# The Cloud Integration Offer

## Approach plan

**Bachelor's in applied IT
Specialization Application Development**

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# 1    INTRODUCTION

In this document I will be outlining my approach to the task assigned during my internship.

Firstly, I will provide some context by introducing Integration Designers, the organization where I completed my internship.

I will also mention the platforms we used for communication and documentation.

Then, I will provide a detailed explanation of the assigned task, including an introduction to integration to ensure clear understanding.

# 2 CONTEXT

## 2.1 Where

### 2.1.1 Cronos

The Cronos Group is a consulting company that specializes in IT services. They have a workforce of over 9000 employees and manage 570 companies. The company is dedicated to transforming innovative ideas into reality to enhance the quality of life, not just within the IT industry, but also outside it.

### 2.1.2 CornerBriX

CornerBriX is a cluster company within the Cronos Group that specializes in integration. Integration refers to the process of combining different systems and technologies to work together seamlessly regardless of changes or difference in language.

CornerBriX is the largest integration competence center in Belgium and is trusted by major companies such as Engie, Ravago, and Q8, just to name a few. It's worth noting that above CornerBriX, there's another cluster called Diversiti, which is dedicated to management within the cluster itself. However, I haven't had any contact with them.

### 2.1.3 Integration Designers

During my internship, I worked at "Integration Designers," which is one of the subsidiary companies of CornerBriX. Integration Designers specializes in integration, particularly IBM integrations. However, my internship task was not related to IBM technologies but focused on migrating IBM integration to the cloud. I will explain this further in this document.

## 2.2 Who

### 2.2.1 Head of Integration Designers

As I mentioned earlier, Jeroen is the boss at Integration Designers and he was the one I first contacted. I am grateful for the opportunity he gave me to contribute and gain experience in the world of integration, which I knew nothing about. He helped me understand how everything worked and advised me on the best people to contact for specific questions.

### 2.2.2 Mentor

Kim is an integration specialist with extensive experience and motivation. He helped me find the best approach to handle all my technical questions and was always available to assist me when I faced any difficulties. I felt very comfortable working with him, and I appreciated the combination of informal and formal relationship we had. I never hesitated to ask questions, and I greatly appreciate his patience and helpfulness throughout my internship period.

### 2.2.3    Supervisor

During my internship, Bram Verbruggen was my supervisor. Although I had no prior experience in the field of integration, Mr. Verbruggen never made me feel like I couldn't handle it. In fact, he himself has experience in integration and greatly assisted me in explaining my internship task and concept in a clear and simple manner.

