.CA ccTLD News
ccNSO @ ICANN55

Canadian Internet Registration Authority (CIRA)
L'Autorité Canadienne pour les Enregistrements Internet (ACEI)

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Agenda

- New Internet Exchange Points (IXPs) across Canada
- Mapping Canada's Internet performance using our new Internet Performance Tool
- Update on D-Zone DNS Anycast service offering.
- Q&A

Canadian IXP Infrastructure overview

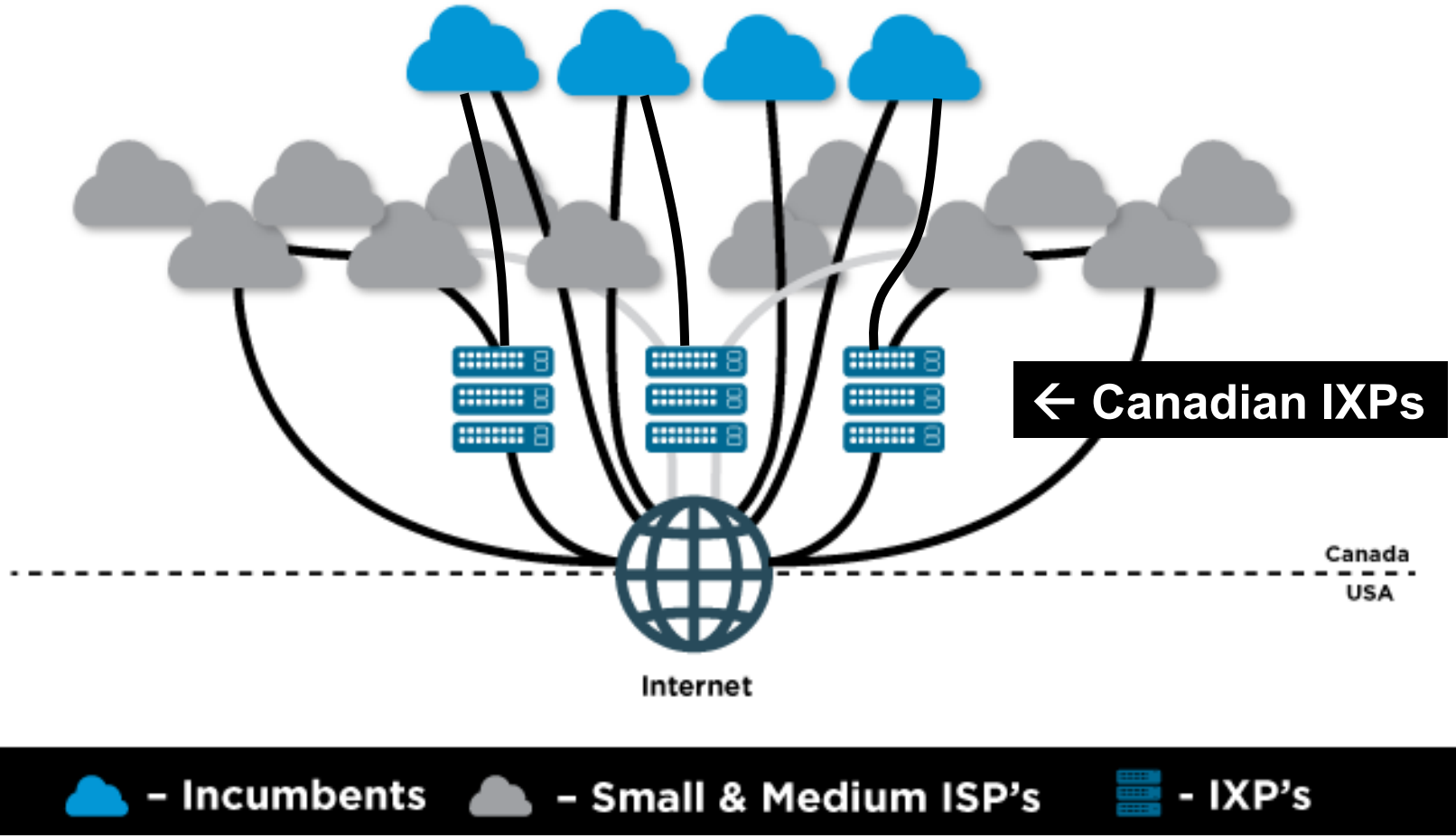
Canadian IXP Infrastructure

- 7 established and operational IXPs from 2 five years ago

IXP Benefits to Canada

- Key service positioning for .CA infrastructure
  - DNS, Registry, NTP, CIRA D-Zone, etc…
- Better global Internet (IPv4 and IPv6) access to small and medium ISP and for .CA
- Moving the heart of the Internet into Canada
- Benefits:
  - Lower latency, access to IPv6
  - Direct access to global content providers
  - Internet routing resiliency
  - Toward an autonomous Canadian Internet

