NETIX

Internet Peering

Dean Belev (VP Services)

What is Internet Peering ?

"...peering is a voluntary interconnection of administratively separate Internet networks for the purpose of exchanging traffic between the "down-stream" users of each network." **Source:** WIkipedia

Peering Options/Sources

- Transit customers (customers)
- Peering partners (peers)
- Internet Exchange Points (IXPs)

How to measure the Peering

- Peering traffic vs Transit ratio
- Cost savings from Transit
- as-path-length ("...the average number of steps along the shortest paths for all possible pairs of network nodes." **Source:** WIkipedia)
- Peers (Quantity & Quality)

BENEFITS OF PEERING

Cost savings:

Peering allows networks to exchange traffic without having to pay for it, which can be a cost-effective alternative to using IP Transit services.

Improved network performance:

Peering can result in lower latency and improved network performance, as traffic between the two networks can be exchanged directly, rather than having to pass through multiple intermediaries.

Increased network resilience:

Peering can improve network resilience by providing multiple paths for traffic to travel between the two networks. If one path fails, traffic can automatically be routed via another path.

Improved customer experience:

Peering can improve the customer experience by reducing network congestion and improving network performance, resulting in faster and more reliable access to online services and applications.

Increased network control:

Peering allows networks to have more control over how their traffic is routed and delivered, which can be beneficial for networks with specific requirements or preferences for how their traffic is handled.

Peering Ranking

- # customers
- # peers
- # IXPs

Sources

- **RIPE NCC – RIPE stat**
  - as-path-length (22 collectors)
- **CAIDA – AS Rank**
  - # customers/ASN
  - #peers/ASN
- **Hurricane Electric – BGP Peer Report**
  - TOP 1000/100/20 – most well connected ASNs
  - IXPs/ASN

Top 1000

- Source: **Hurricane Electric – BGP Peer Report**

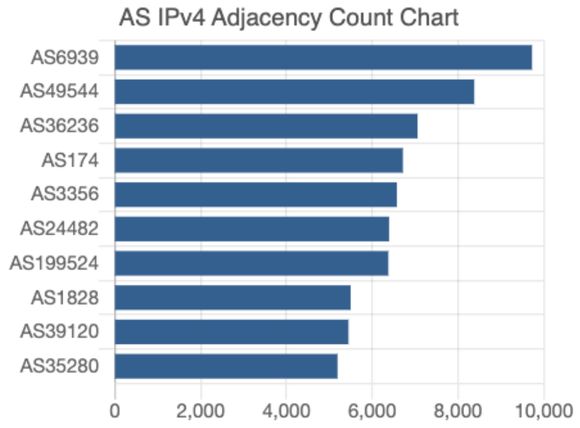
- ❑ RIPE NCC – RIS collectors
- ❑ Route-views project
- ❑ Others…

Top 10

Adjacencies | Adjacency History | Prefixes | Prefix History | IPv4 Addresses Originated

IPv4 Adjacencies

ASN	Name	Count
AS6939	Hurricane Electric LLC	9,727
AS49544	i3D.net B.V	8,380
AS36236	NetActuate, Inc	7,058
AS174	Cogent Communications	6,716
AS3356	Level 3 Parent, LLC	6,575
AS24482	SG.GS	6,394
AS199524	G-Core Labs S.A.	6,376
AS1828	Unitas Global LLC	5,497
AS39120	Convergenze S.p.A.	5,447
AS35280	F5 Networks SARL	5,192



Top 1000 Ranking

- Source: **NetIX internal tool**

Adjacencies | Adjacency History | Prefixes | Prefix History | IPv4 Addresses Originated

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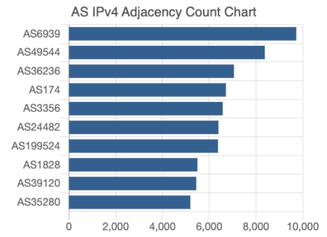

HE.net TOP 1000

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Search:

#	ASn	Name	Code	Adjacencies v4	Routes V4	Adjacencies v6	Routes V6
1	AS6939	Hurricane Electric LLC	US	9727	143542	6708	54143
2	AS49544	i3D.net B.V	NL	8380	303	5478	61
3	AS36236	NetActuate, Inc	US	7058	493	4551	205
4	AS174	Cogent Communications	US	6716	207750	2589	21095
5	AS3356	Level 3 Parent, LLC	US	6575	241339	2316	33193
6	AS24482	SG.GS	SG	6394	2472	4716	381
7	AS199524	G-Core Labs S.A.	LU	6376	291	4474	123
8	AS1828	Unitas Global LLC	US	5497	5359	4194	250
9	AS39120	Convergenze S.p.A.	IT	5447	87	3683	3
10	AS35280	F5 Networks SARL	FR	5192	1765	3987	269
11	AS271253	LINK BRASIL TELECOMUNICACOES LTDA	BR	4728	735	2838	259
12	AS264479	Turbozone Internet	BR	4609	18	2597	10
13	AS14840	BRFIBRA TELECOMUNICACOES LTDA	BR	4607	2356	2933	983
14	AS51185	Onecom Global Communications LTD	GB	4576	22	2925	14
15	AS57463	NetIX Communications JSC	BG	4522	5926	2405	1454
16	AS264409	GRUPO YAX	BR	4387	1055	955	9
17	AS37721	Virtual Technologies & Solutions	BF	4350	177	2158	5
18	AS263009	FORTE TELECOM LTDA.	BR	4021	888	2748	147
19	AS61568	ALOO TELECOM - FSF TECNOLOGIA SA	BR	3857	1575	223	966
20	AS16552	Tiggee LLC	US	3844	58	2904	71
21	AS6057	Administracion Nacional de Telecomunicaciones	UY	3477	1123	2973	270
22	AS137409	GSL Networks Pty LTD	AU	3450	1835	1963	335
23	AS1031	Peer 1 Internet Service LLC	US	3371	2162	1709	380
24	AS60501	Sirius Technology SRL	IT	3222	32	1455	4
25	AS58511	Anycast Global Backbone	AU	2956	1123	2014	130
26	AS61832	DB3 SERVICOS DE TELECOMUNICACOES S.A	BR	2910	2003	1824	721
27	AS25091	IP-Max SA	CH	2863	252	2061	63
28	AS47787	EDGOO NETWORKS LLC	US	2749	2103	2329	42
29	AS57695	Misaka Network, Inc.	US	2721	23	757	24
30	AS42473	ANEXIA Internetdienstleistungs GmbH	AT	2707	236	2328	112
31	AS212483	LEVEL EIGHTY-SIX COMMUNICATIONS LTD	GB	2705	1	1200	27
32	AS3257	GTT Communications Inc.	US	2702	117635	897	21064
33	AS41327	Fiber Telecom S.p.A.	IT	2620	784	1591	109
34	AS15830	Equinix (EMEA) Acquisition Enterprises B.V.	NL	2582	825	1488	103
35	AS41047	Bart Vrancken trading as MLaB	NL	2545	2	2676	18

NETIX

NETIX.NET

Peering Ranking

- **# customers**
- **# peers**
- **# IXPs**

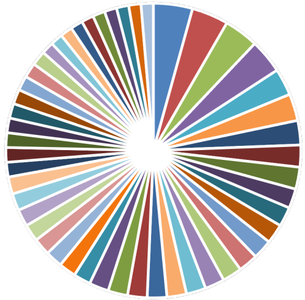
How to measure the Peering

- Peering traffic vs Transit ratio
- Cost savings from Transit
- **as-path-length ("...the average number of steps along the shortest paths for all possible pairs of network nodes."** Source: Wlkipedia)
- **Peers (Quantity & Quality)**

IXP Peering

Top	IXPs	NO IXP	AVG IXPs
1000	675	42	0.7
100	490	3	4.9
50	384	3	7.7
20	348	1	17.4

Top 10 IXPs / Top 20 ASNs



IX.br (PTT.br) São Paulo
DE-CIX Frankfurt
LINX LON1
AMS-IX
NYIIX New York
France-IX Paris
Any2West
Equinix Ashburn
NAPAfrica IX Johannesburg
IX.br (PTT.br) Fortaleza
DE-CIX New York
Netnod Stockholm BLUE – MTU1500
IX.br (PTT.br) Rio de Janeiro
Equinix Paris
MegaIX Sydney
Equinix San Jose
NetIX
Equinix Singapore
Netnod Stockholm GREEN -- MTU1500
SIX Seattle
TorIX
FL-IX
JPIX TOKYO
Equinix Sydney
DE-CIX Madrid
Equinix Hong Kong
MIX-IT
Equinix São Paulo
France-IX Marseille
HKIX
ESPANIX Madrid Lower LAN
BBIX Hong Kong
Equinix Miami
DE-CIX Mumbai
BBIX Singapore
Equinix Chicago
MSK-IX Moscow
Equinix Dallas
BBIX Tokyo
NIX.CZ
DATAIX
SGIX
ECIX-FRA
DE-CIX Dallas
Equinix Warsaw
NL-ix
InterLAN
IX Australia (Sydney NSW)