## 2.3      Parent scheme
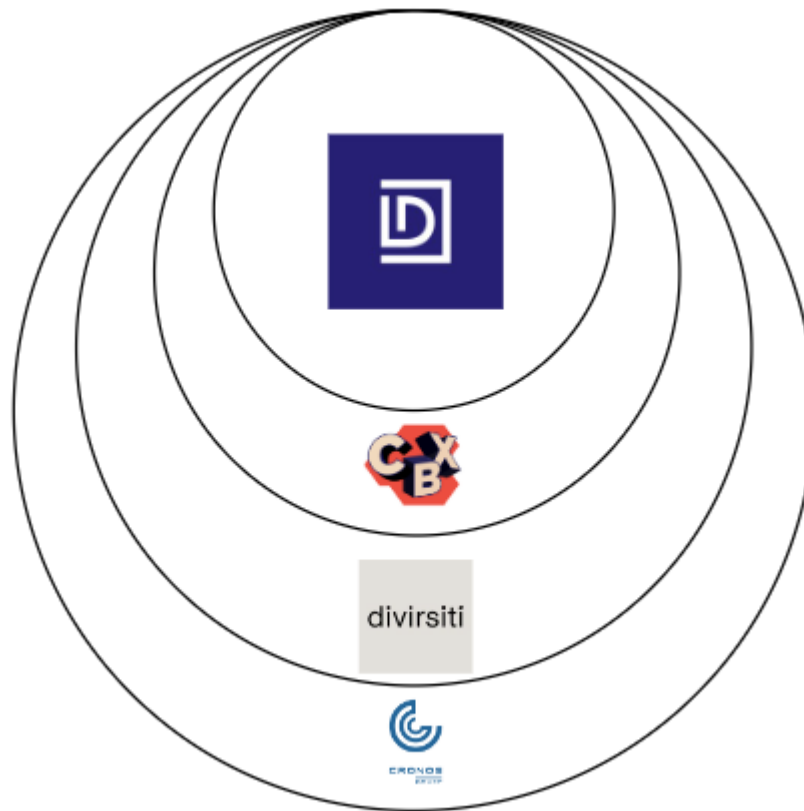
# 3    PLATFORMS

## 3.1    Confluence

Confluence is the platform we use at CornerBriX for documentation. It allows us to share our progress and completed tasks with each other. This helps us avoid duplicate work and provides evidence of our competence. We also use Confluence to document the "fasttrack" days at ID, where colleagues can provide workshops and progress updates to each other. Before Confluence, we used SharePoint for sharing, and it is still used for sharing PowerPoint presentations that may be of interest to our colleagues.

## 3.2    Outlook

We use Outlook as our email platform for communication and scheduling meetings, just like we do in school.

## 3.3    Teams

Teams is the primary communication platform for conducting online meetings and contacting colleagues. Additionally, and out of habit, we also use Slack within the company.
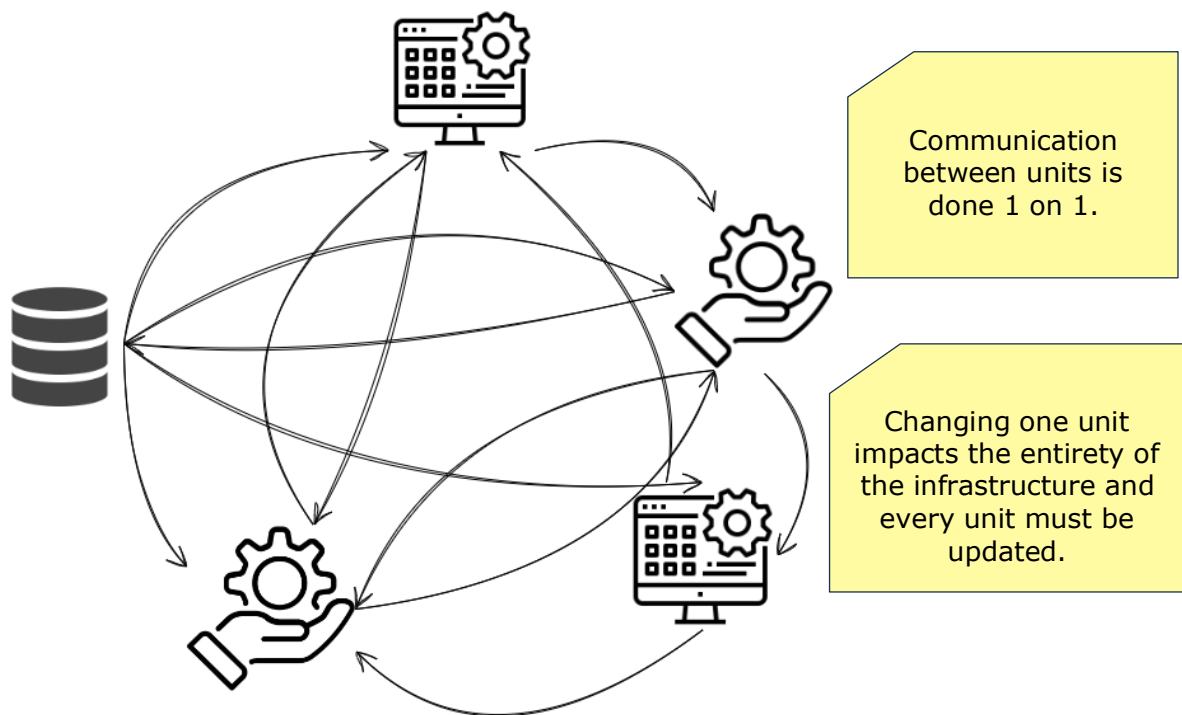
# 4      APPROACH PLAN

## 4.1      Preface

Creating my approach plan for integration in IT was a lengthy process that required regular feedback. Integration is a specific field within IT, and the challenge was to explain it in a way that everyone could understand. To ensure clarity, I sought feedback from Mr. Verbruggen multiple times and presented it to my fellow students.

