



Strategic Roadmap 2022-2025

Halfway Review



Cybera is Alberta's research and education network facilitator, responsible for driving connections, collaborations and skills growth through the use of digital technology.

Our mission is to connect Alberta to the world, enabling and advocating for better services, collaborations and skills growth through the use of digital technology.

Our vision is to ensure a connected, secure and equitable digital future for every Albertan.

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Roadmap 2022-25: Halfway review

SUMMER 2023

When Cybera staff canvassed our community in fall 2021 to build this roadmap, the top priorities for most respondents were increasing collaborations on resource and knowledge sharing, and finding (and retaining) core technical staff. The resulting *2022-25 Strategic Roadmap* built on these requests, and also sought to grow the capabilities and utility of Cybera's existing services and projects.

This updated roadmap shows how we are proceeding on these targets midway through the three-year plan. Items that have been accomplished have been marked with a green checkmark; items that are progressing or are in development have a yellow arrow; and targets we have missed or not yet started have a red X.

If you have any questions about the targets, projects, or services outlined below, please contact us at info@cybera.ca.



accomplished



progressing /
in development



missed /
not yet started

Network

As well as operating and growing the province's Research and Education Network, Cybera is supporting its members to achieve faster, safer, and more efficient bandwidth. This will help them meet the growing communication, learning, and everyday working needs of Albertans.

What we will do

- • Connect more communities, not-for-profit organizations, municipalities, and research centres
- • Work with members to identify gaps and solutions for overcoming their network bottlenecks
- • Expand network capacity and explore new network technologies, including automation
- • Build out Cybera's network offerings to include more services (e.g. security, monitoring, and network support)



Moonshot target

Every Alberta public & education organization can access 100 Gbps speeds by 2027

Specific achievables

9 out of 11 started or in progress = 82%

By March 31, 2023

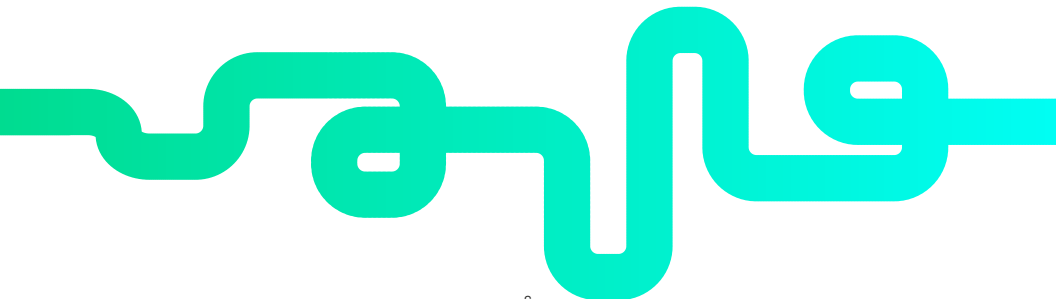
- ✓ • Expand eduroam to 1 new municipality and 2 more education institutions
- ✓ • Launch 1 new service focused on growing the broader value of the network
- ✓ • Investigate and grow peering relationships and capacity to major cloud providers in Canada
- • Work with members to identify bottlenecks in their network

By March 31, 2024

- • Expand eduroam to 1 new municipality and 2 more education institutions
- • Launch 1 new service focused on growing the broader value of the network
- • Work with members to eliminate bottlenecks in their network
- ✗ • Work with wider member community to identify and deliver a new community network service

By March 31, 2025

- • Expand eduroam to 1 new municipality and 3 more education institutions
- ✗ • Pilot a non-fibre (e.g. LEO satellite) network project
- • Connect 2 additional First Nations communities to Cybera's network



Security

With cybersecurity threats growing in scale and complexity, we are amplifying our efforts to improve the safety posture of all Alberta public and education organizations. We are also increasing collaborations with provincial and national partners on security initiatives.

What we will do

- • Continue developing in-house expertise
- • Support the development of key security skills in member institutions (see Skills and Advocacy goals for more details)
- • Explore open-source or automated systems that strengthen institutions' security postures while reducing costs
- • Expand security services beyond governance and assessment programs, to implementation, monitoring and response support
- • Work through the five functions of NIST (Identify, Protect, Detect, Respond, Recover) to develop services related to each
- • Collaborate with other non-profit institutions to share and implement resources and best practices



Specific achievables

9 out of 15 started or in progress = 60%

By March 31, 2023

- ✓ • Launch 4 new security services for wider member community
- ✗ • Expand intrusion detection service (Miridor) to include alerting and reporting
- • Use assessment results to build a security profile of Alberta's education sector
- ✓ • ShareIT to begin 1 new security RFP
- ✗ • Support the development of new backup solutions for members