IXP	Top 20 ASNs
IX.br (PTT.br) São Paulo	16
DE-CIX Frankfurt	15
LINX LON1	14
AMS-IX	14
NYIIX New York	11
France-IX Paris	11
Any2West	10
Equinix Ashburn	9
NAPAfrica IX Johannesburg	9
IX.br (PTT.br) Fortaleza	8
DE-CIX New York	8
Netnod Stockholm BLUE -- MTU1500	8
IX.br (PTT.br) Rio de Janeiro	8
Equinix Paris	8
MegaIX Sydney	8
Equinix San Jose	8
NetIX	8
Equinix Singapore	8
Netnod Stockholm GREEN -- MTU1500	8
SIX Seattle	8
TorIX	8
FL-IX	8
JPIX TOKYO	7
Equinix Sydney	7
DE-CIX Madrid	7
Equinix Hong Kong	7
MIX-IT	7
Equinix São Paulo	7
France-IX Marseille	7
HKIX	7
ESPANIX Madrid Lower LAN	6
BBIX Hong Kong	6
Equinix Miami	6
DE-CIX Mumbai	6
BBIX Singapore	6
Equinix Chicago	6
MSK-IX Moscow	6
Equinix Dallas	6
BBIX Tokyo	6
NIX.CZ	5
DATAIX	5
SGIX	5
ECIX-FRA	5
DE-CIX Dallas	5
Equinix Warsaw	5
NL-ix	5
InterLAN	5
IX Australia (Sydney NSW)	5
DE-CIX Marseille	5

- Source: Hurricane Electric – BGP Peer Report

IXP Peering

ASN	Top 1000	IXP Rank	IXPs
6939	1	1	291
49544	2	15	90
36236	3	41	45
174	4	942	0
3356	5	744	3
24482	6	24	69
199524	7	11	104
1828	8	28	64
39120	9	189	14
35280	10	34	54
271253	11	169	15
264479	12	574	5
51185	13	210	13
14840	14	124	19
57463	15	76	29
264409	16	496	6
37721	17	80	28
263009	18	234	12
61568	19	373	8
16552	20	94	25
137409	21	36	51
1031	22	575	5
6057	23	190	14
60501	24	191	14
58511	25	69	31
61832	26	211	13
47787	27	143	17
57695	28	745	3
25091	29	37	51
42473	30	38	48
212483	31	235	12
3257	32	420	7
15830	33	62	36
41327	34	77	29
41047	35	274	11
6461	36	48	42
7018	37	943	0
39351	38	81	28
29049	39	746	3
23106	40	497	6
1299	41	944	0
13237	42	170	15
9002	43	78	29
35598	44	155	16
36351	45	32	55
4455	46	49	42
1239	47	57	38
5394	48	421	7
63927	49	116	20
56665	50	171	15

- many customers
- many peers
- No need of IXPs

- customers
- peers
- Many IXPs

ASN	Top 1000	IXP Rank	IXPs
6939	1	1	291
13335	141	2	283
42	99	3	236
3856	400	4	236
15169	295	5	216
8075	384	6	195
20940	262	7	191
32934	296	8	182
54113	329	9	122
2906	315	10	109
199524	7	11	104
15133	321	12	98
10310	332	13	95
22822	453	14	94
49544	2	15	90
6507	375	16	90
46489	454	17	86
55256	337	18	85
21859	298	19	83
8674	435	20	82
112	626	21	80
57976	361	22	73
26415	466	23	72
33438	338	25	69
24482	6	24	69
714	359	26	67
19551	274	27	66
32590	362	29	64
1828	8	28	64
136907	355	30	62
54994	331	31	56
36351	45	32	55
3303	149	33	55
35280	10	34	54
16276	357	35	53
137409	21	36	51
25091	29	37	51
42473	30	38	48
25152	429	40	46
9009	115	39	46
36236	3	41	45
20473	213	43	45
8220	60	42	45
30081	410	44	44
44444	427	46	43
32787	176	45	43
14340	921	47	43
6461	36	48	42
2635	388	50	42
4455	46	49	42