In simple terms, integration in IT is the process of enabling different parts of a digital infrastructure to communicate with each other seamlessly, regardless of language or adjustments. This is achieved by placing a translation layer between the components that captures messages and forwards them to the appropriate recipient. The problem and solution are identified first before proceeding with the process.

## 4.2      Introduction into Integration

### 4.2.1      Problem



Communication between units is done 1 on 1.

Changing one unit impacts the entirety of the infrastructure and every unit must be updated.

### 4.2.2 Solution: integration

To address this issue, we propose the implementation of an Enterprise Service Bus (ESB) or 'integration' layer, ensuring seamless communication, and preventing any changes made to a component from affecting the entire infrastructure.
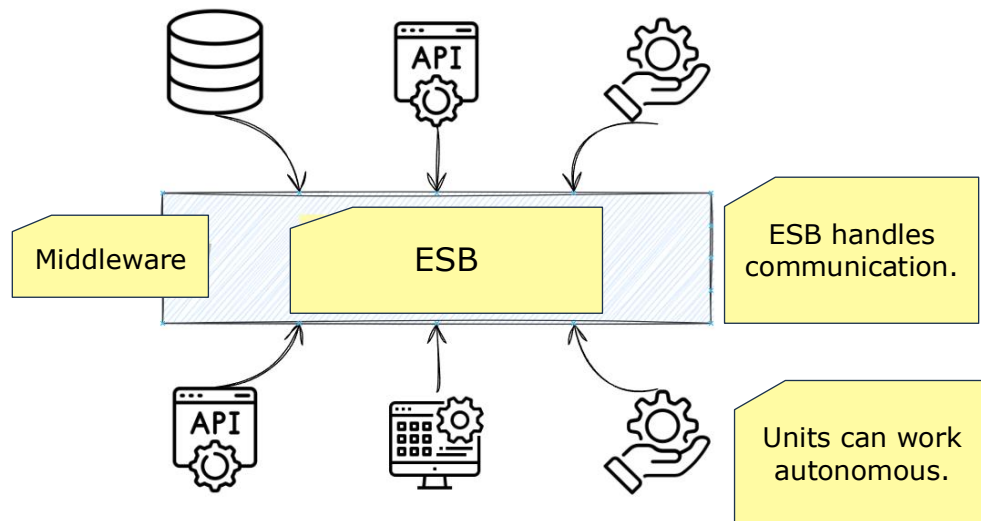


Due to the implementation of a large Enterprise Service Bus (ESB), a single component is now handling a significant workload, resulting in delays and complex patterns that need to be optimized.

