Canadian IXP Landscape

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Bienvenue à Montréal!!
Welcome to Montréal!!
We support initiatives that enhance Canadians’ internet experience:

**Global Internet Leadership**
- Support internet governance and standards through global organizations such as ICANN and CENTR

**Canadian Initiatives**
- **11** Internet Exchange Points nation-wide
- **280,000+** internet performance tests conducted last year

**Community Initiatives**
- More than **$5.45 million** in grants to **130** projects through our Community Investment Program

**.CA**
- **2.8 million** .CA domains
- **4** Anycasts DNS clouds

**Cybersecurity Services**
- **100,000** new cybersecurity threats blocked daily by D-Zone Firewall

**Registry Services**
- Robust top-level domain products and services
About CIRA, .CA and D-Zone Anycast

- AS27299 - .CA Registry – 2 sites
- AS55195 - .CA Anycast cloud 1 – 11 sites
- AS394354 - .CA Anycast cloud 2 – 9 Sites
- 5420 peering relationships
- 3180 unique peers
- ...and a lot of transit

“Not enough traffic, we don’t want to peer with you” 😞 – Some large ISPs
A global anycast DNS service that puts Canada and Canadian traffic first

Cloud 1 Sites
- Miami, FL
- Los Angeles, CA
- London, UK
  - Paris
  - Frankfurt
  - Stockholm
  - Amsterdam
- Hong Kong
- Calgary, AB
- Toronto, ON
- Winnipeg, MB

Cloud 2 Sites
- Vancouver, BC
- Montreal, QC
- Ashburn
  - Chicago
- Halifax, NS
- Stockholm
- Hong Kong
- Sao Paulo
- Sydney
Our Vision for .CA DNS

• To serve .CA DNS from Canada to all Canadians
  • Today we are not !!! 😞
  • Our biggest Canadian DNS traffic site is Ashburn 😞

• Leveraging local anycast in Canada
• Global anycast diversity & resilience

Our goal:

To get Canadian Telco/ISPs to peer and exchange traffic in Canada
Canadian IXP Landscape
A long time ago, we didn’t know much about IXPs
Toward Efficiencies in Canadian Internet Traffic Exchange

Existing (2)
Ottawa
Toronto
Toward Efficiencies in Canadian Internet Traffic Exchange

High priority (8)
Calgary
Edmonton
Halifax
Montréal
Québec City
Vancouver
Windsor
Winnipeg
Toward Efficiencies in Canadian Internet Traffic Exchange

Medium priority (15)
Charlottetown
Fredericton
Iqaluit
Kingston
London
Moncton
Regina
Saskatoon
Sherbrooke
St. John
St. John’s
Sudbury
Thunder Bay
Whitehorse
Yellowknife
The evolution of Canada IXPs since 2012

2012 (pre-existing)

- 2013
- 2015
- 2017
- 2018
  - Defunct 2018
  - Under development
  - Under Discussion
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Map showing various IXPs across Canada, including:
- VANIX
- YEGIX
- YXEIX
- QIX
- TORIX
- YYCIX
- MBIX
- PEIIX
- MonctonIX
- Saint John
- HFIX
- ArcticIX

OGIX
The evolution of Canada IXPs since 2012

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Defunct 2018
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Under Discussion

Not the same order as Bill predicted but pretty close 😊
Challenges? Issues? Opportunities?

• Keeping traffic **in Canada**

• **Attracting/Keeping** Content Providers

• Getting **governments & enterprises** to peer

• Communicating the **marketplace value**

• More Tier1 **transit options**
CIRA’s role in Canadian IXP

CIRA supports the development of the IXPs

CIRA supports IXP communities

The list of “we don’ts”

- **Start new** IXPs
- **Operate** IXPs
- **Own** IXPs
- **Manage** IXPs
- **Govern** IXPs
- **Rule** IXPs
Thank you