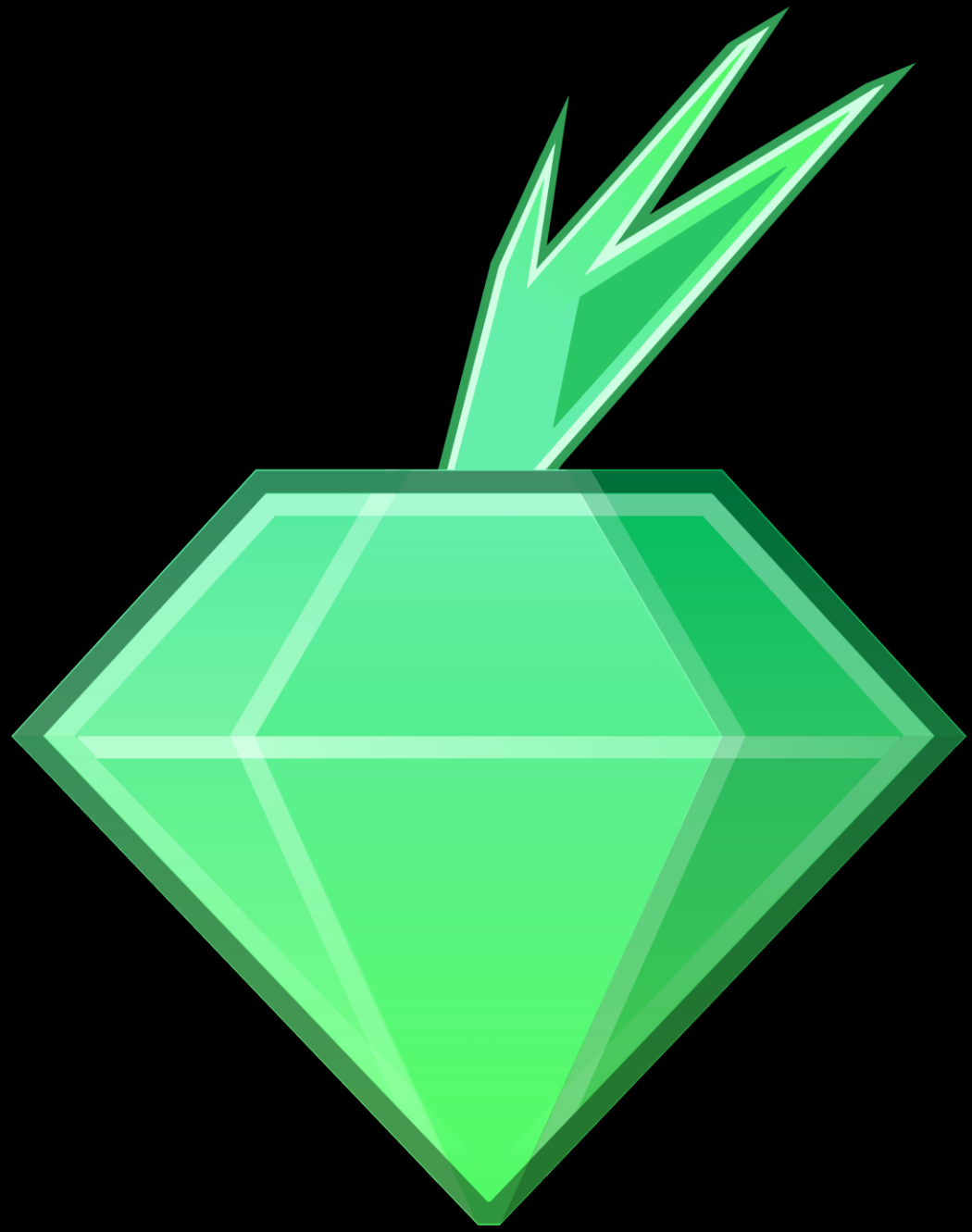




Privacy Infrastructure: Challenges and Opportunities

by @yawnbox of @EmeraldOnion for #defcon26

https://emeraldonion.org/

starting up

Washington State nonprofit registration	June 5, 2017	$50
Washington State nonprofit date of incorporation	June 15, 2017	n/a
ARIN ASN and IPv6 (/36) registration	June 26, 2017	$1,050
IRS EIN registration	June 28, 2017	free
Datacenter move in and Tor relay start	July 2, 2017	$600
ARIN IPv4 (/24) request	July 10, 2017	free
ARIN IPv4 registration approval	July 19, 2017	free
IRS 501(c)3 application	October 11, 2017	$275
IRS 501(c)3 approval	October 27, 2017	n/a

https://emeraldonion.org/articles/

starting up

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https://emeraldonion.org/arin/

Autonomous System Number (ASN)

396507

ARIN Policy 4.10: Dedicated IPv4 block to facilitate IPv6 Deployment

When ARIN receives its last /8 IPv4 allocation from IANA, a contiguous /10 IPv4 block will be set aside and dedicated to facilitate IPv6 deployment. Allocations and assignments from this block must be justified by immediate IPv6 deployment requirements. Examples of such needs include: IPv4 addresses for key dual stack DNS servers, and NAT-PT or NAT464 translators. ARIN staff will use their discretion when evaluating justifications.