Canadian Internet Vision

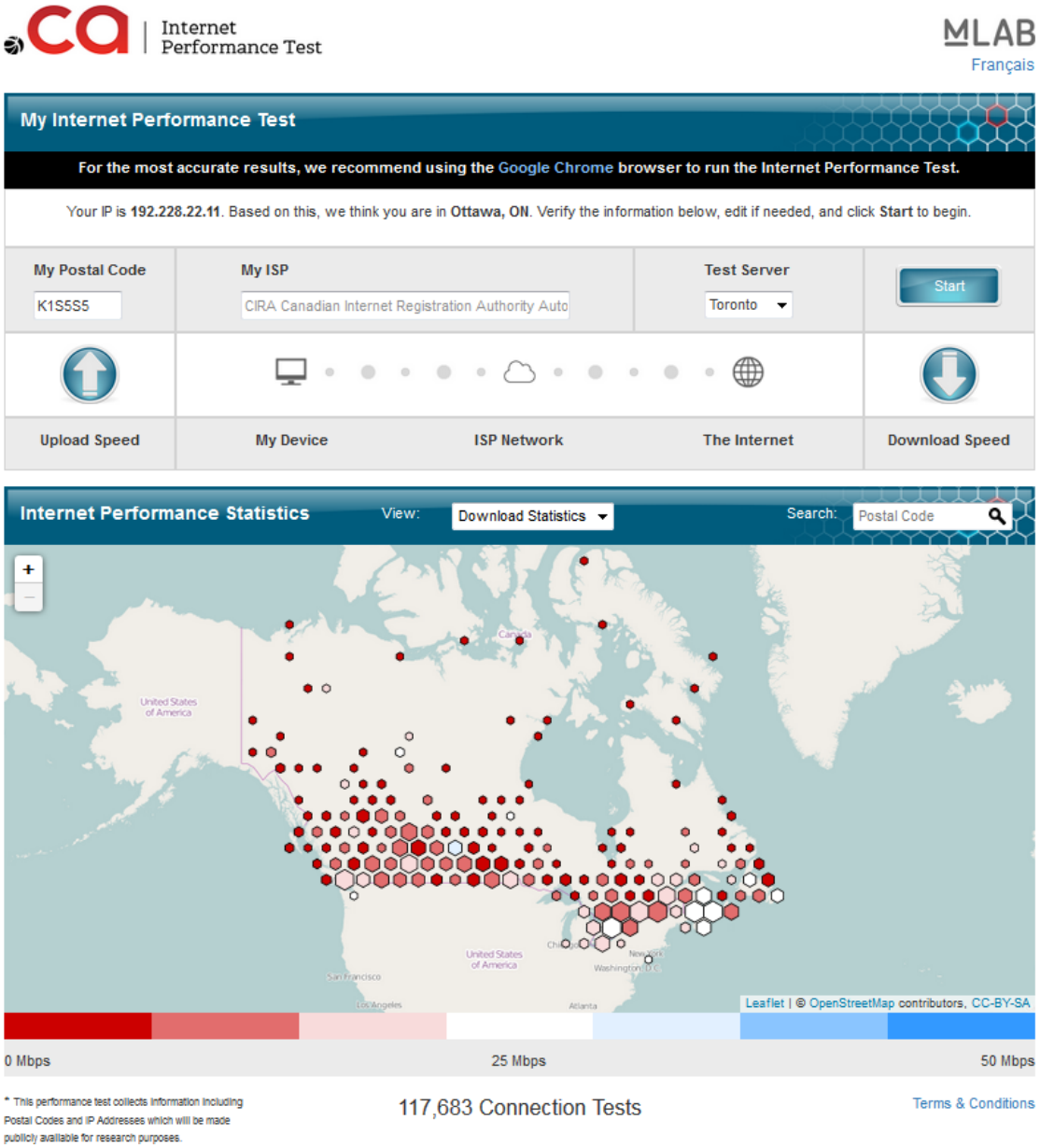


Internet Performance Test Overview

http://cira.ca/performance

CIRA's IPT Portal

- Canadian portal
- Postal code
- Measure & Report:
  - IPV6
  - DNSSEC
  - Upload speed
  - Download speed
  - 96 quality metrics



