



GC Cloud  
Infonuagique GC

# Cloud adoption

**Presenter:**

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Government  
of Canada

Gouvernement  
du Canada



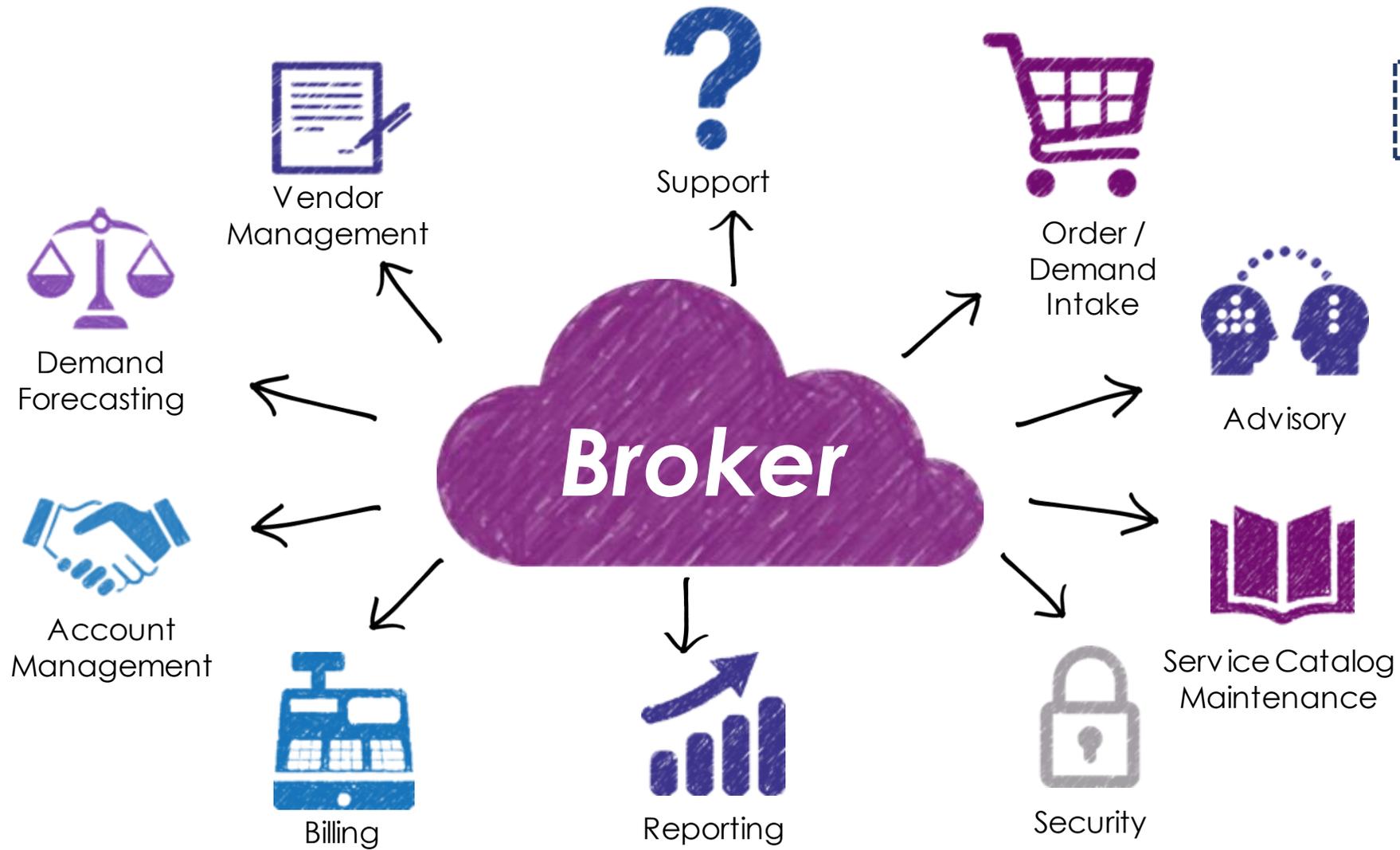
## Drivers

- In 2018, Treasury Board of Canada Secretariat (TBS) updated the Government of Canada (GC) Cloud First Adoption Strategy.
- The main business drivers for adopting cloud included:
  - Delivering high quality digital services to Canadians with agility and speed.
  - Reducing the cost of applications and infrastructure in the GC.
    - Reduction of data centers
- The vision for cloud adoption was to:
  - Balance supply with demand.
  - Manage risks consistently.
  - Prepare the workforce.
- Shared Services Canada (SSC) was given the important mandate of providing “**Light Touch Broker**” services to the GC.
- Since 2018, SSC has expanded its role as a **multi-faceted enabler** for cloud adoption across the entire public sector.



## Cloud Adoption is a Shared Responsibility

- Multiple entities in the GC have a critical role to play in making Cloud adoption successful:
  - **GC Clients** must develop a multi-year Cloud Adoption Strategy based on the 4 Pillars of Secure Cloud Enablement (please see Appendix F) and in alignment with their business requirements.
  - **TBS** is responsible for GC enterprise governance, strategy and policy for cloud services, including oversight and risk assessment of cloud service requests from GC departments.
  - **SSC** is an enabler to Cloud adoption and provides access to critical Cloud building blocks, such as public Cloud supply, secure Cloud to ground network connectivity and Cloud guidance and expertise.
  - **CCCS** plays a critical role in conducting Cloud security assessments to ensure Cloud services are safe and secure for consumption in the GC.
  - **CSPs** must respect the Terms and Conditions laid out by the GC and ensure that their infrastructure is safe and secure for hosting GC data and application workloads.



