PLANET OF IT
BUILDING THE FUTURE

Cloud Readiness Assessment

CASE STUDY

Investment Service & Asset Management | Canada

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Table of Contents

1 ABOUT THE CLIENT

The client is a multi-strategy alternative asset manager with a focus on investment strategies that are arbitrage oriented. They provide solutions for wealth management, investment management and financial advice. Its platform provides a range of services for financial advisors, including portfolio management, reporting and analytics, performance monitoring, and client relationship management.

2 PROBLEM STATEMENT

The client is on a journey of Cloud adoption and migration/transformation of their current applications to a more cloud-native or Kubernetes/Containers model. They are looking for an IT organization to assist in their current infrastructure also the business needs and come up with the best solution in terms of refactoring, modernization, revision, and replacement.

3 CHALLENGES

They have been using traditional on-premises applications, which are specific to their traders and in-house teams. They have a team of in-house developers who work on building click-once .Net Applications. Due to the pandemic, they have decided to adopt cloud technology and transform their applications to a more cloud-native or Kubernetes/Containers model. They want to utilize the best-of-breed solutions offered by cloud platforms such as AWS, Azure, and GCP, to work with their application developers.

Challenges faced by the client:

1. **Latency-sensitive applications**: The current on-premises applications used by them are latency-sensitive and require a long time to implement changes.
2. **Inefficient application deployment process**: The current application deployment process is slow and inefficient, making it difficult to make changes quickly.
3. **Need for application modernization**: Due to the pandemic, they are forced to modernize their applications and adopt cloud technology, which is a new area for them.
4. **Lack of expertise in cloud technology**: The client has a team of in-house developers, but they lack expertise in cloud technology and need guidance in deploying their applications on cloud platforms.
5. **Assessment of applications**: They need to assess their applications from code to functionality and develop a strategy for modernization, which is a complex process that requires expertise.

4 SOLUTION IMPLEMENTED

Planet of IT Ltd. conducted a **Cloud Readiness Assessment** for this client. This assessment is a process to determine the current systems and application capabilities of the client and find out

if they are ready to migrate to the cloud. The goal of the assessment is to give the organization a clear understanding of what needs to be done to ensure a seamless move to the cloud.

4.1 Methodology

The approach taken to solve the client's problem is to examine the client's resources, processes, and IT environment to see if it is capable of moving to the cloud. The assessment also takes into consideration security and compliance requirements, as well as future scaling prospects. Planet of IT will collaborate with stakeholders and business units to gain a deeper understanding of the client's organization and discover the underlying infrastructure, applications, and components. The assessment will also cover the release management and deployment process to ensure a smooth migration to the cloud.

The objective is to provide the client with a solid plan that will make the migration process smoother and reduce time and money spent on the migration process.

4.1.1 The challenges faced by Planet of IT and how they were overcome:

- **Lack of clear understanding of current IT environment**: The first step of cloud readiness assessment is to understand the client's current IT environment, including infrastructure, applications, and data. However, the client had limited documentation or knowledge of their current environment.
  - **Approach**: Planet of IT used a combination of data discovery and assessment tools such as *Cloud Physics* and involved the key stakeholders and business units to gather information about the current environment.

- **Complexity of the IT environment**: The client's IT environment was complex, involving multiple systems, technologies, and data sources, making it challenging to assess the cloud readiness of each component.
  - **Approach:** Planet of IT used a systematic approach to break down the complexity and prioritize the assessment based on the criticality of each component.
    - Discovery of underlying Infrastructure
      - *System Requirements*
      - *Networking Requirements*
      - *3rd-Party Connectivity Requirements*
      - *Data Requirements*
    - Discovery of the Applications and its components
      - *Application Classification*
      - *Local Application – Dependency View*
      - *Local Application – Communication View*
      - *Desktop Application – Deployment View*

