



# Canadian Digital Government

Transformation and  
Enterprise Architecture  
Best Practices

# Canadian Digital Government - There's An App for That

In his inspiring [TEDx talk](#) Scott Brison described how the Canadian government needs to apply the capabilities of the digital native leaders, like Netflix and Amazon, to the principles of Digital Government.

He highlights how these innovators have adapted rapidly to the new digital world and deliver online services that are so simple and intuitive his four year old children can quite happily navigate them via an iPad.

But yet online governments still struggle to achieve this same streamlined ease of use.

We can't be a Blockbuster government serving a Netflix citizenry

How can we create that digital startup mindset in government is the key question he believes will ignite that same transformation, citing the example of the huge failure of Obamacare prompting President Obama created a digital startup in the heart of USA Government IT to tap the Silicon Valley effect for their Digital Government systems.

The principle change is in how government IT is built – Moving from slow, waterfall methods to an agile, work-in-the-open approach, where releases are delivered quickly and iteratively to users to ensure the goal of user-friendly systems is being met in real-time.

## Digital Government Action Plan

Alex Benay, recently CIO for Canada and author of [Government Digital](#), shares eight essential points that governments must adopt in the 21st century in [this Youtube video](#) :

# Canadian Digital Government - There's An App for That

1. **Digital is everything we do.** IT is no longer a back-office function, it's the entirety of how government needs to work.
2. **From linear to exponential.** The snail-like RFP procurement approach that takes years to deliver big bang projects is no longer fit for purpose. Agencies must work within high velocity digital ecosystems.
3. **Policy and legislation needs to keep up.** The lawmaking procedures must change the same way. Countries that change their laws to accommodate trends like Blockchain will be the economic winners of the 21st century.
4. **Operate in the Open** – New tools are available to work openly and engage citizens and stakeholders and should be used as much as possible.
5. **Embrace the digital community** – Accept the fact government is no longer the sole expert and work collaboratively with others in key areas like AI.
6. **Adopt open source software** – Especially in front-facing, customer engagement areas where this can encourage collaboration with sectors like academia.
7. **Harness the Gig Economy** – HR practices must also transform and adapt to the new world, becoming more agile and able to harness those seeking more of a gig economy portfolio career.
8. **Digital First mindset** – An absolute foundation of success is that wherever possible the first option for service delivery should be digital.

## Open Sourcing Best Practices

A key technique for accelerating progress is for agencies to openly share the innovations and best practices they develop, so that other agencies can learn from and emulate them. The GC Digital team are pioneering the use of open source practices and technologies to make these resources more accessible and reusable.

# Canadian Digital Government - There's An App for That

For example they offer their Digital Transformation Playbook online via a [Google presentation](#), and it is also [published as a Github repo](#). The Playbook is one of a number of programs within an overall [Github presence for the Canadian Government](#); other key resources include the [Open Data Toolkit](#) and the [Web Experience Toolkit](#).

On [this page](#) Canadian digital projects are listed as products, categorized by their lifecycle stage of Discovery, Alpha, Beta and Live. For example one product in production is [Impact Canada](#), a scalable, reusable platform that creates new opportunities for innovators and entrepreneurs to help solve Canada's biggest challenges.

By [open sourcing the code](#) and methods it means this capability can be easily reused for other projects and reinventing the wheel avoided. The competition challenge model is a common format for encouraging Open Innovation and could be reused across a multitude of different scenarios, meaning the original investment yields a much larger ROI for taxpayers, and makes sharing of best practices considerably easier.

# British Columbia - Exemplar Blueprint for Canadian Digital Government

BC offers a best practice model for Digital Government: Agile Service Design, Cloud Modernization and Blockchain Identity.

## Trust and Design: How Digital Can Save the Future of Government

[Speaking at TEDx](#) BC Chief Digital Officer Jaimie Boyd describes how technology has changed the world and Government is enjoying a golden age of potential in how it can be utilized to improve the lives of citizens. She offers a vision for Digital Government, a need to be Digital by Default, to embrace technology to reduce bureaucracy and better serve citizens needs.

## Digital Government Principles

Published to a Github repository British Columbia has defined [Principles of Digital Government](#).

The Digital Principles are meant to guide the work of individual public servants and vendor partners as the Province of British Columbia continues to evolve into a [Digital Government](#).

## Digital Service Design

The [Service Design team](#) located in the Government Digital Experience Division is changing how citizens access government services by bringing innovation and a human-centred approach to areas such as health care, transportation, education, policy and finance.

The [Exchange Lab](#) is one place where public servants learn to be Agile. The lab incubates and accelerates learning through the experience of delivering high quality services.

PwC offers [a case study](#) of how the British Columbia Ministry of Attorney General in Canada has been a global pioneer in the digital transformation of justice services through its Tribunal Transformation Initiative (TTI).

# British Columbia - Exemplar Blueprint for Canadian Digital Government

The [Service Design Playbook](#) takes a holistic approach to designing service experiences by working directly with citizens, developing prototypes, testing, analyzing and implementing results.

## Digital Service Design is Being Enabled through a Shift to Cloud Computing

On premise within the Kamloops Data Center, the B.C. government has a [deployment of OpenShift](#), a hybrid cloud enterprise Kubernetes platform. The platform enables developers to develop and deploy applications quickly, securely, and at scale.

As [this Red Hat case study](#) explains the Government of British Columbia builds innovation with the BC Developers' Exchange, an open source forum for collaboration between the public and private sector—and citizens.

The exchange offers co-design sessions, meet-ups, and other outreach events to connect the British Columbia tech community to match tech talent with public sector needs.

The Government of British Columbia is creating a [Hosting and Application Development Framework](#) (HADF) to accelerate digital change across government.