To improve operations, we propose decentralization by placing an ESB layer at each component to capture communication and minimize workload.
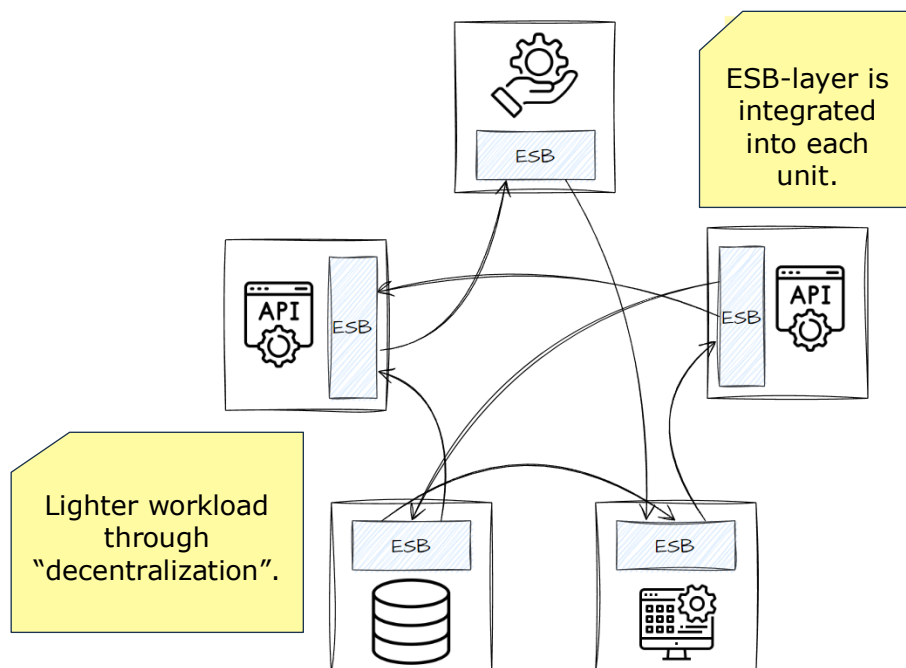
Finally, and in this part, my task takes place, which involves migrating the integration to the cloud so that they are located close to each other for faster and simpler collaboration.
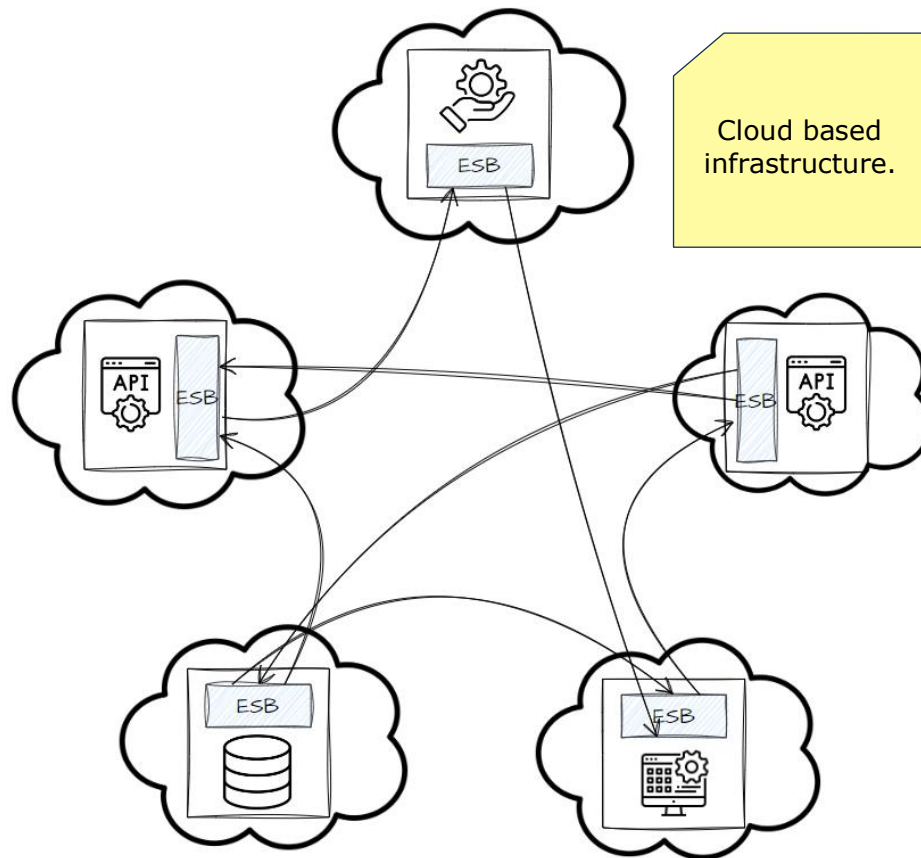


So, my task is to prepare a proposal that offers the option to migrate our clients' integrations to the cloud. This results in a faster 'time to market,' providing a platform for all data related to their integrations. The entire proposal, idea, and how I have developed this will be explained later.