CIRA's Internet Performance Test

- Evolving experiment to measure the performance and state of the Canadian Internet
- Based on world renowned **M-Lab** platform and Web100 Network Diagnostic Test (**NDT**)
- On-going development of a customized portal to make the information relevant to Canadians
  - Visually by aggregating the data based on postal code
  - Open source, by making M-Lab results freely available

Canadian M-Lab Infrastructure

IPT uses 3 M-Lab nodes in Canada

- Calgary, Toronto, Montreal

Nodes are owned and operated by M-Lab

http://www.measurementlab.net/infrastructure

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CIRA IPT is about Quality not Quantity

Source: http://www.tagxedo.com/app.html?url=http%3A//cira.ca/IPT/results-help&shape=Classic&orientation=Any

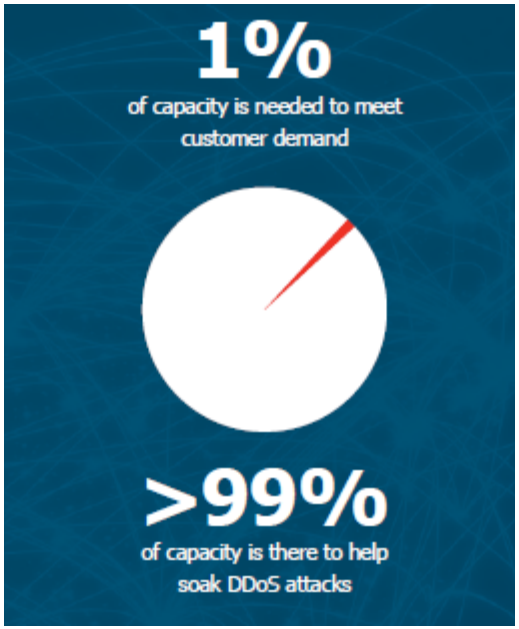
D-Zone

Anycast DNS Service

D-Zone Anycast DNS

A secondary DNS designed for Top Level Domain Registries

- Global architecture with nodes key Internet hubs
- Simple management interface for tracking domain activity (query volume, NXDOMAINS, etc)
- It is currently in use by two TLDs (.CA and .KIWI)



DDoS attacks can be over 100 Gbps - it is a best practice to back-up your DNS in a minimum of two clouds and with a minimum of two suppliers.

