



Architecture Framework Advisory Committee (AFAC)

Enabling Application Containerization

April 8, 2019



Shared Services
Canada

Services partagés
Canada

Canada

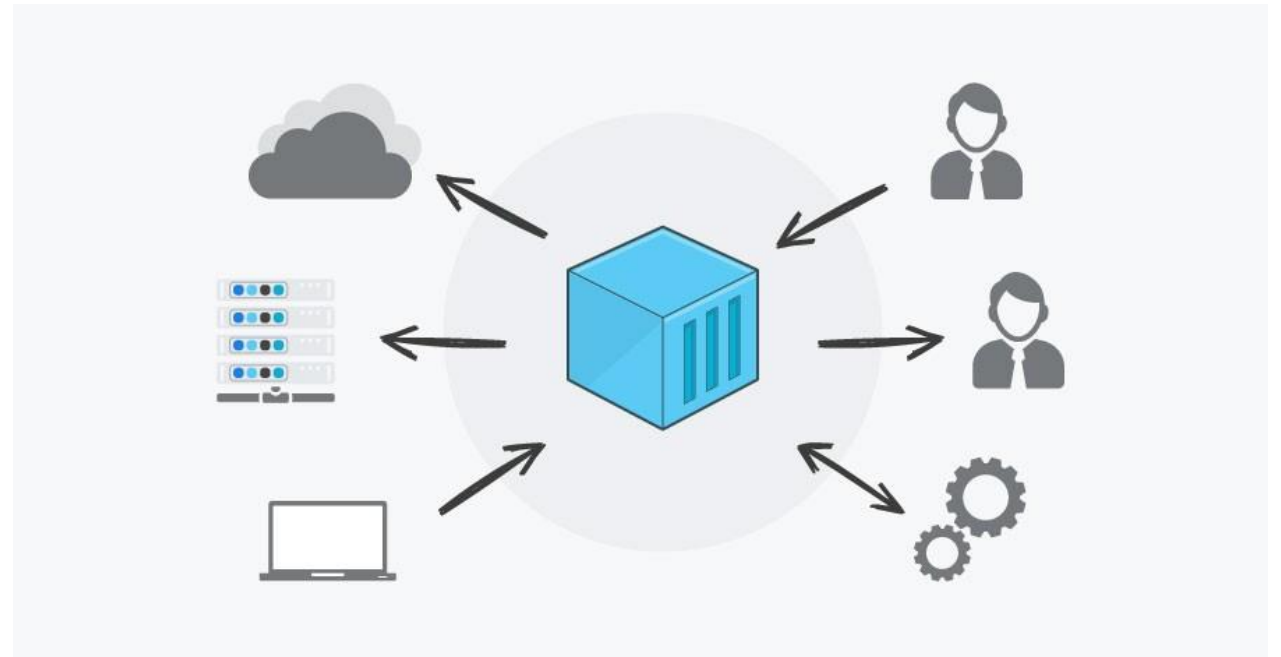
Purpose

To obtain feedback from Architecture Framework Advisory Committee (AFAC) members on:

- Benefits, impacts and best practices pertaining to the enablement of application containerization and supporting methodologies (e.g., DevOps and continuous integration) to help the GC prepare for implementation and better support new services for Canadians.

Agenda

- Background
- Drivers
- Context/Problem Statement
- Discussion Points



Background

What is it?

A container is a standard unit of software that leverages operating system abstractions to package up code and all its dependencies so that applications run quickly and reliably from one computing environment to another (bare-metal, virtual machines and cloud technologies).

Why does it matter?

Container-enabled architectures greatly facilitate the agile deployment and portability of applications across computing environments, often resulting in a streamlining and a shortening of tasks related to infrastructure lifecycle management. Further, containers are a key enabling technology used to support forefront application development methodologies, such as continuous integration, DevOps and microservices.

Why does it matter to the Government of Canada?

As outlined within the government's Digital Strategy, the GC aims to transform its overall IT program delivery in an effort to modernize digital services offered to Canadian citizens. Application containers and supporting methodologies are seen as key enablers for the GC's vision.

Drivers

There are a number of key drivers for adopting application containerization:

Citizen Expectations	Security	Service Delivery	Technology
<ul style="list-style-type: none">▪ Canadians want convenient, quick and responsive access to programs and services.	<ul style="list-style-type: none">▪ The threat environment is evolving and becoming increasingly sophisticated, requiring proactive protection and strategies.	<ul style="list-style-type: none">▪ Canadians expect seamless service delivery regardless of who is delivering it.	<ul style="list-style-type: none">▪ Adoption of new technologies and migration to common shared infrastructures drives the need for a streamlined approach.

Context/Problem Statement

Context

The wide implementation and enablement of application containers and supporting methodologies better supports the agile deployment and portability of applications. The GC anticipates a sharp increase in demand/adoption of application containerization technologies and is looking to transform its existing IT infrastructure and supporting processes to better enable this new technical capability.

Problem Statement

How can the government best optimize, promote and deliver efficient and secure container platform services guided by optimal and standardized approaches?



Discussion Points - Round Table 1/2

1. How has the adoption of application containerization impacted your business?
2. How have you prepared your existing IT infrastructure and support processes to meet the demands of application containerization? E.g., how have you addressed transition strategy and demand management?
 - i. How did your organizational structure change?
 - ii. How did your internal IT operations evolve to meet demand?
3. How have you embraced/implemented orchestration and process automation in support of application containerization?
4. How has your organization managed to keep its containerization strategy consistent across both internal and external (on- and off-prem) workloads?
5. How has security evolved to support the adoption of containerization/orchestration, and what were the key security considerations for container platform owners?

Discussion Points - Round Table 2/2

6. What are your recommendations for deploying and supporting container platforms/ container services (developer, security and operator roles)?
7. What are the ramifications of containerization on data management?
8. How do you suggest the GC prepare its existing IT infrastructure to meet the demands of application containerization with regard to transition strategy, physical implementation and demand management?
9. How do you suggest the GC prepare its workforce to meet the demands of application containerization?
10. How do you anticipate application containerization might impact services the GC provides to citizens or employees?