Options	IXPs	Customers	Peers
1	HIGH	HIGH	HIGH
2	LOW	HIGH	HIGH
2	HIGH	LOW	LOW

- Source: Hurricane Electric – BGP Peer Report

IXP Peering

ASN	Top 1000	IXP Rank	IXPs
34428	950	492	7
17451	951	188	15
9730	952	977	0
6720	953	978	0
58307	954	661	5
39647	955	890	2
21056	956	662	5
196922	957	416	8
29014	958	567	6
11260	959	338	10
44814	960	979	0
60280	961	891	2
10282	962	937	1
11427	963	980	0
22363	964	739	4
2687	965	308	11
28788	966	892	2
37558	967	817	3
28876	968	818	3
13360	969	740	4
59318	970	741	4
11019	971	568	6
16164	972	569	6
5400	973	106	23
56382	974	417	8
15924	975	938	1
49600	976	570	6
1101	977	819	3
49127	978	493	7
57112	979	663	5
21277	980	939	1
12676	981	893	2
15743	982	940	1
8167	983	981	0
32244	984	742	4
42695	985	571	6
58552	986	572	6
12312	987	894	2
9211	988	820	3
49121	989	664	5
53356	990	494	7
11058	991	941	1
32035	992	142	18
35213	993	573	6
51519	994	418	8
47321	995	495	7
45009	996	419	8
20459	997	743	4
8893	998	821	3
52925	999	822	3
24953	1000	895	2

- customers
- peers
- Many IXPs

- many customers
- many peers
- No need of IXPs

Options	IXPs	Customers	Peers
1	HIGH	HIGH	HIGH
2	LOW	HIGH	HIGH
2	HIGH	LOW	LOW

ASN	Top 1000	IXP Rank	IXPs
11039	581	950	1
3233	896	951	1
11058	991	952	1
11670	655	953	1
7303	569	954	1
3170	277	955	1
12897	942	956	1
6758	393	957	1
3333	216	958	1
8660	447	959	1
3130	494	960	1
55836	919	961	0
151062	433	962	0
45820	588	963	0
47734	226	964	0
50607	428	965	0
54004	418	966	0
52361	870	967	0
44814	959	968	0
46887	190	969	0
18881	751	970	0
15966	939	971	0
22927	858	972	0
33651	740	973	0
28910	261	974	0
33667	895	975	0
33491	538	976	0
22773	282	977	0
3269	656	978	0
8167	982	979	0
1299	41	980	0
286	103	981	0
209	174	982	0
7015	712	983	0
10796	665	984	0
7474	633	985	0
12888	860	986	0
7922	744	987	0
13649	775	988	0
6720	952	989	0
6453	254	990	0
11427	962	991	0
1221	475	992	0
3549	194	993	0
3215	798	994	0
9730	951	995	0
174	4	996	0
12912	394	997	0
7018	37	998	0
5617	468	999	0
10429	391	1000	0

- Source: Hurricane Electric – BGP Peer Report

Customers / Peers

ASN	AS Rank	Customers Rank	Peers Rank	#Customers	#Peers
6939	1	6	1	2151	7628
49544	2	343	258	34	332
36236	3	212	252	91	352
174	4	1	825	6623	84
3356	5	2	838	6415	71
24482	6	338	2	36	6363
199524	7	419	19	21	2622
1828	8	236	3	74	5632
39120	9	509	4	13	5191
35280	10	272	5	59	5008
271253	11	186	149	108	885
264479	12	666	6	4	4666
51185	13	848	7	0	4593
14840	14	58	66	268	1578
57463	15	849	973	0	0
264409	16	294	869	48	44
37721	17	589	8	8	4558
263009	18	197	641	103	135
61568	19	136	9	151	3843
16552	20	850	54	0	1740
137409	21	237	14	74	2880
1031	22	187	855	107	51
6057	23	389	361	25	208
60501	24	603	10	7	3291
58511	25	291	11	50	3101
61832	26	65	558	242	151
47787	27	433	16	20	2731
57695	28	302	13	46	2947
25091	29	265	17	61	2668
42473	30	379	18	26	2641
212483	31	787	15	1	2804
3257	32	4	209	2348	483
15830	33	74	21	223	2469
41327	34	166	22	120	2469
41047	35	788	20	1	2603
6461	36	7	280	2110	292
7018	37	3	873	2398	40
39351	38	566	23	9	2398
29049	39	312	410	42	188
23106	40	112	29	176	2235
1299	41	5	852	2258	52
13237	42	83	30	203	2213
9002	43	14	167	987	756
35598	44	103	40	185	1998
36351	45	482	25	15	2361
4455	46	52	33	292	2125
1239	47	12	80	1046	1375
5394	48	628	363	6	207
63927	49	434	28	20	2273
56665	50	539	414	11	187