## 4.3    Task

"Enabling customers to easily transition to the cloud with their IBM integrations."

As you may have noticed, my main task is not to create integrations. Rather, it is to develop a proof of concept that can be presented to customers as an offering for migrating their IBM integrations to the cloud. The first step in this process was to determine which technologies I would use.

## 4.4    Business case

Companies no longer want to manage their digital infrastructure themselves but opt for a cloud-based solution where the management and maintenance are taken care of for them. The goal is to execute this in a time-friendly and budget-friendly manner.

If Integration Designers can provide a Proof of Concept for this, they can propose this offering to clients and determine whether it is a desirable solution.

## 4.5    Proof of Concept

### 4.5.1    Schematic representation
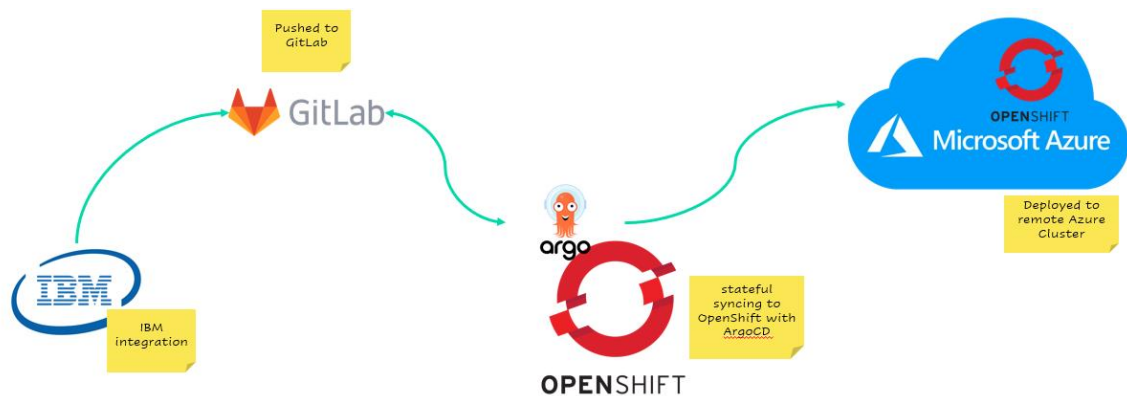


In the diagram above, you can see the logos of the platforms that I will use to develop my Proof of Concept (P.O.C.). I will provide further explanation about each one of them.

## 4.6    Tools

To start developing an IBM application to develop a P.O.C, I need to first understand IBM App Connect Enterprise (ACE), which is the specialty of my internship mentor.

IBM ACE is a part of the integration package offered by IBM, and the main focus is not on learning the ACE technology itself, but rather on creating a deployable artifact and deploying it.

GitLab is an online DevOps tool, much like GitHub. It is a new platform that I am interested in learning to use. Although it has many similarities to GitHub, I find it helpful to explore different options. GitLab serves as the source repository where I can push my application code.

The next step involves deploying the application on OpenShift which is a deployment platform based on Kubernetes. OpenShift provides a layer to simplify and organize the deployment process.

As mentioned earlier, my responsibility is to evaluate the ease of transitioning from an on-premises OpenShift solution to its cloud-based version.

Argo CD is a platform designed for continuous deployment in Kubernetes. I use it to keep the deployed version in sync with the latest version on GitLab.

Our reasoning for using ArgoCD is that it is new and interesting to discover, but also the fact that is part of the cluster itself and therefore has constant knowledge on the current state of the application.

Finally, we need to choose the cloud platform. Here, we have opted for Azure Red Hat OpenShift (ARO). Naturally, the workflow is slightly different on a cloud platform. What are the differences, and how easy is it to migrate?

## 4.7    Course of the internship

### 4.7.1    Analysis

During the first week, we spent time clarifying the use case and conducting a requirements analysis. Kim and I worked together to develop an internship task that is challenging, educational, and achievable, while also adding value to the Integration Designers team. We also elaborated on the technical analysis and created individual tasks for different parts of the project to help structure our goals and checkpoints.