By March 31, 2024

- • Pilot a DDoS mitigation service
- ✗ • Integrate advanced analytics into Miridor
- • Launch a breach coaching solution (via partnership)
- ✗ • Pilot an open source Virtual Firewall Service offering
- • Use assessment results to advocate for funding to fill gaps in security maturity
- ✓ • Explore the creation of a Security Operations Centre in Alberta with government and Cybera members

By March 31, 2025

- • Launch a production level DDoS mitigation service
- • Offer a complete service catalogue for all five NIST functions
- ✗ • Launch a production-level, open source Virtual Firewall Service offering
- ✗ • Explore machine learning with Miridor



Skills

To address the increasing gaps in Alberta's technical fields (and help transition the province to a more diversified economy), Cybera is committed to building technical skills and digital literacy in the province.

What we will do

- • Work with educators to increase computational thinking skills in Canadian K-12 classrooms
- • Provide tools and training support for women, under-represented groups, not-for-profits and charities
- • Collaborate with industry and academia to increase awareness and access to technical skills (data management / data science, security, community networks, etc) in Alberta through webinars / hackathons / internships / micro-credentials / work-integrated learning programs
- • Utilize data science expertise to predict future IT trends and career pathway needs, and work with government and education to implement findings



Moonshot target

Albertans are leading
Canada's digital economy
by 2030

Specific achievables

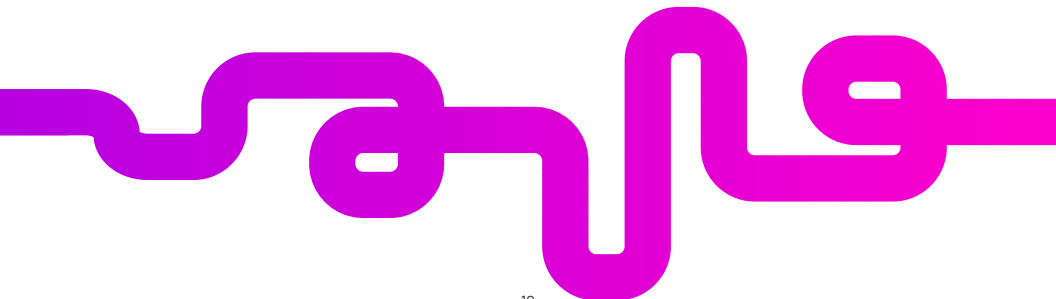
12 out of 17 started or in progress = 70%

By March 31, 2023

- ✓ • Callysto: Train 1,000+ teachers and 16,000+ grades 5-12 students in data science / computational thinking
- • Train 16 interns and 4 companies across Alberta in data science
- ✗ • Pilot a Cybersecurity Fellowship program (8 fellows and 5-8 companies)
- • Host 6 public webinars on advanced technologies, security and/or equitable access to internet
- ✓ • ShareIT Professional Development: host 12+ knowledge sharing sessions with members
- • ShareIT Professional Development: establish a catalogue of technical and IT leadership certifications

By March 31, 2024

- • Callysto: Train 1,000+ teachers and 16,000+ grades 5-12 students in data science / computational thinking
- • Train 24 interns and 6 companies across Alberta in data science
- ✗ • Launch a national Cybersecurity Fellowship program (30 fellows and 20-30 companies)
- • Host 8 public webinars on advanced technologies, security and/or equitable access to internet



- • ShareIT Professional Development: host 15+ knowledge sharing sessions with members
- • Advise 2 member organizations on their data science pathways

By March 31, 2025

- ✗ • Callysto program becomes a self-sustaining service
- ✗ • Applied Data Science Lab becomes a self-sustaining program
- ✗ • Expand Cybersecurity Fellowship program to 100+ fellows and 80-100+ companies)
- • Host 10 public webinars on advanced technologies, security and/or equitable access to internet
- • ShareIT Professional Development: host 15+ knowledge sharing sessions with members

Collaboration

More and more, Alberta's public and education sectors are realizing their interconnectedness and the value of shared knowledge and resources. As an unbiased champion for digital technologies that can benefit the education, public, and innovation sectors in the province, Cybera is in a unique position to facilitate these collaborations.

