



Privacy Infrastructure: Challenges and Opportunities

by @yawnbox of @EmeraldOnion for #defcon26

<https://emeraldonion.org/>

starting up

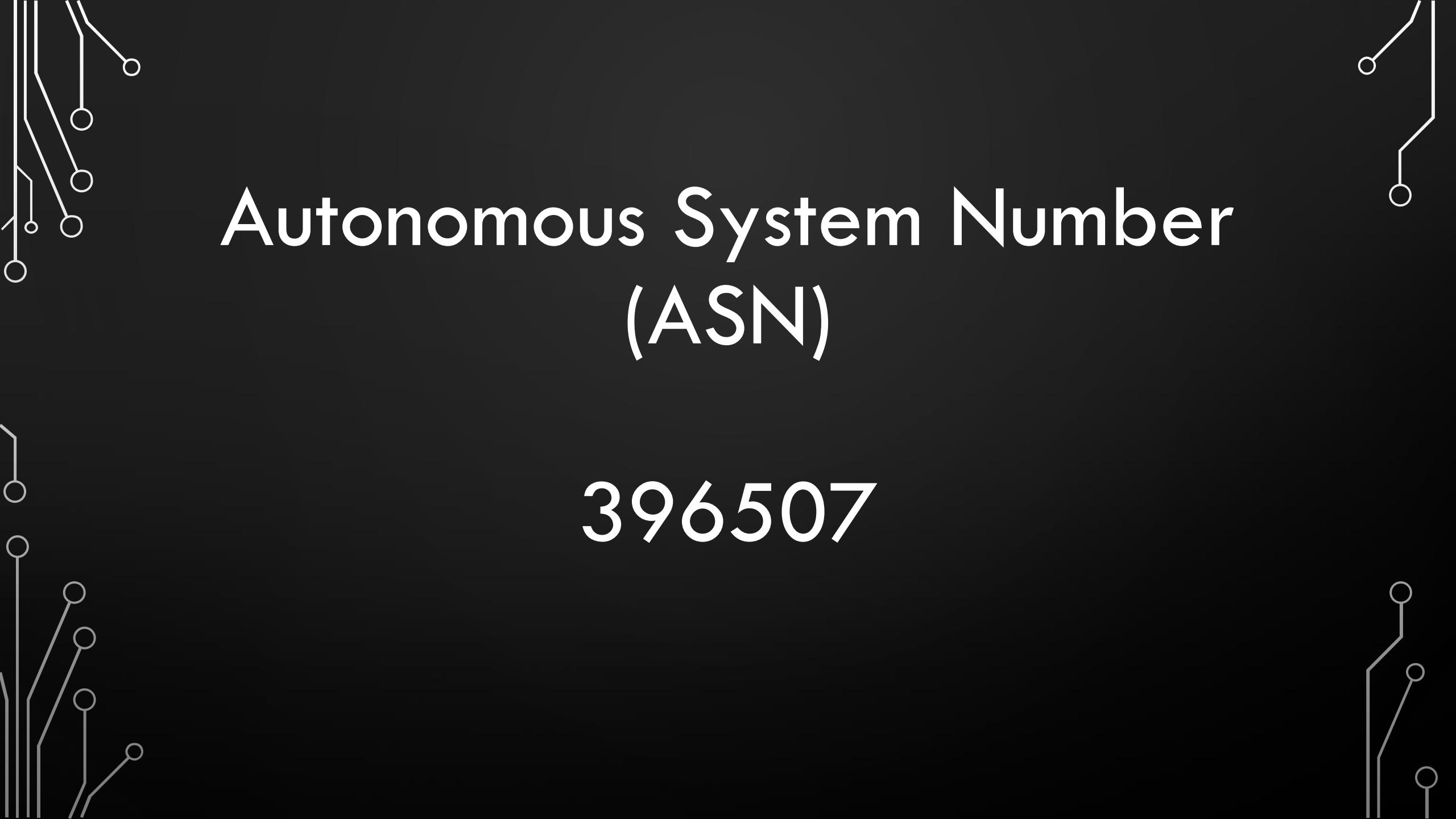
Washington State nonprofit registration	June 5, 2017	\$50
Washington State nonprofit date of incorporation	June 15, 2017	n/a
ARIN ASN and IPv6 (/36) registration	June 26, 2017	\$1,050
IRS EIN registration	June 28, 2017	free
Datacenter move in and Tor relay start	July 2, 2017	\$600
ARIN IPv4 (/24) request	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/>

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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.