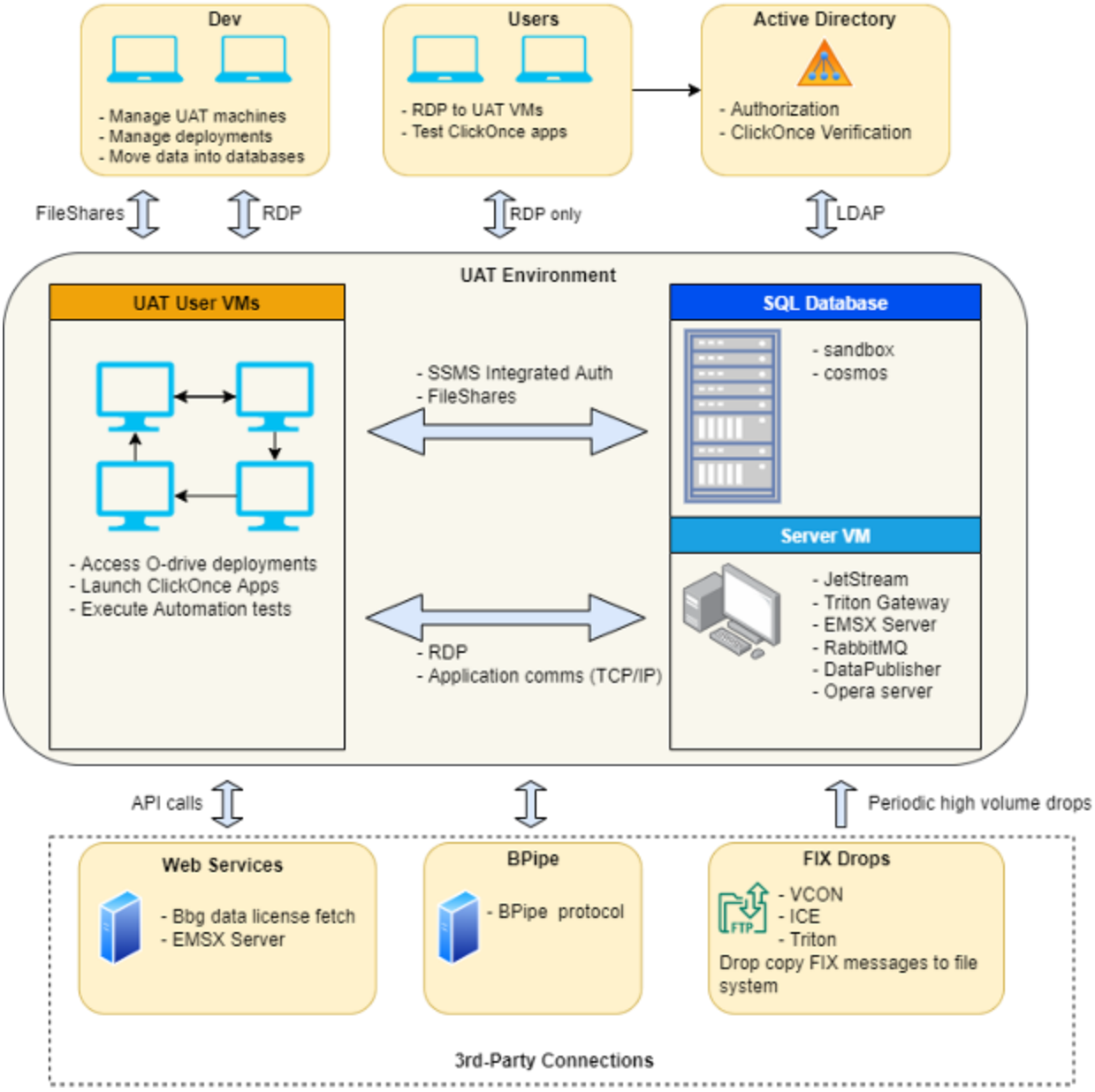


Figure 1 - System Overview

- **Resistance to change**: The client's IT team may be resistant to change, especially when it comes to moving their systems and data to the cloud.
  - **Approach:** Planet of IT offered educate the IT team about the benefits of cloud adoption, including cost savings, scalability, and improved performance as a result of the suggested solutions, to overcome this resistance.

4.2 Results

The assessment analyzed a total of 81 applications, of which 40 were catalogued with proper details. The discovered inventory showed that almost all of the on-premises applications were running on Windows OS and hosted on IIS web server, and there were 28 on-premises servers hosting these applications.

The applications were categorized into 10 types, including desktop, messaging, web app, and web service, among others. The framework or engine used for most applications was .NET 4.5, ASP.Net WebAPI, RabbitMQ, ReactJS, and others. The assessment found over 1000 unique dependencies across all catalogued applications, and over 62 databases serving data across all applications.

Planet of IT leveraged their expertise in cloud technologies and best practices to guide the client through the assessment process. The result of the assessment provided valuable insights into the current state of client's technology infrastructure, and a roadmap for their journey towards cloud adoption.

5 CLOUD ADOPTION AND STRATEGIES SUGGESTED

5.1 Lift and Shift

The Lift and Shift cloud adoption strategy involves the migration of resources to the cloud in their existing state, without undergoing any changes or redesign. This is the easiest and most common way to move resources to the cloud. However, this strategy does not fully utilize the cloud offerings and services and may result in overspending if there is a lack of cost-optimization processes.

To prevent this, organizations should have a cost-allocation strategy and clear roles for monitoring cloud spending. The lift-and-shift approach can provide quick cost savings, as seen with companies like Down Jones and GE Oil & Gas, and a path to the cloud for companies looking for a fast and straightforward solution. Additionally, this approach can also provide disaster recovery options and relief from technical debt. However, it is important to note that this strategy may not be the most cost-effective migration path.