It is envisioned as a government-wide approach to modernize hosting and the ways that government develops and delivers applications for digital services, and has been modeled on best practices from around the world while aligning with government's current IT footprint.

## Digital Identity

The BC Digital Trust Service (BC DTS) is a primary enabler of the province's vision for digital transformation in its Digital Framework.

# British Columbia - Exemplar Blueprint for Canadian Digital Government

The BC DTS is a core contributor to the Trust over IP protocol stack, which is emerging from the global open source community. This stack provides the kinds of digital frameworks and tools needed to safeguard citizens' digital lives. This stack, combined with good governance, shifts us from the risky Internet of today towards an Internet imbued with a trust layer.

# Government as a Platform - Canada's Digital Backbone

The [ultimate vision](#) for Canadian Digital Government is to realize a “OneGC”, an ability to provide any service on any platform or device and through any trusted partner, achieved through a strategy known as ‘Government as a Platform’.

This strategy will be realized through their ‘CDXP’ – The Canadian Digital Exchange Platform:

*“a Digital Exchange Platform is being established to help enable government departments to authenticate data with each other and the outside world in a modern, secure, and unified way in an effort to deliver secure private services in a digital age.”*

In our [webinar session](#) and [this Treasury Board presentation](#) the CDXP lead Teresa D’Andrea, Director for Interoperability, provides an overview of the program, setting it in relation to the Estonian X-Road system with a view to replicating their success, via an approach tailored to Canada’s requirements.

The three key foundations to the program are:

**1. Digital Identity** – Currently the process to access services is not intuitive, convenient, or user-friendly for Canadians, requiring separate accounts with multiple usernames and passwords. This will be address through ‘Sign In Canada’, enabling secure access to government services using a choice of trusted digital identities.

**2. Canadian Data Exchange Platform (CDXP)** – Currently there are numerous point-to-point connections for data sharing, which are messy and unmanageable.

# Government as a Platform - Canada's Digital Backbone

The CDXP enables secure, private, real time information sharing with privacy and security “baked in”, allowing systems within and outside of government to connect and function in harmony to support digital service delivery to citizens and businesses.

### 3. Updated legislation and policy:

Currently clients provide the same information to the government multiple times when applying for a service or benefit because some departments are unable to share this information with one another. To address this legislation will be modernized to a system of “Tell Us Once” – Any data updates provided to one government agency will be replicated to them all.

The core ethos and vision of GaaP is that every service should be accessible and consumable via an API, with the CDXP providing the enabling mechanisms of API interfaces, messaging and bulk data transfers. This would enable use case scenarios such as:

- Automatic requests for passport renewals through travel booking systems.
- Travel advisories integrated with online booking services.
- Automatic registration of drones through retailers.
- Voice-based access to election information.
- Birth notification automatically launching benefits for the family at the municipal, provincial/territorial, and federal levels (e.g., Social Insurance Number).
- Death event triggering updates for veteran benefits, passport status, and Old Age Security.
- Sharing of drug recalls issued by the World Health Organization.
- Exchanging import and export clearance data before the shipment lands.
- Real-time sharing of arrest warrants across multiple levels of government.
- Food exporters automatically applying for export certificates before the product even rolls off the production line.

# Government as a Platform - Canada's Digital Backbone

- Real-time submission of regulatory compliance data from various regulated sectors such as automotive, pharmaceutical, and resource development (e.g., mining).
- Making payroll and human resources information available to employees in real time.
- Seamless movement of employees across the GC due to integration between departmental systems.
- Effortless employee onboarding from initial job posting to fully functioning team member.

# Drupal: Web CMS for Accessible Canadian Digital Government

As described in our [Digital Accessibility best practices feature](#), the open source web CMS Drupal can play a key role in implementing those practices and achieving compliance with the C-18 bill.

On [this page](#) they discuss the general accessibility capabilities of the system, the latest [accessibility features](#) in release 8 and how to do an [accessibility review](#). The AgileDrop [discusses the top ten](#) accessibility plugin modules.

It comes with implementation recipes tailored for the Canadian Government such as a [web experience toolkit](#), that enables easier building of bilingual sites and achieving compliance with the W3C's Web Content Accessibility Guidelines.

It has a long history with the Canadian public sector. In 2014 the Canadian Government Executive [wrote about](#) it's early adoption by pioneers like St. John and Ottawa, as part of their Open Government strategies to [better share Open Data](#) and enable Open Innovation practices.

Describing [the ongoing evolution of the Drupal ecosystem](#) Suzanne Dergacheva of EvolvingWeb shares how with the government's new [Open First philosophy](#), Drupal is poised to become the default choice for government web platforms, and is growing across sectors including Education and in Quebec, citing some keynote examples like [Tourism Quebec](#) and the [Aéroports de Montréal](#).

# Drupal: Web CMS for Accessible Canadian Digital Government

Interviewing Drupal founder Dries Buytaert and Chris Smith of OPIN Software, another Drupal development agency, the Ottawa Business Journal also [reports on this growing adoption of Drupal](#),. The shift from proprietary web CMS to open source is enabling the public sector to better share innovations and best practices, realizing a considerable cost saving while also modernizing the web experience.

The [Yukon Government](#) is another example, estimating they will save \$75k per annum thanks to this shift.

## Accessible Digital Government

The specific topic of the role Drupal can play in meeting the accessibility needs of Canadian government was explored in a 2018 online meetup for the Drupal Atlantic Canada group.

Speaking at the 2018 Drupal North conference Hillary Hartley, Ontario's Chief Digital Officer, shares the province's experiences of adopting Drupal to be the centrepiece of their digital transformation strategy.