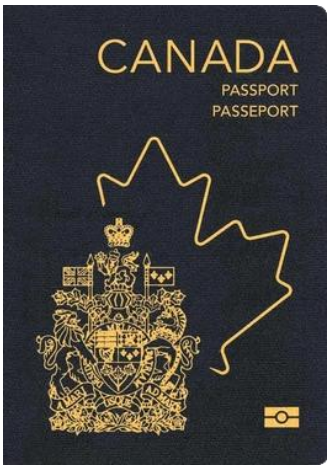
Streamlining Application Processing, Modeling Staff Capabilities, and Reducing Backlogs in the Public Sector

Digital Twin of an Organization (DTO) powered by Collaborative Business Planning (CBP)

Business Context



Canada's Passport Program is a vital cross-functional government initiative, jointly governed by Immigration, Refugees and Citizenship Canada (IRCC) and delivered through a coordinated network of Service Canada offices and Global Affairs Canada missions abroad. The program provides Canadians with multiple convenient access channels, including a modern online application portal, a mail-in service, and a nationwide network of more than 300 in-person service locations.

With over 27 million Canadian passports currently in circulation, the program represents one of the federal government's most high-volume, citizen-facing service delivery operations, underpinning Canada's commitment to enabling the safe and secure international mobility of its citizens.

Pandemic Recovery and Service Demand Surge

The lifting of COVID-19 travel restrictions in 2021–2022 triggered an unprecedented surge in passport demand, as millions of Canadians who had deferred travel plans during the pandemic simultaneously sought to renew or obtain passports. Service Canada faced a significant and sustained application backlog that placed considerable strain on processing capacity and challenged established service standards. This period exposed critical vulnerabilities in the program's ability to scale rapidly in response to sudden, large-scale demand — prompting a broader examination of workforce capacity, digital modernization, and service delivery resilience across the program.

Key Problem Statement

Service Canada lacked a unified model to:

- Accurately simulate workloads matching passport processing requirements to staff training and certifications
- Recognize the key processing differences between 6 key passport categories
- Understand the differences in application processing across 3 service delivery models (mail, in-person, virtual)
- Evaluate the impact of proposed process changes on overall service delivery standards

CBP-DTO Solution Approach

Service Canada utilized a **Digital Twin of the Organization (DTO)** using **Collaborative Business Planning (CBP)**, supported by the **QualiWare platform**. Key elements of the approach included:

- Developing Value Stream Maps for both in-person (Passport offices) and mail-in processes

- Conducting interviews for using workload analysis templates and time studies to document and capture key activity processing times
- Analyzing system audit log data to automate processing data collection by passport type
- Segmenting the 3 main types of passports into simple and complex categories
- Capturing data and creating pilot models for:
    - Process flows, inventories/backlogs, and value/non-value-added activities
    - Labour, systems, and equipment (e.g., specialized printers) requirements
    - Processing rates, labour certification times, and capacities

The DTO model enabled **end-to-end simulation of application processing, labour and printer resource utilization, and identification of non-value-add activities targeted for optimization**

Key Capabilities Enabled by CBP

- **End-to-End Operational Visibility**
  Single integrated model of passport processing, support activities, and operational flows
- **Constraint-Based Planning**
  Identification of process bottlenecks/backlogs across service delivery channels
- **Scenario Simulation**
  Evaluation of CI initiatives and staff training requirements/adjustments before execution

Quantified Business Benefits

Operational Efficiency

- Support for the management of training programs to build operational capacity
- Reduction in overall backlog and return to stated service standards

Decision Quality

- Data-driven justification for hiring/training passport processing staff
- Understanding requirements/benefits in utilizing new passport processing systems

Continuous Improvement Enablement

- Improved visibility into the quantity and resource impact of non-value-added activities
- Structured platform to evaluate and prioritize waste reduction initiatives

Implementation Timeline: ~ 3 months to operational DTO

- **Phase 1:** Process discovery and data collection (6-8 weeks)
- **Phase 2:** CBP-DTO model build and validation (3-4 weeks)
- **Phase 3:** Scenario analysis and stakeholder alignment (6-8+ weeks)

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Why CBP for DTO?

- Purpose-built for **operational digital twin modeling**
- Combines:
  - Value Stream and Activity-Based Planning process modeling
  - Resource planning based on Theory of Constraints (TOC)
  - Simulation of operational and financials flows for improved costing
- Enables **practical, executable DTOs** — not just conceptual models
- Proven in **complex, multi-faceted service delivery channels**

Key Benefits of CBP-DTO Modeling

- Clear visibility into **true production constraints and available capacity**
- Stronger foundation for **ongoing CI and operational optimization**
- Improved **alignment between operations and finance**
- Enhanced **operational and financial budgeting and forecasting accuracy**
- Ability to **cost service delivery and model future demand scenarios**

For more information

Assess your organization's opportunity to improve capacity, reduce waster and increase throughput, and enhance costing accuracy using a DTO powered by CBP.

Visit: *https://cbp-software.com*

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