5.2 Assess and Shift

When considering a cloud migration, there are several options to choose from. One approach is *rehosting*, which involves moving the existing infrastructure to a new hardware environment in the cloud without changing the architecture. This method is quick and relatively inexpensive, but ongoing operation can be costly as it does not take advantage of the cloud's efficiencies. Another approach is *refactoring*, which involves using a cloud provider's infrastructure to run applications, but can result in missing capabilities and framework lock-in. *Revising* involves modifying the existing code to support legacy modernization and then rehosting or refactoring to the cloud. *Rebuilding* involves rearchitecting the existing application to access innovative features in the provider's platform but can result in lock-in or loss of application assets. The final

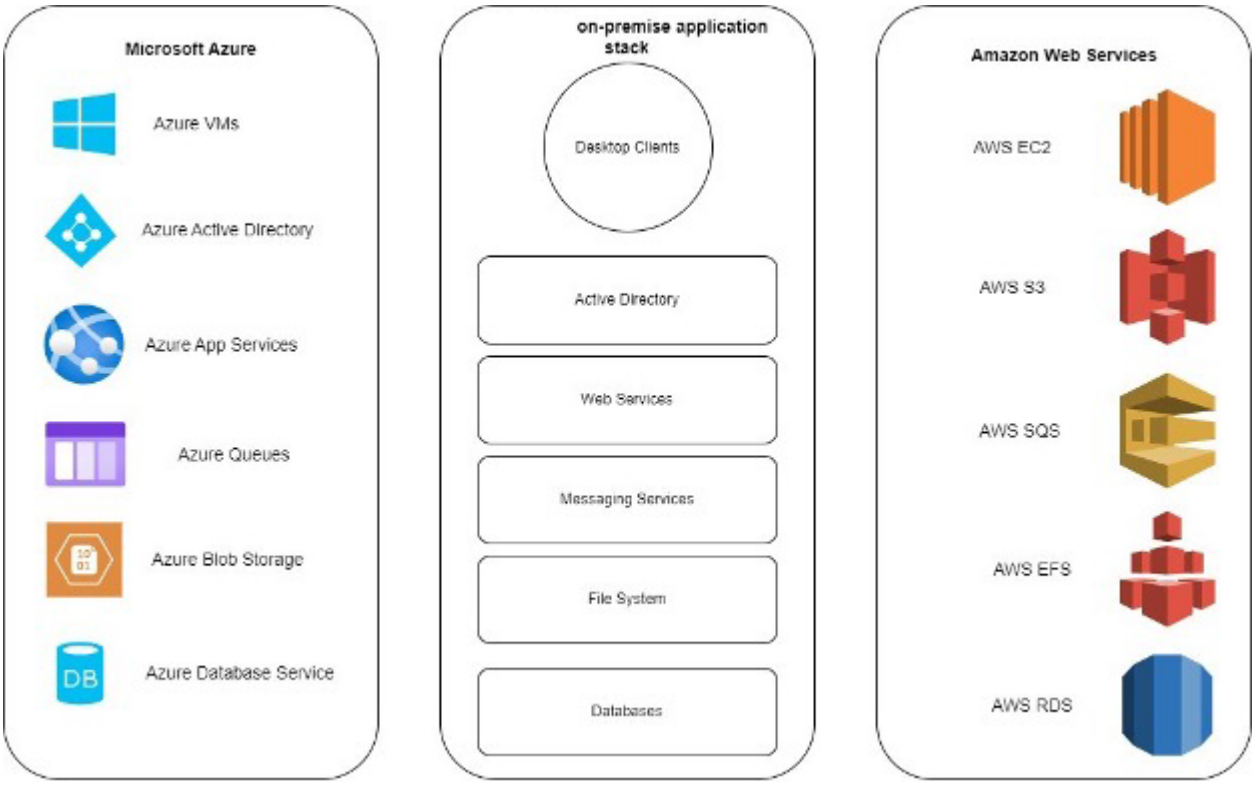
option is replacing, where an existing application set is discarded and replaced with a commercial software delivered as a service. While this avoids the time and investment in development, it may result in inconsistent data semantics, difficult data access, and vendor lock-in.

5.2.1 Scenario 1- Utilizing Cloud Native Services

In this scenario, we will use the method of rehosting over reengineering or refactoring to migrate the client's application to the Cloud.