Here you can see a visual representation of the declared steps of my internship.
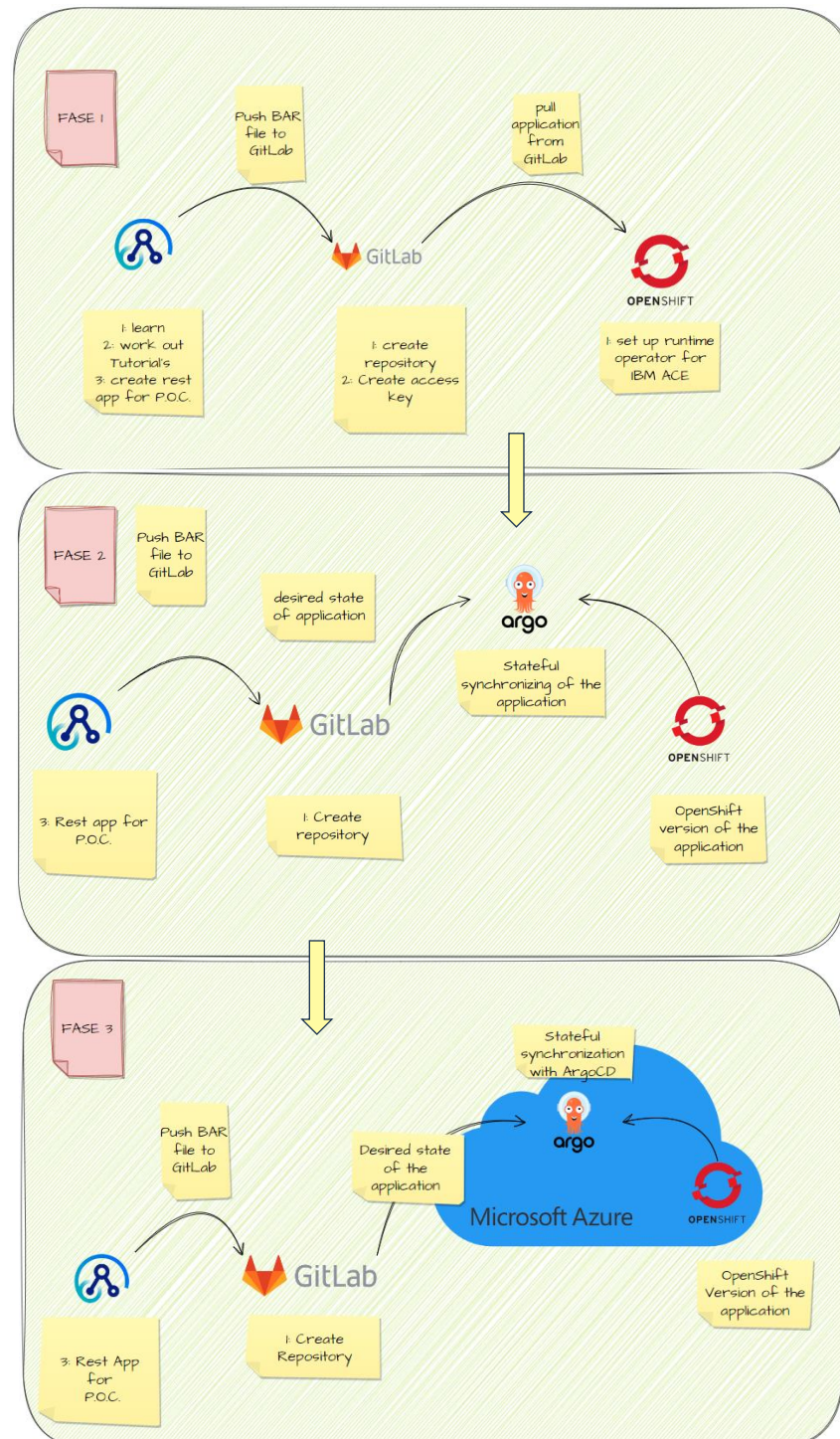
### 4.7.2    Business task (offer)

After working on the technical aspects, the second major part of the internship comes into play. My P.O.C. is not only to determine its feasibility but also to assess its desirability as an offering.