This block will be subject to a minimum size allocation of /28 and a maximum size allocation of /24. ARIN should use sparse allocation when possible within that /10 block.

In order to receive an allocation or assignment under this policy:

1. the applicant may not have received resources under this policy in the preceding six months;
2. previous allocations/assignments under this policy must continue to meet the justification requirements of this policy;
3. previous allocations/assignments under this policy must meet the utilization requirements of end user assignments;
4. the applicant must demonstrate that no other allocations or assignments will meet this need;
5. on subsequent allocation under this policy, ARIN staff may require applicants to renumber out of previously allocated / assigned space under this policy in order to minimize non-contiguous allocations.

https://www.arin.net/policy/nrpm.html#four10

starting up

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https://emeraldonion.org/irs-1023ez/

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https://emeraldonion.org/development/

July 2017 - July 2018

~3.5 Pebibytes Rx/Tx of mostly Tor exit traffic

~3,100 complaints sent to abuse@emeraldonion.org

3.5 * 1000 / 3100 = ~1.129 TB transited per abuse complaint

2 subpoenas sent to admin@emeraldonion.org

3.5 * 1000 / 2 = ~1,750 TB transited per subpoena

https://emeraldonion.org/faq/

https://emeraldonion.org/legal-responses-to-tor-abuse-complaints/

Homeland Security Investigations
4041 N. Central Avenue
Suite 1650
Phoenix, AZ 85012

U.S. Immigration and Customs Enforcement

Cover Sheet

Date 11/16/2017

To: Emerald Onion
Custodian of Records
815 1st Ave # 331
Seattle, WA 98104-1404
206-739-3390

Electronic Service Methods:

Fax: (Not available)

E-Mail: admin@emeraldonion.org

From: [redacted]

Phone: [redacted]

☐ Urgent ☒ Action ☐ Concurrence ☐ FYI

Number of pages including cover: 5

Comments:

Attached is summons #: ICE-HSI-PX-2018-00425.

Please respond by December 4, 2017.

1. To (Name, Address, City, State, Zip Code)
Emerald Onion
Custodian of Records
815 1st Ave # 331
Seattle, WA 98104-1404

DEPARTMENT OF HOMELAND SECURITY

SUMMONS

to Appear and/or Produce Records
19 U.S.C. § 1509

Summons Number ICE-HSI-PX-2018-00425

By the service of this summons upon you, **YOU ARE HEREBY SUMMONED AND REQUIRED TO:**

(A) ☐ **APPEAR** before the U.S. Customs and Border Protection (CBP) Officer or U.S. Immigration and Customs Enforcement (ICE) Special Agent named in Block 2 at the place, date and time indicated to testify and give information.

(B) ☒ **PRODUCE** the records (including statements, declarations, and other documents) indicated in Block 3 before the CBP Officer or ICE Special Agent named in Block 2 at the place, date and time indicated.

Your testimony and/or production of the indicated records is required in connection with an investigation or inquiry to ascertain the correctness of entries, to determine the liability for duties, taxes, fines, penalties, or forfeitures, and/or to ensure compliance with the laws or regulations administered by CBP and ICE.

Failure to comply with this summons will render you liable to proceedings in a U.S. District Court to enforce compliance with this summons as well as other sanctions.

2. (A) CBP Officer or ICE Special Agent before whom you are required to appear

Name [redacted]
Title Special Agent
Address Homeland Security Investigations
4041 N. Central Avenue
Suite 1650
Phoenix, AZ 85012
Telephone Number [redacted] Fax Number [redacted]

(B) Date
December 4, 2017

(C) Time
9:00 AM

3. Records required to be produced for inspection

Please see attached continuation page.

You are requested not to disclose the existence of this summons for an indefinite period of time. Any such disclosure will impede this investigation and thereby interfere with the enforcement of federal law.

Issued under authority of section 509, Tariff Act of 1930, as amended by Pub. L. No. 95-410 (19 U.S.C. § 1509); 44 F.R. 2217; Homeland Security Act of 2002

4. Name of person authorized to serve this summons or any other CBP Officer or ICE Special Agent

[redacted]

5. Date of issue

By _____
(Signature)

If you have any questions regarding this summons, contact the CBP Officer or ICE Special Agent identified in Block 2.

