



CANARIE Network

In order for Canadians to participate and lead in data-intensive, collaborative research, enormous volumes of data must be transmitted and shared among researchers across the country and around the world. The CANARIE Network is the backbone of Canada's National Research and Education Network (NREN), critical infrastructure for national and global scientific collaboration **that supports and accelerates Canadian innovation and discovery.**

CANARIE's Role in Canada's National Research and Education Network (NREN)

Twelve provincial and territorial network partners, together with CANARIE, collectively form Canada's National Research and Education Network (NREN). This powerful digital infrastructure connects Canadians to national and global data, tools, colleagues, and classrooms that fuel the engine of innovation in today's digital economy.

In a successful federal-provincial partnership, CANARIE provides interprovincial and international connectivity, while partner networks connect to institutions in their jurisdictions. CANARIE also supports its NREN partners by investing in initiatives that **extend the NREN's reach, increase its capacity, and enhance its reliability.**

Quick Facts

The CANARIE Network:

- > enables collaboration with peers in global research and education networks across **100 countries.**

How fast is the CANARIE Network?

- > operates at speeds up to **100 Gigabits a second** (enough to download a **2 hour** HD video in **4/10ths of a second**).

How much traffic does the CANARIE Network support?

- > expected to transmit close to **258,000 terabytes (TBs)** of data in 2016 (**50%** predicted growth based on tracked data traffic growth over the past decade), compared to **172,000TB** of data in 2015. To put that much data into context, **258,000TB** is equal to about **67,500,000** HD movies, which would take over **15,000 years** to watch in their entirety.

CANARIE Network Initiatives

To continue to strengthen Canada's digital research infrastructure, CANARIE will invest in the following strategic initiatives in 2015-2020:

- > Continue to extend the network from coast to coast to coast
- > Strengthen network security monitoring
- > Leverage opportunities to reduce the cost of the network infrastructure
- > Pilot innovative software-driven network applications
- > Explore opportunities to improve connectivity to Canada's northern regions
- > Invest in infrastructure to ensure high availability of the network

CANARIE Network Services

Institutions that connect to the CANARIE Network via the NREN may also benefit from:

- > **Content Delivery Service (CDS)** – The Content Delivery Service provides research and education institutions connected to the NREN with ultra-high-speed access to a list of approved Internet Content Providers.
- > **Dedicated Connection Service** – The Dedicated Connection Service is a dedicated connection for researchers who require a direct, secure, private link with peers, within Canada or globally. This service allows researchers or institutions to request and obtain dedicated CANARIE network infrastructure resources to build their own networks.

How to Connect to the CANARIE Network

CANARIE network infrastructure and services are provided to support research, education, advanced application development and usage by Canadian research, education, government, and industry organizations.

Qualifying organizations must connect to CANARIE via its provincial and territorial NREN partners. Please see list of NREN partner contacts on the CANARIE website: canarie.ca/network/how-to-connect.

Learn more:
canarie.ca/network

