

The Peering Database

The <https://www.peeringdb.com/> is a freely available, user-maintained database of networks which take part in the global Internet. It is considered the authoritative source of all information relating to network operators who participate in peering around the world.

The database facilitates the global interconnection of networks at Internet Exchange Points (IXPs), data centres, and other interconnection facilities, and is the first step in making interconnection decisions.

Background

In the early Internet (of the 1990s) there were few network operators and interconnect points around the world that interconnections were relatively straightforward to seek out and implement (in the author's experience anyway). In March 1999 there were 4640 ASNs in the Internet with only 800 providing transit. This compares with today's total exceeding 73000 ASNs and over 10000 ASNs providing transit, never mind that almost every country in the world now has at least one Internet Exchange Point if not a datacentre facilitating commercial interconnects.

In the 1990s establishing new interconnects by attending in major Internet operations meetings (NANOG, RIPE, AfNOG, APRICOT and so on), with network information passed on by word of mouth or email or even by letter!

With the rapid growth of the Internet in the late 1990s and early 2000s, there needed to be a more scalable way for a Network Operator to get their "peering information" out to the global Internet operations community. And hence the PeeringDB was born.

What is the Peering DB

The Peering DB is a repository of the important information that network operators need to determine whether an interconnection is feasible, makes commercial sense, makes technical sense, and is even technically feasible. While the Peering DB website has much more detailed information, the Peering Toolbox is highlighting the key points.

Here are some example entries to show what is possible. The first example (publicly accessible) is of LINX, the London Internet Exchange:

Last update:
2022/05/06
05:05

peering-toolbox:the_peering_database https://bgp4all.com.au/pfs/peering-toolbox/the_peering_database?rev=1651813520

PeeringDB Search here for a network, IX, or facility. **eflinox**

LINX LON1 Silver Sponsor

Peers: 811 | Connections: 913 | Open Peers: 508 | Total Speed: 39.2T | % with IPv6: 85

Organization LINX
Also Known As: London Internet Exchange Ltd.
City: London
Country: GB
Continental Region: Europe
Media Type: Ethernet
Service Level: Not Disclosed
Terms: Not Disclosed
Last Updated: 2020-06-29T07:53:16Z
Notes: used to be Juniper LAN

Contact Information
Company Website: <https://www.linx.net/>
Traffic Stats Website: <https://portal.linx.net/>
Technical Email: support@linx.net
Technical Phone:
Policy Email: info@linx.net
Policy Phone:
Sales Email:
Sales Phone:
Health Check:

LAN
MTU: 1500
IX-F Member Export URL: Private
Visibility:

Peers at this Exchange Point

Peer Name	ASN	Speed	Policy
(as) networks	33920	2G	Selective
195.66.225.115	2001:7fb:4::8400:1		
01 Telecom (01.T)	201933	10G	Open
2001:7fb:4::3:14cd:1	195.66.227.214		
012 Simle Telecom	9116	10G	Open
195.66.225.114	2001:7fb:4::239c:1		
012 Simle Telecom	9116	10G	Open
195.66.226.60	2001:7fb:4::239c:2		
1&1 Versatel Deutschland GmbH	8881	100G	Selective
2001:7fb:4::22b:1:1	195.66.224.245		
100 Percent IT	20915	1G	Open
195.66.225.213	2001:7fb:4::51b3:1		
23M GmbH	47447	10G	Open
2001:7fb:4::b957:1	195.66.227.70		
24Shellia Inc	55061	10G	Open
2001:7fb:4::d729:1	195.66.227.116		
31173 Services AB	38351	10G	Open
2001:7fb:4::99b7:1	195.66.226.62		
4D Data Centres Ltd	31463	10G	Selective

which shows a screen capture of what is available at their LON1 site, a scrollable list of the participants, how to contact LINX, etc.

The second example below shows that of a AWS (Amazon Web Services), one of the major content networks on the Internet:

PeeringDB Search here for a network, IX, or facility. **eflinox**

Amazon.com Diamond Sponsor

Organization: Amazon.com
Also Known As: Amazon Web Services
Company Website: <https://www.amazon.com>
ASN: 16509
RRR as-set/route-set: AS-AMAZON
Route Server URL:
Looking Glass URL:
Network Type: Enterprise
IPv4 Prefixes: 7900
IPv6 Prefixes: 2500
Traffic Levels: Not Disclosed
Traffic Ratios: Balanced
Geographic Scope: Global
Protocols Supported: Unicast IPv4, Multicast, IPv6, Never via route servers
Last Updated: 2022-03-14T23:48:18Z
Public Peering Info Updated: 2022-04-27T20:48:30
Peering Facility Info Updated: 2022-03-28T23:35:40
Contact Info Updated: 2020-12-01T12:28:55Z
Notes: AWS Peering: <https://peering.aws/>
Peering requests:
When submitting a peering request, please address the specific regional contact listed below for the location of your request (i.e. peering requests for London should use peering-emea@amazon.com while peering requests for Singapore should use peering-apac@amazon.com). This will ensure your request is processed and addressed in a timely fashion. Please do not copy contacts not meant for peering policy in the location of your request.
Operational issues:
If you experience connectivity issues to Amazon, please