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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@emeraldion.org

$3.5 * 1000 / 3100 = \sim 1.129 \text{ TB transited per abuse complaint}$

2 subpoenas sent to admin@emeraldion.org

$3.5 * 1000 / 2 = \sim 1,750 \text{ TB transited per subpoena}$

<https://emeraldion.org/faq/>

<https://emeraldion.org/legal-responses-to-tor-abuse-complaints/>

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.



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

**U.S. Immigration
and Customs
Enforcement**

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
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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 508, 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)
 <small>If you have any questions regarding this summons, contact the CBP Officer or ICE Special Agent identified in Block 2.</small>	
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)

data center

Insurance <ul style="list-style-type: none">• 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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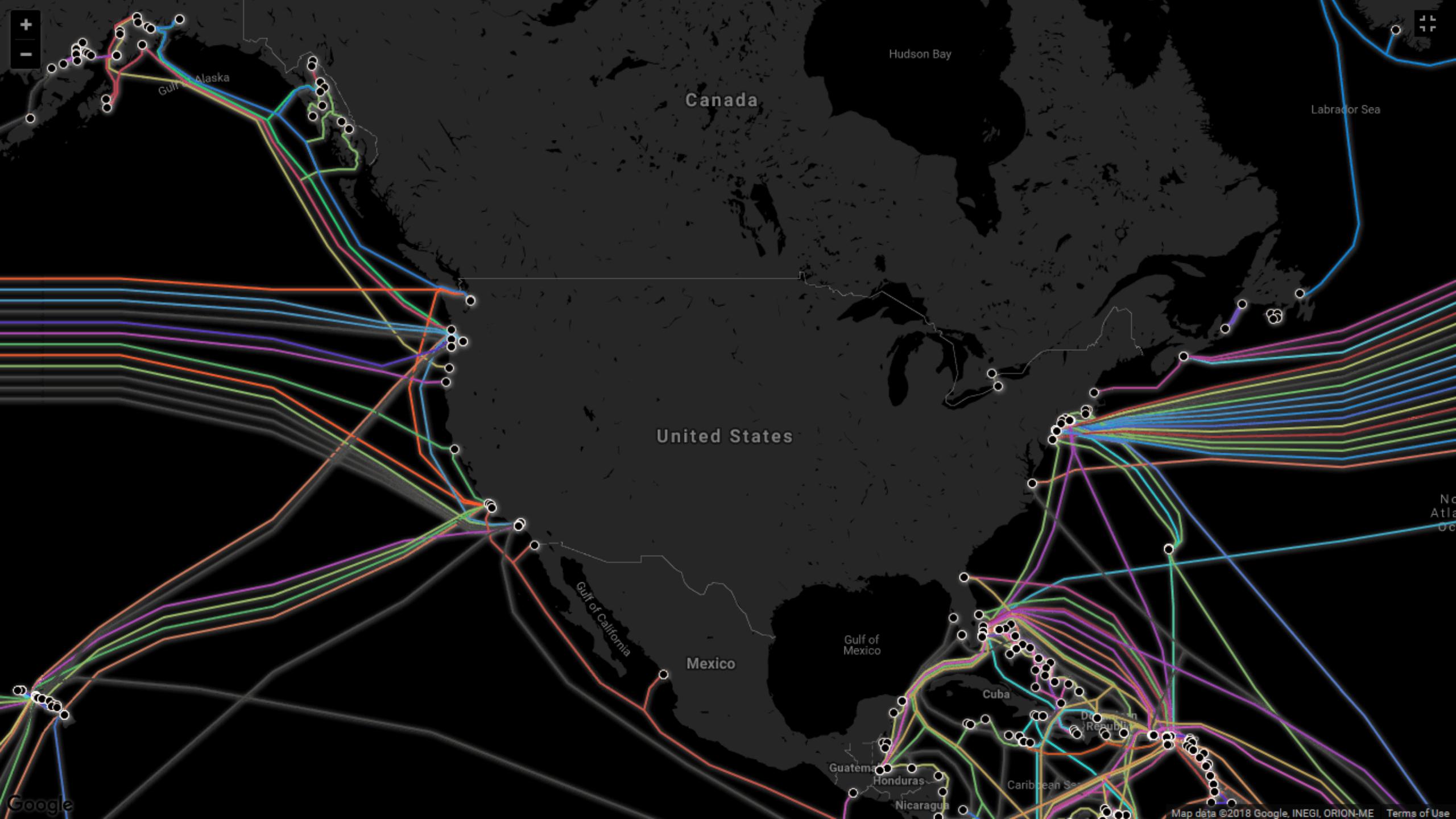
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SEATTLE INTERNET EXCHANGE PEERS





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>