Management of the GC Framework agreement



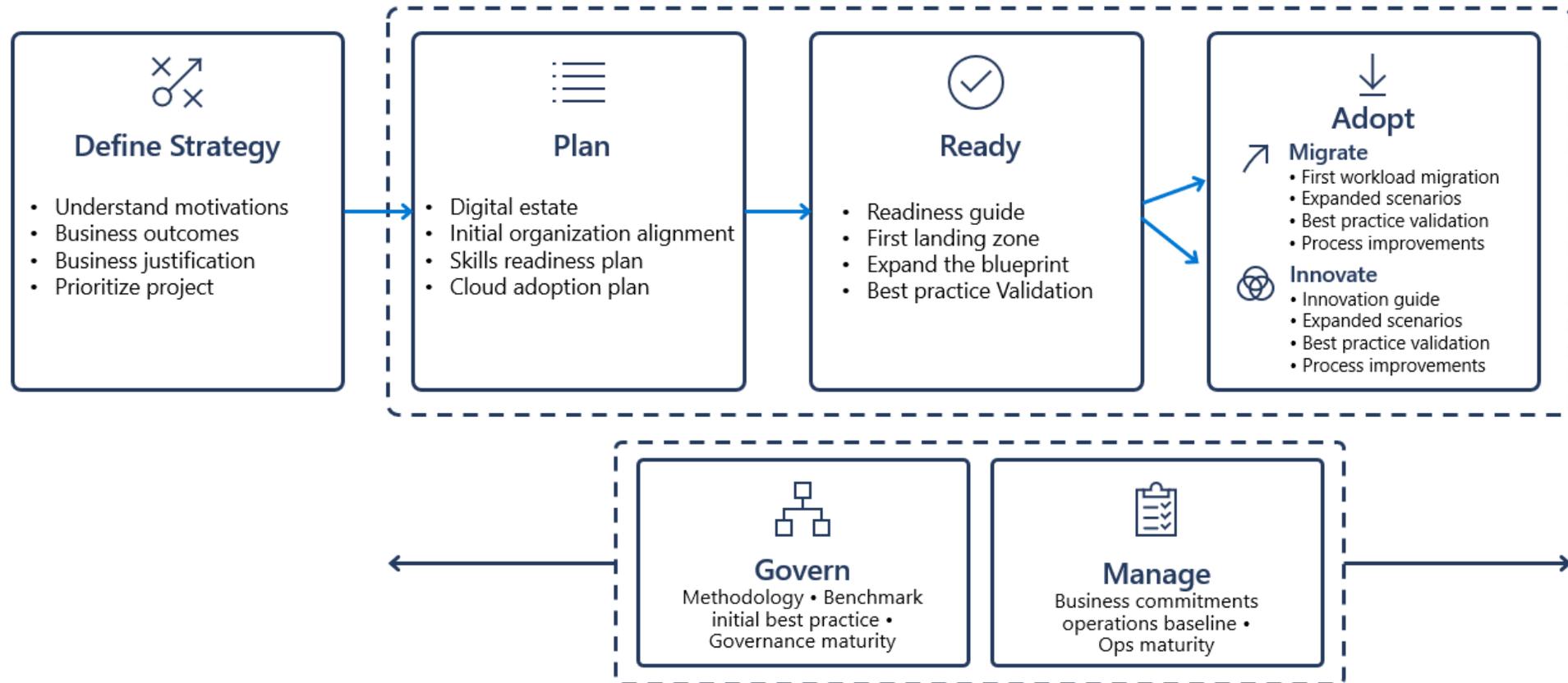
## SSC's Role as Cloud Enabler

- As an Enabler for Cloud Adoption, SSC has established the following Cloud building blocks for the public sector:
  - **Cloud Brokering Service** → access to secure Cloud supply and fulfillment of Cloud service orders
  - **Cloud Centre of Excellence** → creation of Cloud adoption playbooks for both executive and technical audiences based on industry best practices
  - **Cloud Client Engagement** → dedicated Cloud subject matters assigned to each client portfolio to provide guidance and advice
  - **Secure Connectivity** → access to secure Cloud to ground network connectivity to CSPs
  - **Cloud Operating Model** → provide an End-to-End Service Delivery system designed to move up the value chain of cloud service delivery (under development)



# The Journey to Cloud

- The Journey to Cloud comprises of multiple steps.
- GC clients must align their business strategy with an actionable cloud adoption plan which maps tasks to published guidance.