Public Peering Exchange Points

Exchange	ASN	Speed	RS Peer
AKL-IX (Auckland NZ)	16509	100G	
43.243.21.113	2001:7fa:11:6:0:407d:0:2		
AKL-IX (Auckland NZ)	16509	100G	
43.243.21.112	2001:7fa:11:6:0:407d:0:1		
AMS-IX	16509	600G	
80.249.210.100	2001:7fb:1::a501:6509:1		
AMS-IX	16509	600G	
80.249.210.217	2001:7fb:1::a501:6509:2		
AMS-IX Chicago	16509	100G	
206.108.115.36	2001:504:30:1:0:a501:6509:1		
AMS-IX Hong Kong	16509	10G	
103.247.138.10	2001:d0:296:a501:6509:1		
AMS-IX Hong Kong	16509	10G	
103.247.139.74	2001:d0:296:a501:6509:2		
AMS-IX Mumbai	16509	10G	
223.31.200.29	2001:a48:44:100b:0:a501:6509:2		
AMS-IX Mumbai	16509	10G	
223.31.200.30	2001:a48:44:100b:0:a501:6509:1		
Any2Denver	16509	100G	
206.51.46.87	2605:600:303:303:87		
Any2West	16509	100G	
206.72.210.146	2001:504:13:146		

Private Peering Facilities

Facility	Country
151 Front Street West Toronto	Canada
16509	Toronto
165 Halsey Meet-Me Room	United States of America
16509	Newark
35 John Street / 290 Front Street West	Canada
16509	Toronto

This one shows the Public peering and Private peering facilities AWS is present at. So a potential peer can check which locations they share with AWS, and then contact them about peering. The page for AWS contains data about number of prefixes, traffic ratios, etc, plus the IP addressing used at the various public Internet connect points. All this is designed to make it easier for prospective peers to assess and reach out to AWS for peering.

And the final example shows Aereion (formerly Telia Carrier), the operator of AS1299, one of the international transit carriers serving the global Internet:

The screenshot shows the PeeringDB interface for AS1299. On the left, there is a sidebar with 'Twelve99' and various fields: Organization (Aereion), Also Known As (Aereion, Uvia Telia Carrier), Long Name, Company Website (https://www.aereion.com/), ASN (1299), IRR as-set/route-set (RIPE::AS-TELIANET RIPE::AS-TELIANET-V8), Route Server URL, Looking Glass URL (https://lg.twelve99.net/), Network Type (NSP), IPv4 Prefix (550000), IPv6 Prefix (100000), Traffic Levels (100+Tbps), Traffic Ratios (Balanced), Geographic Scope (Global), Protocols Supported (Unicast IPv4, Multicast, IPv6, Never via route servers), Last Updated (2022-02-04T13:28:51Z), Public Peering Info Updated, Peering Facility Info Updated (2022-04-28T18:22:56), Contact Info Updated (2021-09-09T14:07:44), and Notes (AS1299 is matching RPKI validation state and reject invalid prefixes from peers and customers. Our looking-glass marks validation state for all prefixes. Please review your registered ROAs to reduce number of invalid prefixes. All trouble ticket requests or support related emails should be sent to support@aereion.com. As of June 1 2021, Aereion and its affiliates are no longer part of or affiliated with Telia Company. Translate).

On the right, there are two sections: 'Public Peering Exchange Points' and 'Private Peering Facilities'. The public section has a filter and a table with columns: Exchange #, ASN, IPv4, IPv6, Speed, and RS Peer. A message states 'No filter matches. You may filter by Exchange, ASN or Speed.' The private section also has a filter and a table with columns: Facility #, ASN, Country, and City. It lists various data centers such as 123.NET - DC1 - 24700 Northeastern Hwy, 1299, United States of America, Southfield; 1530 Swift, 1299, United States of America, North Kansas City; 1623 Farnam, 1299, United States of America, Omaha; 365 Data Centers Buffalo (BU1), 1299, United States of America, Buffalo; 365 Data Centers Detroit (DT1), 1299, United States of America, Southfield; 365 Data Centers Nashville (NA1), 1299, United States of America, Nashville; 365 Data Centers Tampa (TA1), 1299, United States of America, Tampa; 3U Rechenzentrum Berlin, 1299, Germany, Berlin; 915Telecom Denver, 1299, United States of America, Denver; st1 Frankfurt, 1299, Germany, Frankfurt; Aereion Düsseldorf DDF/B, 1299, Germany, Düsseldorf; Aereion London HEX, 1299, United Kingdom, London; and Aereion Moscow MSK/D1, 1299, Russia.

again showing the type of data that are published in the PeeringDB.

Creating a PeeringDB Entry

The Peering Toolbox recommends (strongly) that any entity with their own AS Number and address space should create an entry in the Peering DB. There is no cost to doing so.

A tutorial on how to create an entry is currently beyond the scope of the Peering DB - but the best advice is to look at other PeeringDB entries and use what those entries have to guide what is needed for your own one.

Why a PeeringDB entry

Today very few network operators will considering peering with an entity that has no PeeringDB entry. In fact, many will make it a requirement before they will even respond to a peering request. Indeed, some operators will go as far as using information in the PeeringDB for configuring peering sessions with their peers, making it essential that the entries are kept up to date.

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