ASN	AS Rank	Customers Rank	Peers Rank	#Customers	#Peers
174	4	1	825	6623	84
3356	5	2	838	6415	71
7018	37	3	873	2398	40
3257	32	4	209	2348	483
1299	41	5	852	2258	52
6939	1	6	1	2151	7628
6461	36	7	280	2110	292
2914	111	8	846	1511	55
701	130	9	885	1268	33
12389	140	10	464	1119	170
209	174	11	899	1083	30
1239	47	12	80	1046	1375
8220	60	13	114	1015	1107
9002	43	14	167	987	756
9498	76	15	313	976	256
46887	190	16	954	948	2
286	103	17	180	899	667
3549	194	18	802	861	105
3216	65	19	104	806	1192
4755	222	20	910	761	26
4826	112	21	151	733	877
20485	106	22	152	685	876
32787	176	23	284	645	285
3491	238	24	646	634	134
31133	108	25	159	622	836
3320	237	26	830	607	81
15605	129	27	157	604	854
6453	254	28	850	594	53
6762	258	29	854	582	51
13335	141	30	239	526	379
16735	198	31	229	521	415
4766	275	32	839	514	69
22773	282	33	927	505	16
20473	213	34	297	455	274
12741	210	35	194	448	560
7713	91	36	27	431	2282
4637	245	37	265	423	323
9049	269	38	401	411	191
4230	264	39	434	403	179
8708	224	40	753	356	119
3786	317	41	871	356	41
54004	418	42	966	352	0
9318	260	43	397	350	192
1221	475	44	929	339	14
50607	428	45	953	331	3
201054	339	46	919	330	23
6830	301	47	540	329	153
20115	383	48	876	328	39
10429	391	49	918	326	23
53062	380	50	902	312	29

ASN	AS Rank	Customers Rank	Peers Rank	#Customers	#Peers
6939	1	6	1	2151	7628
24482	6	338	2	36	6363
1828	8	236	3	74	5632
39120	9	509	4	13	5191
35280	10	272	5	59	5008
264479	12	666	6	4	4666
51185	13	848	7	0	4593
37721	17	589	8	8	4558
61568	19	136	9	151	3843
60501	24	603	10	7	3291
58511	25	291	11	50	3101
37497	189	390	12	25	2950
57695	28	302	13	46	2947
137409	21	237	14	74	2880
212483	31	787	15	1	2804
47787	27	433	16	20	2731
25091	29	265	17	61	2668
42473	30	379	18	26	2641
199524	7	419	19	21	2622
41047	35	788	20	1	2603
15830	33	74	21	223	2469
41327	34	166	22	120	2469
39351	38	566	23	9	2398
34224	52	194	24	105	2379
36351	45	482	25	15	2361
267613	122	150	26	139	2354
7713	91	36	27	431	2282
63927	49	434	28	20	2273
23106	40	112	29	176	2235
13237	42	83	30	203	2213
37468	67	171	31	119	2208
132337	59	851	32	0	2141
4455	46	52	33	292	2125
38880	66	567	34	9	2114
17639	69	292	35	49	2094
61955	70	652	36	5	2083
61595	58	420	37	21	2071
18106	63	421	38	21	2068
12779	61	326	39	39	2046
35598	44	103	40	185	1998
7195	62	214	41	90	1983
34927	54	240	42	72	1942
28634	72	668	43	4	1941
263152	71	738	44	2	1930
263508	73	789	45	1	1928
53070	79	790	46	1	1907
29075	80	217	47	89	1873
58057	88	380	48	26	1833
28186	81	227	49	84	1822
34019	86	465	50	16	1811