# TBS View of Departmental Journey to Cloud

## Application Modernization

An Initiative of Workload Migration & Cloud Enablement

### Departmental Journey

#### Prioritization



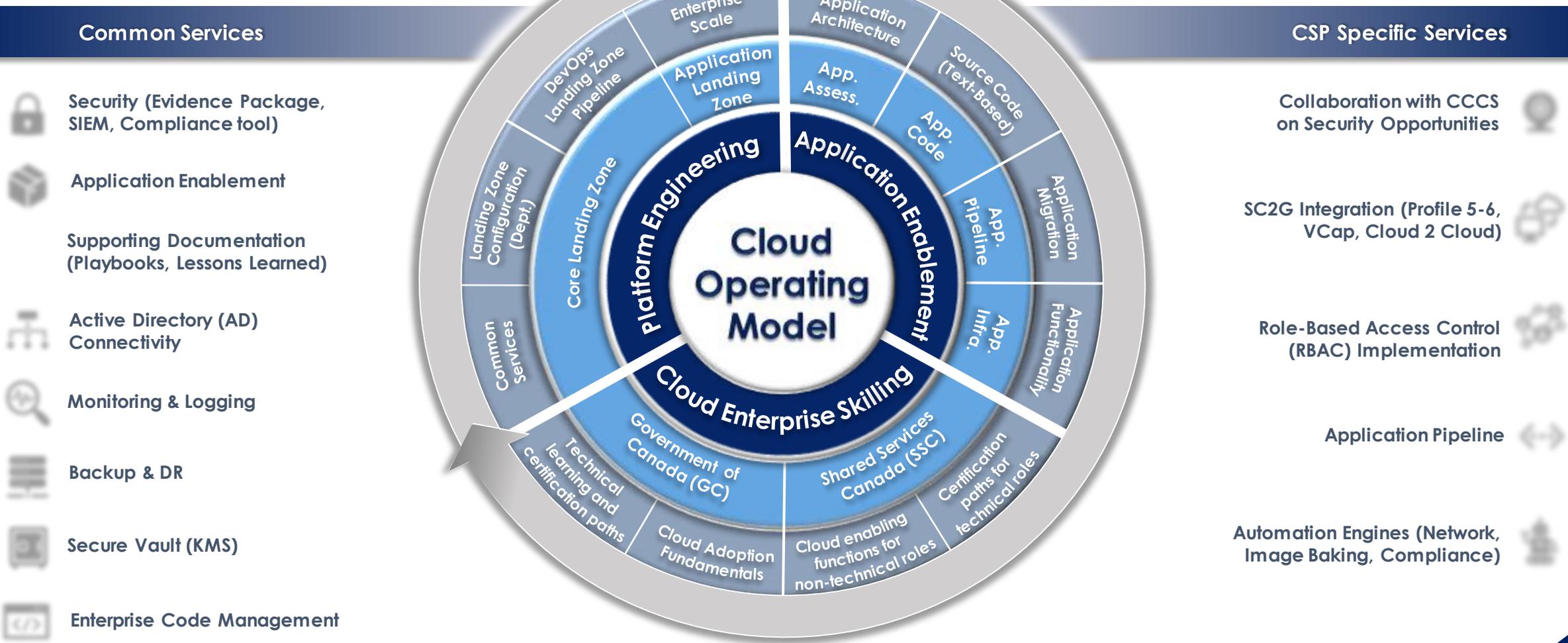
#### Discovery



#### Execution



# Target Operating Model



## Common Services

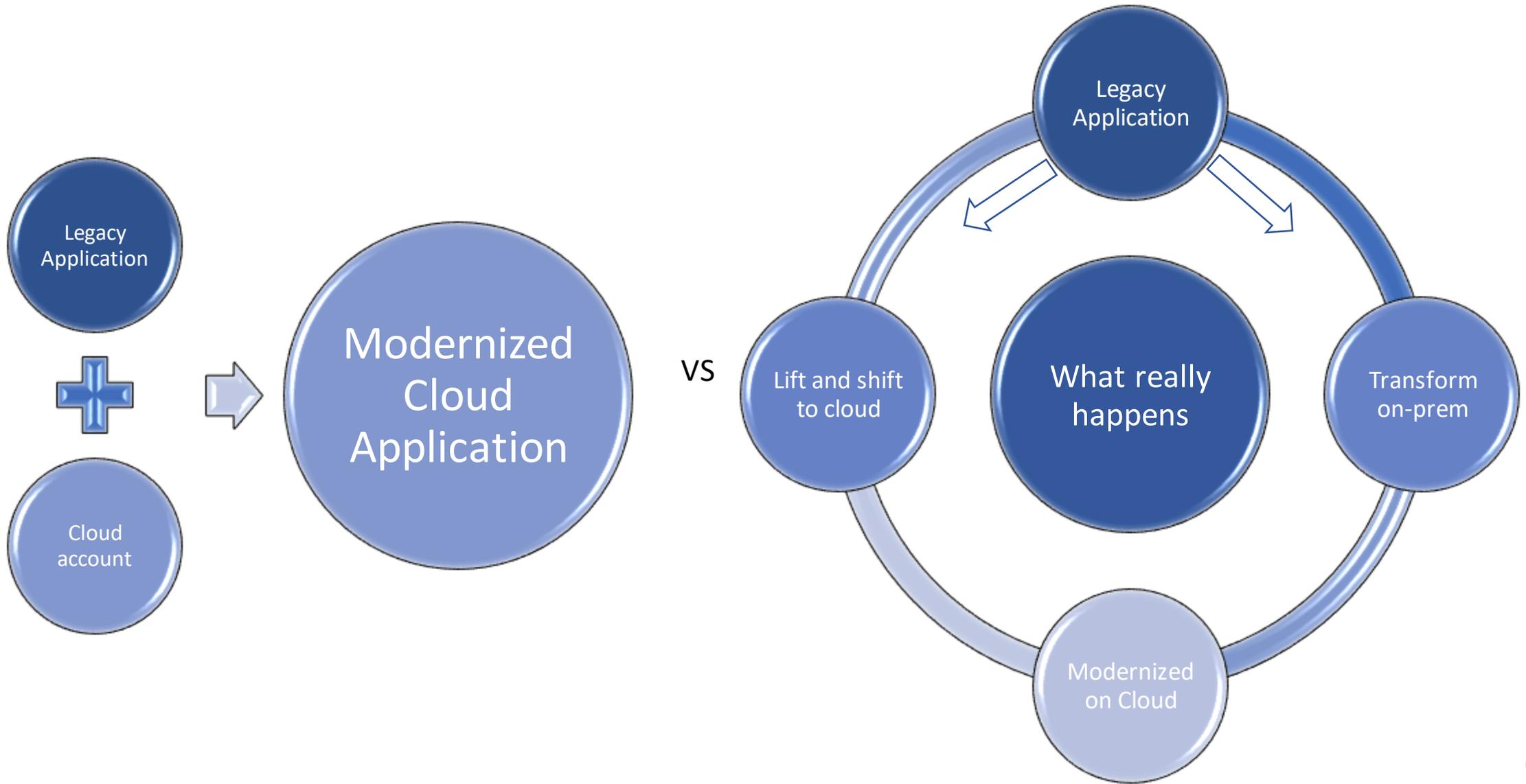
-  Security (Evidence Package, SIEM, Compliance tool)
-  Application Enablement
-  Supporting Documentation (Playbooks, Lessons Learned)
-  Active Directory (AD) Connectivity
-  Monitoring & Logging
-  Backup & DR
-  Secure Vault (KMS)
-  Enterprise Code Management