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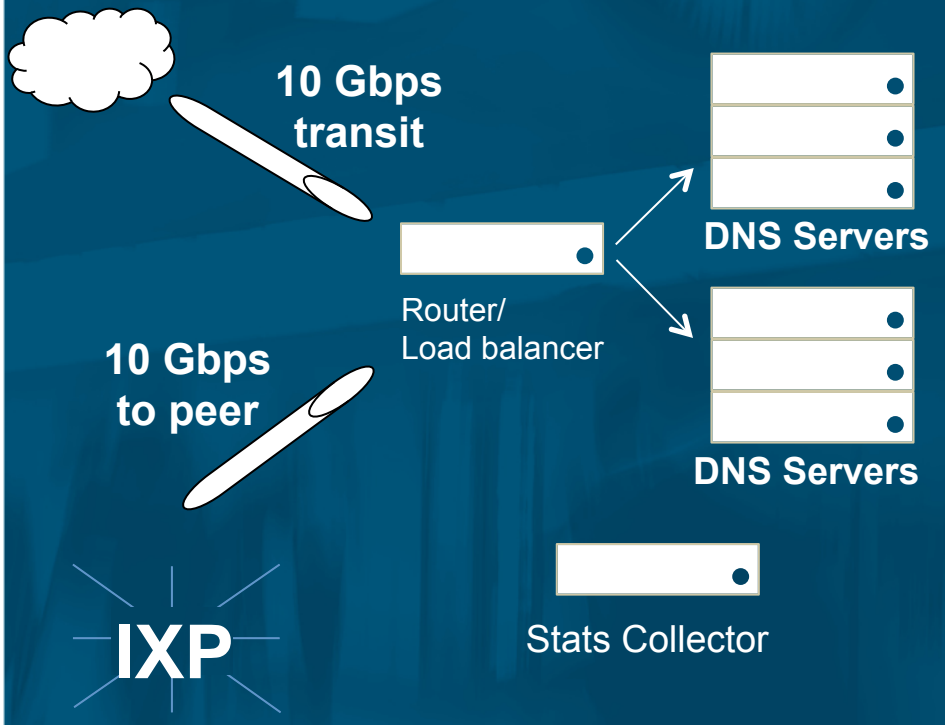
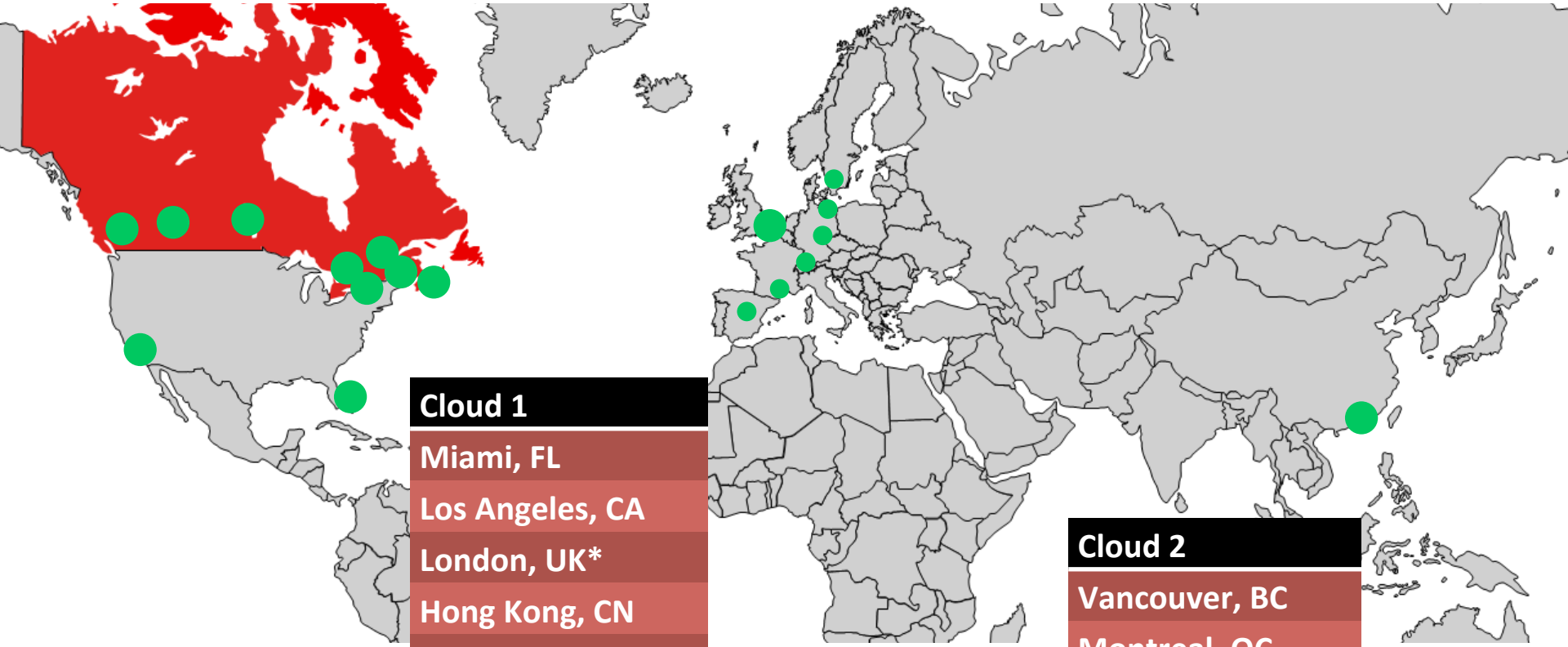
D-Zone is designed for the most rigorous demands of an always-on service

- ✓ Typical global node is built for redundancy and scalability
- ✓ DDoS resistant by providing two 10 GB paths via transit and local IXP
- ✓ State of the art equipment deployed this past year

Typical D-Zone Global Node



A GLOBAL ANYCAST DNS SERVICE ACROSS TWO CLOUDS AND BUILT TO SCALE



Cloud 1
Miami, FL
Los Angeles, CA
London, UK*
Hong Kong, CN
Calgary, AB
Montreal, QC
Toronto, ON
Winnipeg, MB

Cloud 2
Vancouver, BC
Montreal, QC
Toronto, ON

*directly peered node to six sites in the EU scales instantly

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Q&A

Thank You!