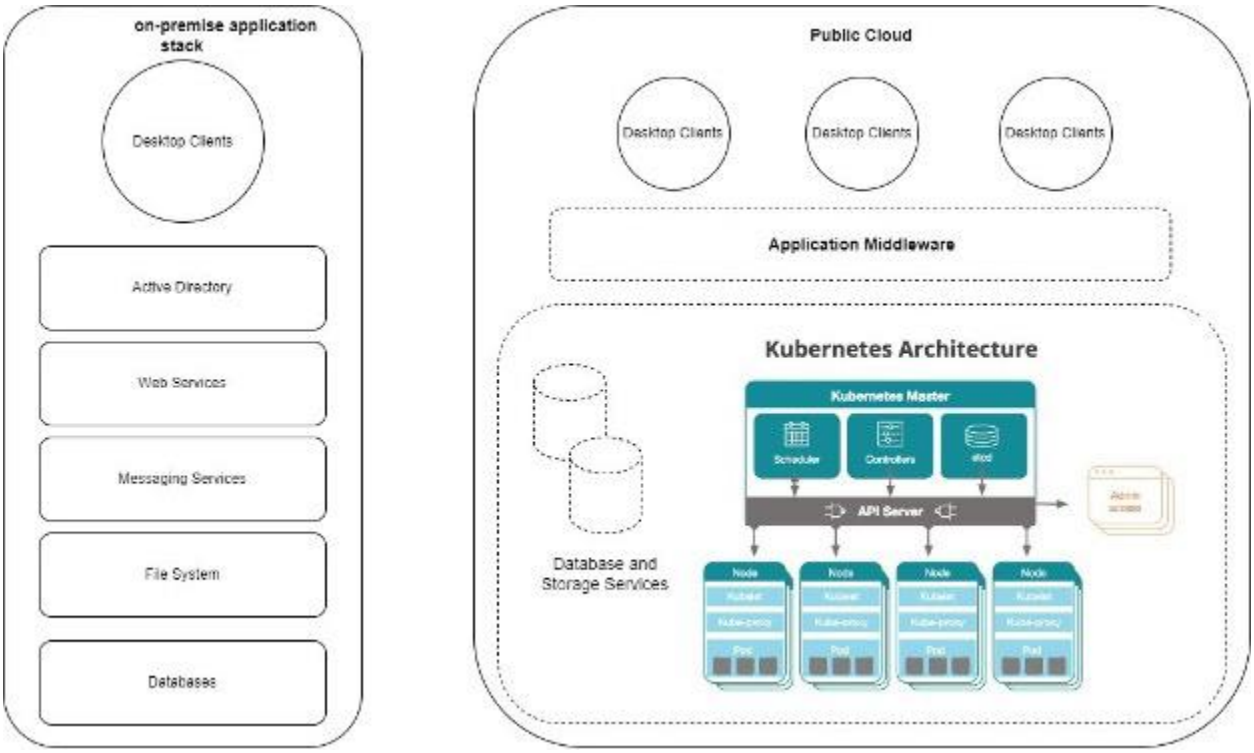
Replacing with Cloud Native Services: Lifting the current backend components such as filesystem, messaging queues, databases, and other dependencies to the Cloud equivalent services such as:

- Desktop Clients: Azure VMs or AWS EC2
- Active Directory: Azure AD or AWS EC2
- Web Services: Azure App Services or AWS EC2
- Messaging queues: Azure Queue Storage or AWS SQS
- Filesystem: Azure Blobs or AWS EFS
- Databases: Azure Database or AWS RDS



5.2.2 Scenario 2- Microservices Adoption along with Cloud Native Services

The re-engineering method is recommended for migrating the client applications and their dependencies to the Cloud. This approach will involve modernizing the existing infrastructure to a cloud-based system, with a focus on moving heavy lifting tasks to the backend and keeping the client end lightweight. The full scope of the re-engineering process is necessary for a detailed analysis, but this method has the potential to improve user experience and expand features through the use of advanced data technologies such as ML and AI.



5.2.3 Scenario 3- Parallel adoption to build a single unified solution

In this scenario a re-architecting and planning of the entire application is done. This is considered as an opportunity to align business requirements with technology and build a completely new solution. In current scenario, in addition to scenario 2, where only backend components will migrate to the K8 cluster, front-end components (such as business logic, data access, heavy processing, etc.) from different desktop/web clients are also moved to backend and lightweight, high performing, scalable and efficient front-end can be produced.

Planet of IT also provided a cost matrix to compare the approximate price of all the suggested solutions.

6 ABOUT US

Planet of IT is a Canadian-based IT consulting company that provides technology solutions and services to businesses. They offer a range of services including advisory, cloud computing, digital transformation, DevOps, and site reliability engineering. The company's goal is to help

businesses leverage technology to improve efficiency and competitiveness in their respective industries. They work with organizations of all sizes and offer tailored solutions that meet their specific needs.

Their team of experienced professionals provides expert guidance and support to help organizations navigate the complex world of technology. Overall, Planet of IT aims to be a one-stop shop for all technology needs, providing complete end-to-end solutions to help businesses achieve their goals.

7 NEED HELP WITH A SIMILAR PROJECT? CONTACT US:

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