## CSP Specific Services

-  Collaboration with CCCS on Security Opportunities
-  SC2G Integration (Profile 5-6, VCap, Cloud 2 Cloud)
-  Role-Based Access Control (RBAC) Implementation
-  Application Pipeline
-  Automation Engines (Network, Image Baking, Compliance)



# Modernized on cloud: What we think will happen vs What really happens





## What to do next?

- Define Roles, Responsibilities and accountability
  - Governance
- Protect your data
- Plan, plan and plan
  - Build a decision matrix
    - Not all applications may need to move to the cloud
- Develop a skilled workforce
- Define/enforce guiding principles

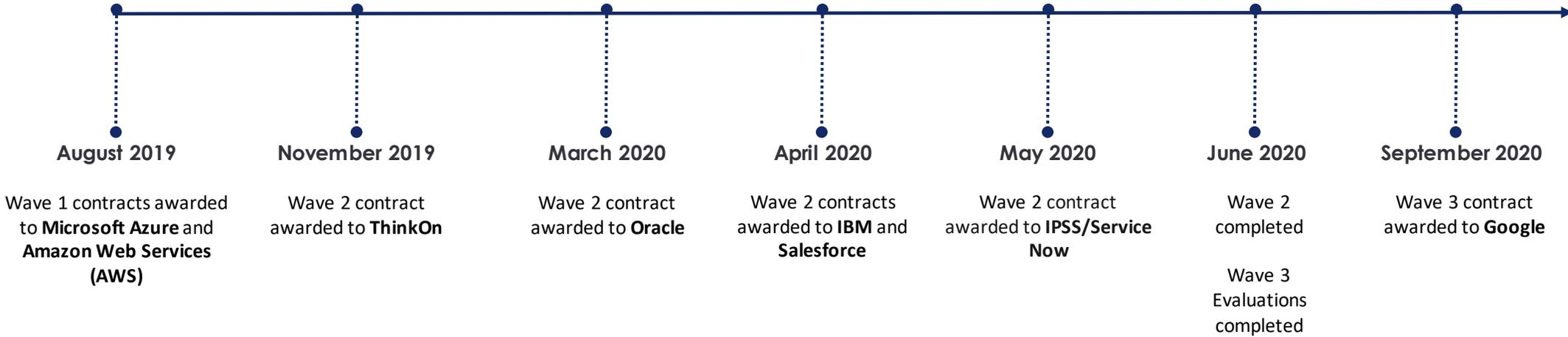


# APPENDIX



# Appendix A – GC Secure Cloud Framework Agreements (Timeline)

Timeline – Protected B Cloud Contract Awards  
8 contracts awarded to date

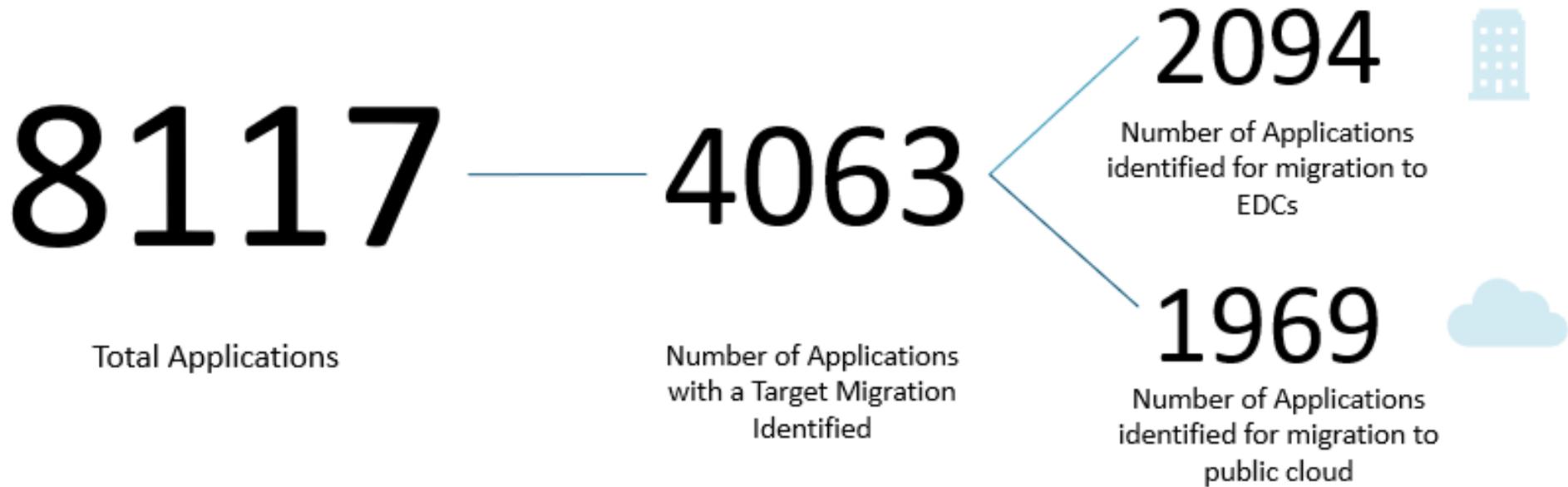


 **Wave 1 Close Date:** June 2019  
**Wave 2 Close Date:** August 2019  
**Wave 3 Close Date:** December 2019



# Appendix B – TBS Application Management Portfolio Statistics

Part B of the funding model is an opportunity to resolve how CIOs gain flexibility in choosing application hosting services as the move application between different technologies while ensuring adequate funding for all service lines.



Source: APM, March 5, 2021



## Appendix C – GC Applications Migrated to Cloud

- TBS OCIO is tracking applications that have migrated to Cloud in their [Cloud-based Application Inventory](#) on GCwiki. Based on the data set as of May 13, 2021, the count is 138.
- SSC is also tracking applications that have been deployed to Cloud as part of the SCED/SC2G initiative. To date, 283 applications have been onboarded.
- A great deal of work remains to be done to develop a concise and holistic view of all applications migrated and targeted to migrate to Cloud in the GC.
- TBS OCIO and SSC have committed to taking on this important work and will continue to discuss solutions at various Cloud governance committees.