What we will do

- • Investigate new shared IT platforms / services, and stand them up for members
- • Expand scope of ShareIT to include preferred vendor solutions as well as non-IT solutions
- • Develop collaborative projects with local non-profits and NREN partners
- • Facilitate knowledge-sharing sessions, and create a shared repository for best practices
- • Support the use of open-source technology tools in Alberta industry and academia
- • Expand functionality of Rapid Access Cloud to support research and education uses

An illustration featuring a stylized rocket with a blue body and orange fins, launching from a thick, winding pink track. In the upper right, a large, colorful sphere with a gradient from yellow to pink and several dark spots represents a moon. The background is white.

Moonshot target

By 2027, Cybera is being utilized by public and education organizations across Canada to collaborate on information and service sharing

Specific achievables

11 out of 14 started or in progress = 78%

By March 31, 2023

- ✗ • Launch ShareIT for K-12 governance model
- ✓ • ShareIT catalogue expands to 25 offerings
- ✓ • Work with Advanced Education to manage two collaboration projects for post secondaries
- • Rapid Access Cloud: pilot a service focused on reducing friction in using cloud for data science

By March 31, 2024

- • Pilot a ShareIT service for municipalities
- ✓ • ShareIT catalogue expands to 30 offerings
- ✗ • Explore a collaborative project with a non-profit / charity
- • Launch a member repository for sharing resources on best practices
- • Rapid Access Cloud: expand data science offerings to assist with low demand but common use cases
- • Rapid Access Cloud: collaborate with researchers to explore innovative uses of the cloud (e.g. using AI)

By March 31, 2025

- ✓ • ShareIT catalogue expands to 35 offerings
- ✗ • Pilot a collaborative project with a non-profit partner
- • Collaborate with a global Research and Education Network partner to offer open source tools for educators, researchers and start-ups
- • Rapid Access Cloud: introduce additional architectures focused on reducing power consumption and environmental impact

Advocacy

Albertans — and Canadians as a whole — continue to experience large disparities between the “haves” and the “have-nots” when it comes to connectivity. Cybera will continue to advocate for reliable and equitable internet access. We will also advise on plans for Albertans’ digital infrastructure needs.

What we will do

- • Investigate non-fibre solutions (e.g. LEO satellites) and their impact on the public sector, and share findings with community and government funders
- ✗ • Expand advocacy initiatives to include skilled labour shortage issues
- ✗ • Facilitate knowledge and best-practice sharing among members on security, ethics, and privacy
- • Use connectivity data to advocate for reducing the digital divide in Canada
- • Continue intervening in CRTC / federal telecommunications hearings / panels



Moonshot target

Every Albertan is connected to high speed internet by 2027

Specific achievables

9 out of 12 started or in progress = 75%

By March 31, 2023

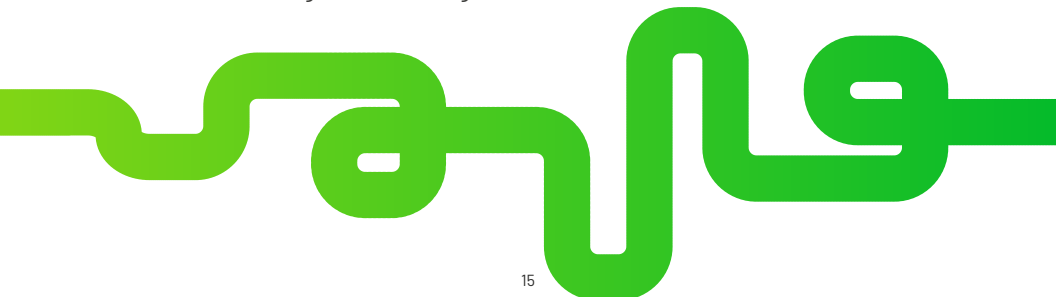
- ✗ • Hold 7 cross-Alberta roadshows to build collaborations and increase awareness of connectivity issues
- ✓ • Work with the Government of Alberta to implement new provincial broadband strategy
- • Alberta Rural Connectivity Coalition: expand membership to 50 organizations
- • Alberta Rural Connectivity Coalition: update “First Mile” community broadband toolkit

By March 31, 2024

- • Hold 8 cross-Alberta roadshows to build collaborations and increase awareness of connectivity issues
- • Refresh *Alberta Digital Infrastructure Report*
- ✗ • Launch a First Nations policy committee to focus on digital equity and inclusion needs
- • Alberta Rural Connectivity Coalition: expand membership to 60 organizations
- • Work with non-profit groups on a more detailed “broadband mapping” project

By March 31, 2025

- • Hold 10 cross-Alberta roadshows to build collaborations and increase awareness of connectivity issues
- • Alberta Rural Connectivity Coalition: expand membership to 75 organizations
- ✗ • Investigate open data mining platforms that assess the impact of public submissions on government regulations





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