serverless components end up costing us a lot of money?
- How do we combat against erroneous image processing?



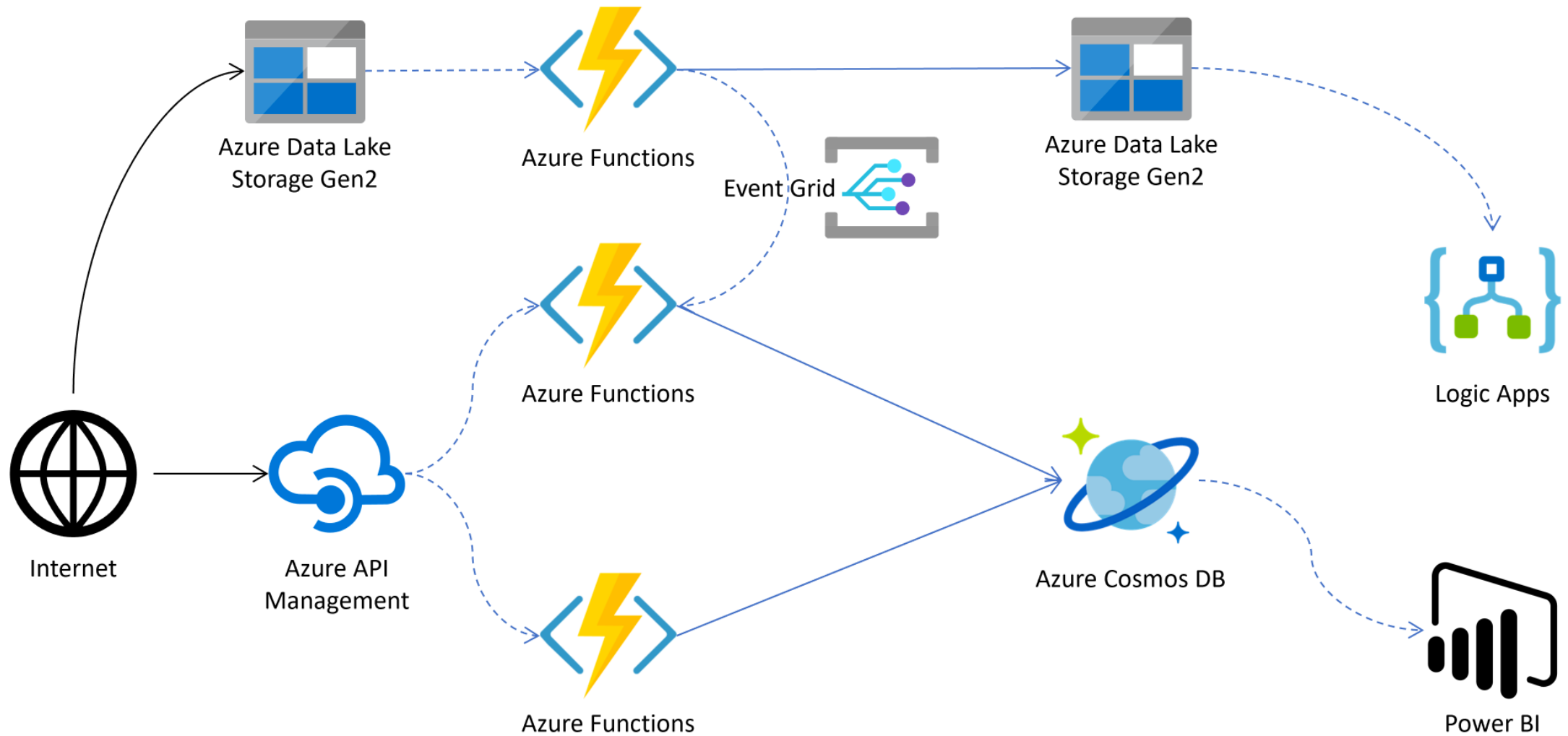
Customer Objection

Can we add a secure, customer-facing API and how do we protect it from unauthorized access or an excessive number of requests?

What is our best option to protect application secrets?



Common Scenario

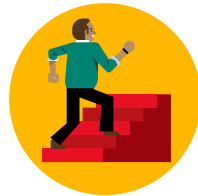


Call to Action

Case Study Timing: 60 Minutes



Who are the business decision makers and stakeholders?



What customer business needs do you need to address with your solution?



Diagram your proposed solution