

# CAPCO

## DETACHING FROM THE DATA CENTER

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# INTRO

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More than a year has passed since the COVID-19 pandemic brought unprecedented disruption to the world economy. In the finance sector, financial institutions (FIs) have been implementing aggressive measures to help bolster economic stability. Historically low interest rates, loan forgiveness, and adopting new processes for commercial lending are just some of the many adaptations the FIs have made to combat the effects of the pandemic.

For retail bankers, the mandatory lockdowns have forcefully changed the ways they consume financial services. Online and mobile banking have become more prevalent, as the lockdowns and dangers of the pandemic render branch banking obsolete.

This shift in consumer habits, along with the forced adoption of a work from home paradigm, have pushed FIs to accelerate their digital transformation to match the

growth in online banking channels and to improve their operational efficiency in a fully remote setting. To realize these needs, cloud adoption has become the focus of transformation for FIs.

Cloud technology has gained maturity in recent years in both its service offerings and reliability. The major cloud providers (AWS, Azure, GCP) have made conscious strides towards improving the compliance of their platforms to industry regulations, making cloud adoption an attractive value-add for FIs.

Adopting cloud on the enterprise scale, however, is not a trivial task. Migrating business apps and data for FIs is a huge investment that requires buy-in from decision makers and a solid understanding of cloud capabilities.

How then, should FIs tackle cloud adoption?

# BUILD A CASE

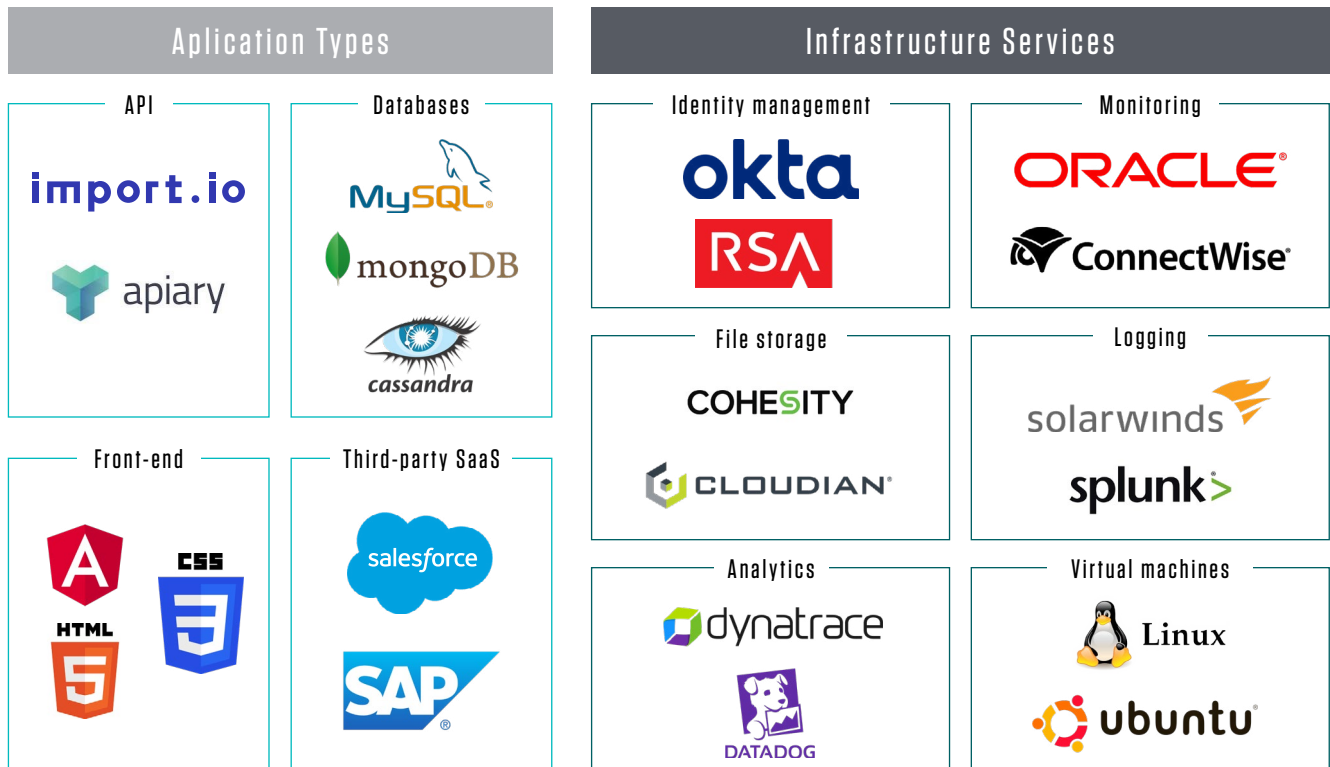
As with any business decision, the first step is to assess the need for cloud adoption from both a business and technology standpoint. Adopting the cloud generally allows for long-term cost savings by providing improved efficiency and better agility to adopt new business opportunities. However, there will be an upfront investment in time and resource to migrate to the cloud. Whether this investment is worthwhile is highly dependent on the current state of your organization's technology infrastructure and the cloud competence of your organization's workforce.

