**Case study serverless**

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Date: February, 2020

In 2018 almost 4 billion pin transactions were made in The Netherlands. The number of pin transactions varies per day with a peak shortly before Christmas. For each transaction the IBAN of both accounts must be validated. Thus, an algorithm needs to be performed two times for each pin transaction. Since millions of transactions may occur every day, this process requires a considerable amount of computational effort. However, the number of pin transactions may vary each day. Thus, server capacity should handle the peak number of transactions on Saturday before Christmas, but these servers might not sit around during the year doing little work. A possible solution could be to use server capacity in the cloud, but there might be other cloud services available that could be useful in this situation.

Your task is to investigate which cloud based solutions might be available that could scale ,either vertically or horizontally, with the changing situation during the year offering low response times, while keeping cloud resource usage at a minimum. From an auditing perspective it is necessary that all transactions are stored and available at request, preferably by using one of the cloud provider services. Within the architecting board there is also an ongoing discussion that need to be clarified by your investigation. 1) Can cloud services like serverless be an option to replace our complete or part of our micro-service architecture? 2) What are possible guidelines of best practices to keep our future cloud applications and services maintainable? Some architects suggest 12-factor app guidelines should be followed. Should we?

Your task is to advise on a suitable, reliable and secure cloud platform, with a high community acceptance and low cost that can offer the necessary cloud services to create and deploy a REST service to validate IBANs with fast response times and minimal resource usage. You should motivate why the suggested services provided the right functionality, keep cost low and that your solution is able to handle the expected load. Furthermore, you should include an estimation of the yearly costs of the suggested solution.