Options	Customers	Peers
1	HIGH	HIGH
2	LOW	HIGH
3	HIGH	LOW

- Source: CAIDA – AS Rank

Customers / Peers

ASN	Top 1000	Customers Rank	Peers Rank	#Customers	#Peers
34428	949	585	714	9	125
17451	950	247	844	71	60
9730	951	131	970	158	0
6720	952	978	381	0	200
58307	953	555	761	11	118
39647	954	692	692	4	129
21056	955	782	702	2	127
2E+05	956	693	739	4	122
29014	957	626	782	7	115
11260	958	315	819	42	92
44814	959	507	794	14	112
60280	960	733	754	3	119
10282	961	694	735	4	123
11427	962	132	971	158	0
22363	963	979	627	0	139
2687	964	254	842	68	64
28788	965	846	704	1	127
37558	966	648	765	6	117
28876	967	601	767	8	117
13360	968	980	757	0	119
59318	969	649	608	6	141
11019	970	481	815	16	99
16164	971	734	762	3	118
5400	972	248	834	71	74
56382	973	586	774	9	116
15924	974	157	963	132	1
49600	975	378	817	28	96
1101	976	783	749	2	121
49127	977	587	773	9	116
57112	978	735	716	3	125
21277	979	461	798	17	108
12676	980	784	756	2	119
15743	981	736	769	3	117
8167	982	141	946	150	6
32244	983	695	709	4	126
42695	984	785	731	2	124
58552	985	196	877	104	39
12312	986	588	799	9	107
9211	987	462	801	17	106
49121	989	665	924	5	19
53356	990	447	807	19	103
11058	991	508	822	14	89
32035	992	786	717	2	125
35213	993	650	775	6	116
51519	994	737	557	3	152
47321	995	847	741	1	122
45009	996	981	705	0	127
20459	997	602	755	8	119
8893	998	627	795	7	112
52925	999	216	887	90	33
24953	1000	651	776	6	116

ASN	Top 1000	Customers Rank	Peers Rank	#Customers	#Peers
196621	741	950	415	0	186
51873	753	951	423	0	183
53334	759	952	467	0	170
37564	764	953	539	0	154
42841	765	954	565	0	150
12876	769	955	548	0	153
55967	778	956	665	0	132
47195	787	957	618	0	140
31449	788	958	574	0	148
59514	789	959	965	0	1
33986	792	960	563	0	151
399580	799	961	957	0	2
17819	804	962	979	0	0
60802	806	963	980	0	0
44097	807	964	926	0	18
42385	811	965	718	0	125
208621	818	966	611	0	141
62041	826	967	625	0	139
27281	829	968	636	0	137
15447	831	969	588	0	145
8302	836	970	626	0	139
29505	848	971	742	0	122
8289	852	972	457	0	173
205530	856	973	673	0	131
17117	859	974	657	0	133
12888	860	975	580	0	147
62715	864	976	719	0	125
43009	865	977	790	0	113
200738	867	978	612	0	141
13445	871	979	632	0	138
200052	873	980	658	0	133
59891	874	981	445	0	176
35505	880	982	938	0	9
35793	886	983	645	0	135
3233	896	984	952	0	5
43566	901	985	666	0	132
52075	902	986	640	0	136
207063	904	987	667	0	132
59655	912	988	674	0	131
20144	914	989	858	0	51
20340	915	990	743	0	122
203574	917	991	981	0	0
1126	918	992	675	0	131
48821	920	993	516	0	159
59865	932	994	659	0	133
35180	937	995	668	0	132
5390	940	996	736	0	123
6720	952	997	381	0	200
22363	963	998	627	0	139
13360	968	999	757	0	119
45009	996	1000	705	0	127

ASN	Top 1000	Customers Rank	Peers Rank	#Customers	#Peers
1351	705	637	950	6	13
48571	837	723	951	3	11
56987	327	745	952	2	11
835	720	436	953	20	10
33823	907	728	954	3	10
23520	725	148	955	141	9
39668	897	727	956	3	9
35505	880	963	957	0	9
34984	528	66	958	242	8
59105	397	573	959	9	8
32709	945	647	960	6	8
31554	830	687	961	4	8
6881	770	685	962	4	8
28910	261	441	963	19	7
18747	903	353	964	34	7
8167	982	141	965	150	6
33185	756	476	966	16	6
56430	820	836	967	1	6
55836	919	172	968	119	5
7303	569	72	969	225	5
22927	858	130	970	159	5
3233	896	965	971	0	5
50607	428	45	972	331	3
46887	190	16	973	948	2
13649	775	106	974	185	2
142271	714	717	975	3	2
399580	799	942	976	0	2
10796	665	89	977	198	1
55410	557	68	978	231	1
12302	608	81	979	212	1
45820	588	75	980	221	1
33491	538	63	981	253	1
15924	974	157	982	132	1
924	668	823	983	1	1
59514	789	940	984	0	1
54004	418	42	985	352	0
33651	740	98	986	191	0
7015	712	105	987	185	0
33667	895	125	988	168	0
9730	951	131	989	158	0
11427	962	132	990	158	0
57463	15	849	992	0	0
151062	433	889	994	0	0
50384	484	895	995	0	0
55818	486	896	996	0	0
11670	655	917	997	0	0
17819	804	943	998	0	0
60802	806	944	999	0	0
203574	917	972	1000	0	0

