FEDERAL GOVERNMENT · STRATEGIC MODERNIZATION & TECHNICAL-DEBT RETIREMENT

A nationally visible service was running on technology near end of life while the very web standards it depended on were being retired — both were replaced before technical debt became service risk, without taking the public platform down.

A Government of Canada national geospatial service modernized ahead of a deadline it did not set — retiring an end-of-life platform and adopting future-proof open standards before rising cost, supportability gaps, and standards exposure turned into operational risk.

CLIENT	ROLE	ENGAGEMENT MODEL
Government of Canada — federal geospatial platform (anonymized)	Project Manager	Single accountable PM across options analysis, build-vs-buy, vendor, security, and migration
DURATION	**PLATFORM / INFRASTRUCTURE**	**PROGRAM SCALE**
FY2020/21 – FY2022/23 · multi-release modernization	Serverless AWS cloud · OGC API / open-source OGC API components · WCAG/bilingual UIs · open-source	National catalogue + viewer serving federal departments, provinces, territories, and the public

01 The mandate

A core, nationally visible geospatial service was running on an open-source platform that had been so heavily customized it could no longer meet requirements, cost more each year to keep alive, and was nearing end of life. The harder problem sat underneath it: the web-service standards the service depended on were scheduled for industry-wide retirement. This was not a discretionary 'we want cloud' project — the technical foundation was disappearing, and the only question was whether the platform moved before that became a business problem.

The mandate was to replace both the platform and its underlying standards — rebuilding cloud-native on standards built to last — while the service stayed continuously available to the federal departments, provinces, territories, and members of the public who depend on it. Modernize ahead of the deadline; do not let the public service go down to do it.

02 The delivery context

Technical debt turning into business risk

To an engineer this was an aging platform; to the organization it was mounting operational risk — rising maintenance cost, thinning supportability, and direct exposure to standards that were being retired out from

under the service. Left alone, the debt would have converted into outages, escalating spend, and a service that could no longer be safely changed. The trigger to act was risk, not preference.

Continuity was non-negotiable

This was public, national infrastructure — other federal departments, provinces, and territories rely on it to publish and discover geospatial data, and the public uses it directly. A hard cutover that risked the running service was off the table. The service had to keep serving the country throughout the modernization, not pause for it.

03 How the engagement was run

Build-vs-buy, decided on evidence

Replacing a core platform invites a build-or-buy fight settled by preference. Instead the engagement ran a documented options analysis — open-source versus off-the-shelf, weighed against total cost of ownership, scalability, and standards-fit — and took the build-vs-buy and procurement decision through formal sign-off before any development began.

Cloud-native and serverless, not lift-and-shift

The replacement was rebuilt as a scalable, largely serverless cloud solution — automated workflows, machine-generated configuration, geospatial processing as cloud functions — engineered for low total cost of ownership, rather than re-hosting the legacy architecture and carrying its debt forward. Remaining legacy dependencies were migrated to the cloud deliberately, not stranded.

Future-proofed on standards built to last

Rather than extend the soon-to-be-retired standards for a few more years, the platform adopted the next-generation open API standards positioned to remain viable through the coming decade. The point was not 'newer technology' — it was moving the service onto a foundation that reduces future supportability and vendor risk instead of recreating the same exposure on a later date.

04 Outcome

The legacy platform and its end-of-life standards were retired and replaced with a cloud-native solution on future-proof open standards — rebuilt rather than re-hosted, with bilingual WCAG-compliant interfaces and a completed threat-and-vulnerability assessment, delivered iteratively across three fiscal years. Remaining legacy dependencies were migrated to the cloud and the service was moved off its disappearing foundation without an interruption to the departments, provinces, territories, and public that rely on it. Internal program economics are held confidential; the directional result is a national service that retired its technical debt and future-proofed itself ahead of the deadline, with the public platform live throughout.

MODERNIZATION DECISIONS	HOW IT WAS SET
Trigger to act	**Retiring standards + rising risk — not preference**
Build vs. buy	**Documented options analysis, signed off before build**
Rebuild approach	**Cloud-native — not lift-and-shift of the legacy design**
Standards	**Next-gen open API, viable for the coming decade**
Cutover	**Migrated with no interruption to the public service**

OUTCOME POSTURE

The standards under a national public platform were being retired — it was migrated to a future-proof foundation before supportability became operational risk, without going down.

Strategic modernization, not a technology upgrade: technical debt retired and a national service future-proofed ahead of a deadline the organization did not set — with the public platform live the entire way.

05 What this demonstrates

Strategic modernization before debt became risk.

Replaced an end-of-life platform and its soon-retired standards before rising cost, supportability gaps, and standards exposure could turn into service risk.

OFFERED TODAY AS: DELIVERY LEADERSHIP

Cloud migration without service interruption.

Rebuilt cloud-native and serverless and migrated legacy dependencies to the cloud while the public-facing national service stayed live throughout.

OFFERED TODAY AS: CLOUD & PLATFORM DELIVERY

Evidence-based build-vs-buy.

Ran a documented open-source-versus-off-the-shelf options analysis against total cost of ownership and standards-fit, with the procurement decision signed off before development.

OFFERED TODAY AS: ARCHITECTURE & INVESTMENT GOVERNANCE

Future-state architecture leadership.

Moved a national platform onto open standards built to remain viable for the next decade — reducing future supportability and vendor risk, not just adopting new technology.

OFFERED TODAY AS: ARCHITECTURE LEADERSHIP

Accessibility and security as first-class scope.

Delivered bilingual, WCAG-compliant interfaces and a completed threat-and-vulnerability assessment as planned, gated release deliverables.

OFFERED TODAY AS: PUBLIC-SECTOR DELIVERY

SOURCE ARTIFACTS AND DISCLOSURE

Anonymized in line with Government of Canada engagement protocol: department names, platform branding, and program budget are withheld. Drawn from source program artifacts held by the practice — the project charters, the approved technology roadmap, the options analysis, and release plans.

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