FIs should start with an introspection of their technology inventory. The goal is mapping out the organization's overall technology infrastructure and the technologies running the applications that are critical to business operations.

Once a mapping of the technology landscape has been completed, the next step would be to identify common problems with the technology infrastructure. Here, we want to determine if the current infrastructure is meeting business demands and if existing resources are being utilized and allocated in an optimal manner. Any recurring issues with compute capacity, bottlenecks in performance, or scalability can be an area of focus for cloud adoption.

Lastly, an organization should consider the growth of their business. We mentioned earlier that the pandemic has pushed consumer habits towards online and mobile banking. Consider how this trend impacts the future of your organization's business and if your organization is currently well positioned to adapt to the projected growth in these channels.

Figure 1: Sample of a technology landscape mapping



# START SMALL







Once a business case is established for cloud adoption, the next step is to set up a foundational cloud governance within the organization. The cloud governance team will define the organization's vision and long-term business strategy for cloud – whether that is making a full-scale migration away from physical data centers or taking incremental steps to increase their cloud adoption, starting with small business workloads and apps.

The cloud governance team should also define cloud infrastructure guidelines from the beginning, to make sure any cloud migrated applications is compliant with industry regulations. Network security, methods for authentication and authorization, types of virtual machines to provision, integration standards between on-premise resources and the cloud, all of these areas should be carefully assessed and defined.

Following the setup of the cloud infrastructure guidelines, the next step would be to start building competence and confidence in the cloud. Start with a pilot project to migrate a set of business application from on-prem to the cloud. The pilot applications should be representative of your organization's overall technology ecosystem to best capture your organization's specific needs for cloud migration. The type of application, the application packaging, complexity of the integration and dependencies, infrastructure, and tech stack – all of these are criteria to consider when evaluating a good pilot project candidate.

The main objective here is to fail fast and learn. Iterate upon the failures to understand the nuances of the cloud and how to integrate the various dependencies needed to run your business apps. The knowledge gained here will provide you with a solid foundation to accelerate the rest of your cloud adoption journey.

Figure 2: Sample of pilot project criteria

Application Characteristics	Most Suitable for Pilot	Least Suitable for Pilot
 Infrastructure network	<ul style="list-style-type: none"> <li>• Uses standard network protocols</li> </ul>	<ul style="list-style-type: none"> <li>• Uses proprietary network protocols</li> </ul>
 Business considerations	<ul style="list-style-type: none"> <li>• Will not significantly impact business operations if down</li> </ul>	<ul style="list-style-type: none"> <li>• Critical to business operations</li> <li>• Significant revenue loss if down</li> </ul>
 Data requirements	<ul style="list-style-type: none"> <li>• Requires non-sensitive data with no legal risk if disclosed</li> </ul>	<ul style="list-style-type: none"> <li>• Requires sensitive data with severe legal risk if disclosed</li> </ul>
 Application architecture	<ul style="list-style-type: none"> <li>• Modular</li> <li>• Microservice</li> </ul>	<ul style="list-style-type: none"> <li>• Monolithic</li> </ul>
 Application tech stack	<ul style="list-style-type: none"> <li>• Modern tech stack</li> <li>• Supported by cloud provider</li> </ul>	<ul style="list-style-type: none"> <li>• Legacy tech stack</li> </ul>
 Dependency and integration complexity	<ul style="list-style-type: none"> <li>• Loosely coupled</li> </ul>	<ul style="list-style-type: none"> <li>• Highly coupled</li> </ul>

# EXECUTE BIG

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With the knowledge gained from executing the pilot, the final step would be to advance the organization's cloud adoption journey with larger scale and more complex projects.

It is important at this stage to have standardized your DevOps, infrastructure, and pipelines based on the findings from the pilot. Define which types of VMs to provision for the various environments running your business apps. Ensure that you are using a standardized database service for holding application data. Leverage Infrastructure as a Code tools, such as Terraform, Azure Resource Manager, or AWS CloudFormation, to provide visibility and version control when automating deployments.

To expediate your large-scale migration and track the progress of your cloud adoption, it would be wise to leverage the migration

tools provided by the cloud vendors. These migration tools can accurately assess costs of the migration, perform network dependency analysis of your business apps, and assess the appropriate approach to migrate your on-prem applications to the cloud.

Finally, where possible, assimilate your business apps into cloud native services to maximize the benefits of cloud adoption. Deploy your applications on managed Kubernetes services to create modular applications built for resiliency. Leverage serverless deployment option to remove the necessity of managing infrastructure and solely focus on developing code and features. Allow the cloud provider to take care of alerts and monitoring, and assessment security and compliance of cloud deployed resources, so that developers can focus developing features.

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## ABOUT CAPCO

Capco, a Wipro company, is a global technology and management consultancy specializing in driving digital transformation in the financial services industry. With a growing client portfolio comprising of over 100 global organizations, Capco operates at the intersection of business and technology by combining innovative thinking with unrivalled industry knowledge to deliver end-to-end data-driven solutions and fast-track digital initiatives for banking and payments, capital markets, wealth and asset management, insurance, and the energy sector. Capco's cutting-edge ingenuity is brought to life through its Innovation Labs and award-winning Be Yourself At Work culture and diverse talent.

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