Developing and selling an offering involves several components for which I need to gain knowledge and experience.
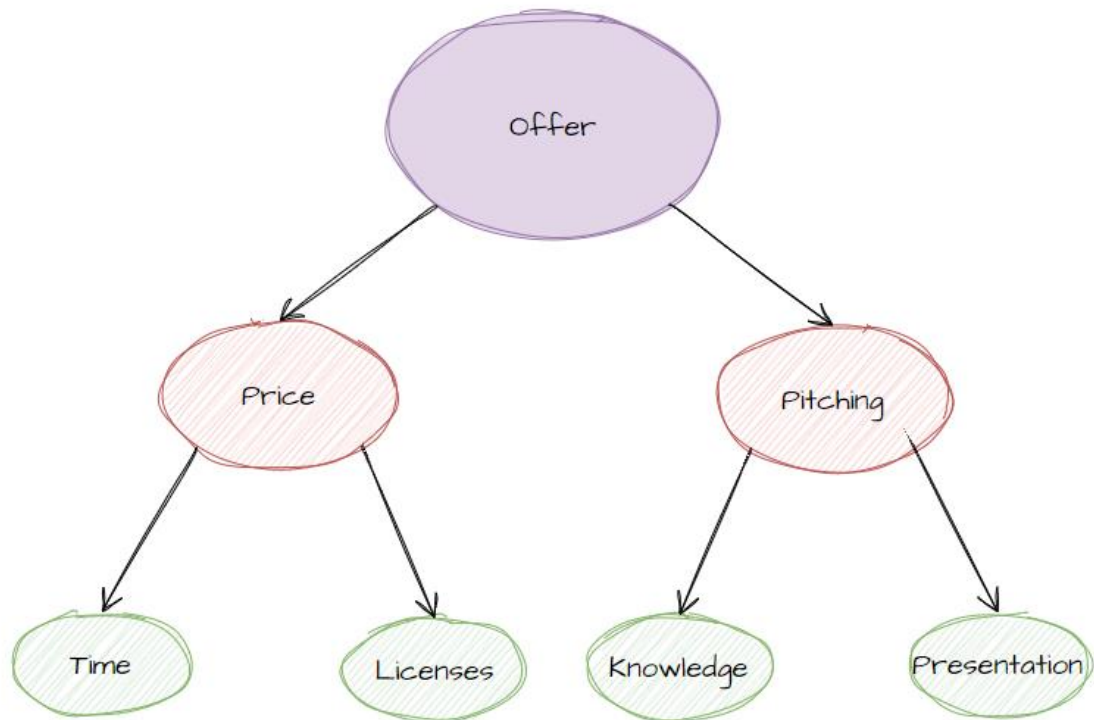


## Pricing

To determine the price of our offering, we consider two main factors. As a consultancy company, we first need to estimate the time needed to develop a custom offer. In addition, we identify the licenses required for the offer and their associated costs.

## Pitching

Learning to pitch is not a simple task. It requires experience and knowledge. The knowledge around the Proof of Concept develops during the technical phases of the project, but learning to present and sell is an entirely new skill that I need to acquire.

# 5 CONCLUSION

As you can see, there are many different aspects to my internship task. Not only were all tools and technologies new to me but I was also supposed to present an offer to specialists and see how I fair against experienced specialists.

At first, this all seemed quite overwhelming, but I quickly felt at home with Integration Designers and was never afraid to ask for help or support from my colleagues. This not only allowed me to grow in the field of integration but also in terms of communication and problem-solving approaches. Many new tools I got to know are definitely being used in my own projects. A huge thanks to the Integration Designers team, and a special thanks to Jeroen and Kim for all the assistance and guidance to get the best support.