*Please see Appendix D for TBS projected applications targeted for migration to Cloud.*



## Appendix D – SSC Contributions to Cloud Adoption in the GC

- The SSC Cloud Brokering Service has established 8 GC Secure Cloud Framework Agreements (please see Appendix C), fulfilled \$1 68M of public Cloud requests and is currently serving 84 clients in the public sector.
- SSC has established a knowledgeable Cloud Client Engagement Team and Cloud Centre of Excellence to guide, advise and support GC clients in their cloud journeys.
- SSC has provided secure cloud network connections to 10 departments in support of key Canadian Citizen facing Cloud initiatives.
- SSC played a vital role in Covid-19 emergency response by providing Cloud supply and secure connectivity to departments rapidly.

### **ESDC CERB**

*“The government only recently put in place a cloud services program with third parties, allowing departments to quickly expand network capacity in emergencies. It's what saved the CERB program.” [Ottawa Citizen](#)*

### **CRA Call Centres**

*“The quick deal with Amazon was possible because Canada Revenue Agency had already been conducting trials of a variety of cloud services, an option recently made available by government through Shared Services Canada.” [Ottawa Citizen](#)*



# Appendix E – Cloud Enterprise Skilling

- SSC is collaborating with CSPS and TBS to drive a centralized, GC Wide, Skilling program.

Cloud Enterprise Skilling (CES) is multi-disciplinary Cloud skills development to support SSC's digital workforce.

The following is a snapshot of popular Cloud training and certification programs available through SSC CES at no cost to individual learners.

## GC Cloud Training Courses

**Canada School of Public Service Digital Academy**      **Canadian Centre for Cyber Security Learning Hub**

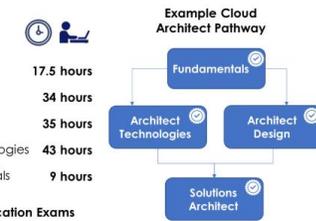
- Getting Started with Cloud Computing
- Cloud Adoption Framework
- Embracing Cloud for Business Efficiency
- Introduction to Cloud in the GC
- Cloud Security Assessment and Authorization (SA&A) Process

4.5 hours      6 hours

## Microsoft Azure Enterprise Skilling

**Popular Azure Certification Paths**

- Azure Fundamentals **17.5 hours**
- Azure Administrator **34 hours**
- Azure Architect Design **35 hours**
- Azure Architect Technologies **43 hours**
- Azure Data Fundamentals **9 hours**



**Additional Azure Certification Exams**

- Azure Data Engineer
- Azure Security Engineer
- Azure Data Analyst
- Azure Data Scientist
- Azure Developer
- Azure DevOps Engineer
- Azure Artificial Intelligence
- Azure Database Administrator

## AWS Elevate Cloud Skilling

**AWS Elevate Available Courses**

- AWS Technical Essentials **8 hours**
- AWS Security Essentials **8 hours**
- Architecting on AWS **24 hours**
- Developing on AWS **24 hours**
- Systems Operations on AWS **24 hours**
- Security Engineering on AWS **24 hours**
- Migrating to AWS **24 hours**

**AWS Elevate Certification Exams**

- Security - Specialty **7 hours**
- Solutions Architect - Associate **6 hours**
- SysOps Admin - Associate **6 hours**
- Developer – Associate **6 hours**
- Solutions Architect – Professional **3 hours**
- DevOps Engineer – Professional **3 hours**
- Cloud Practitioner **1.5 hours**

AWS Certification builds from foundations (Cloud Practitioner), through learning and experience, to Associate and Professional levels

Additional Information:

**Approx. Average Learner Time Commitment**  
(Excludes Study Time and Experience Requirement)

**CES Portal:**  
[Cloud Enterprise Skilling \(CES\) Portal](#)

**Contact:**  
[Cloud Change Management / Gestion du changement / Informatique \(SSC/SPC\)](#)



# Appendix F – Pillars of Secure Cloud Enablement