6. Name, title, address and telephone number of person issuing this summons

Name [redacted]
Title Special Agent in Charge
Address Homeland Security Investigations
4041 N. Central Avenue
Suite 1650
Phoenix, AZ 85012
Telephone Number [redacted]

DHS Form 3115 (6/09)

https://emeraldonion.org/transparency/

data center

Insurance • commercial general liability insurance • business property protection insurance • professional liability insurance	$100 /mo
Our own server hardware	$2,000
Co-location service contract @ 5U, 2 amps	$200 /mo
IP transit service contract @ 1 Gbps	$400 /mo
Internet Exchange connectivity @ 10 GbE	$2,000

data center

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IP transit service contract @ 1 Gbps	$400 /mo
Internet Exchange connectivity @ 10 GbE	$2,000



HardenedBSD

data center

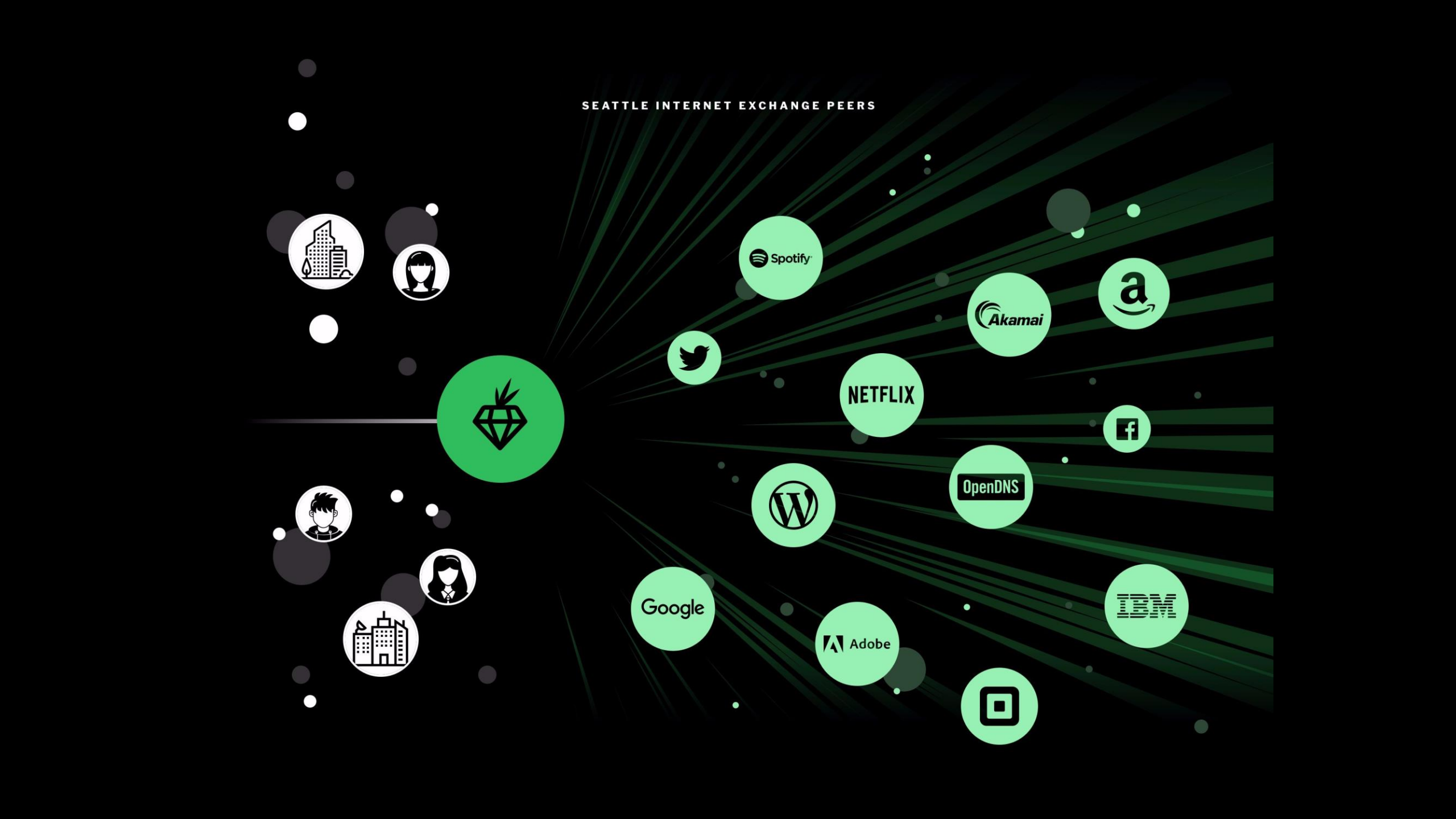
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IP transit service contract @ 1 Gbps	$400 /mo
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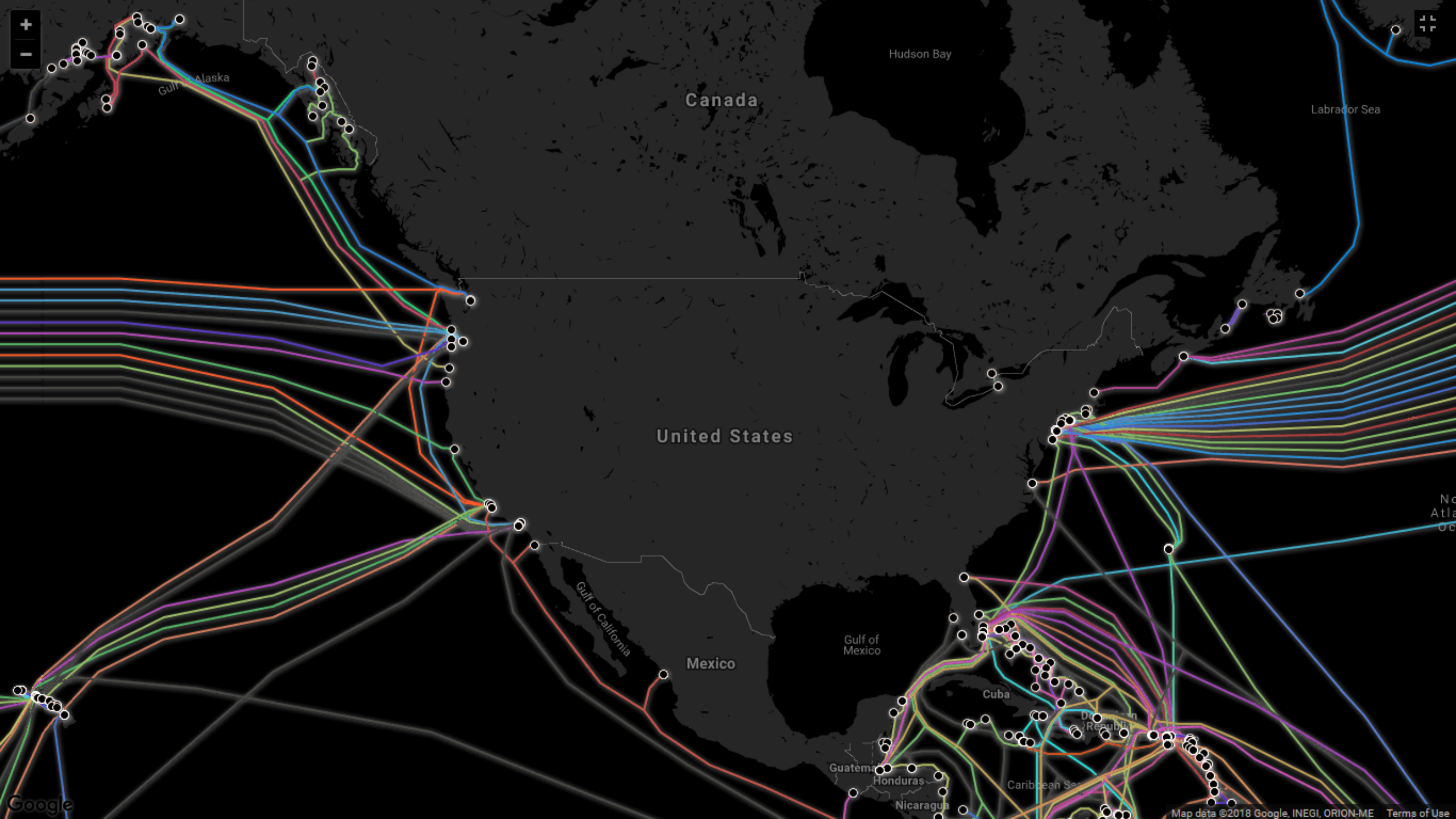
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Internet Exchange (IX) connectivity @ 10 GbE	$2,000


SEATTLE INTERNET EXCHANGE PEERS
Spotify
Akamai
NETFLIX
OpenDNS
Google
Adobe
IBM


Hudson Bay
Canada
Labrador Sea
Alaska
United States
Gulf of California
Mexico
Gulf of Mexico
Cuba
Honduras
Nicaragua
Google
Map data ©2018 Google, INEGI, ORION-ME
Terms of Use

Safe Crossing

safecrossing@emeraldonion.org

income

Tor Servers grant	$5,000
Direct donations (directors)	$9,800
Direct donations (public)	$1000
DuckDuckGo Privacy Challenge	$10,800
PayPal Giving Campaign	$1,100

https://emeraldonion.org/donate/

challenges

IP Transit costs
Open source networking hardware
Network redundancy costs
IPv4 scopes

Tor Project Relay Advocate

Colin "Phoul" Childs

colin@torproject.org

https://blog.torproject.org/get-help-running-your-relay-our-new-advocate