An IXP, connected to other IXPs (29)

Options	Customers	Peers
1	HIGH	HIGH
2	LOW	HIGH
3	HIGH	LOW

- Source: CAIDA – [AS Rank]

AS-PATH-LENGTH

ASN	Top 1000	ASP Rank	AVG ASP
6939	1	2	2.06
49544	2	18	2.62
36236	3	744	3.39
174	4	46	2.68
3356	5	113	2.76
24482	6	6	2.38
199524	7	614	3.19
1828	8	12	2.53
39120	9	21	2.62
35280	10	13	2.55
271253	11	772	3.45
264479	12	749	3.40
51185	13	28	2.64
14840	14	89	2.74
57463	15	960	4.22
264409	16	794	3.48
37721	17	9	2.45
263009	18	973	4.47
61568	19	325	2.95
16552	20	495	3.09
137409	21	85	2.73
1031	22	898	3.77
6057	23	60	2.70
60501	24	358	2.98
58511	25	149	2.80
61832	26	409	3.02
47787	27	433	3.03
57695	28	962	4.26
25091	29	40	2.68
42473	30	866	3.66
212483	31	922	3.90
3257	32	247	2.87
15830	33	302	2.92
41327	34	173	2.82
41047	35	371	2.99
6461	36	150	2.80
7018	37	573	3.16
39351	38	29	2.65
29049	39	154	2.81
23106	40	928	3.95
1299	41	52	2.69
13237	42	45	2.68
9002	43	248	2.87
35598	44	417	3.02
36351	45	8	2.44
4455	46	22	2.63
1239	47	20	2.62
5394	48	286	2.90
63927	49	485	3.08
56665	50	23	2.63

- Big number of adjacencies, but NOT connected to the right peers/customers/IXPs

- Small number of adjacencies, but connected to the right peers/customers/IXPs

ASN	Top 1000	ASP Rank	AVG ASP
9498	76	1	1.65
6939	1	2	2.06
3856	400	3	2.19
15169	295	4	2.23
8075	384	5	2.29
24482	6	6	2.38
16276	357	7	2.39
36351	45	8	2.44
37721	17	9	2.45
62955	476	10	2.48
714	359	11	2.50
1828	8	12	2.53
35280	10	13	2.55
196844	559	14	2.56
57344	364	15	2.60
37468	67	16	2.60
24940	496	17	2.61
49544	2	18	2.62
29075	80	19	2.62
1239	47	20	2.62
39120	9	21	2.62
4455	46	22	2.63
56665	50	23	2.63
4651	487	24	2.63
8220	60	25	2.63
12779	61	26	2.64
13030	208	27	2.64
51185	13	28	2.64
39351	38	29	2.65
39063	522	30	2.65
9050	104	31	2.65
58453	259	32	2.66
8529	120	33	2.66
3303	149	34	2.66
9044	272	35	2.67
201746	628	36	2.67
45489	102	37	2.67
23764	270	38	2.67
25160	98	39	2.67
25091	29	40	2.68
20804	299	41	2.68
1764	204	42	2.68
30844	284	43	2.68
6663	387	44	2.68
13237	42	45	2.68
174	4	46	2.68
8309	544	47	2.68
1267	160	48	2.69
50581	554	49	2.69
9318	260	50	2.69

Options	as-path length	Peers
1	LOW	HIGH
2	LOW	LOW
3	HIGH	HIGH

- Source: RIPE NCC – RIPE stat

AS-PATH-LENGTH

ASN	Top 1000	ASP Rank	AVG ASP
34428	949	186	2.83
17451	950	665	3.26
9730	951	945	4.01
6720	952	861	3.64
58307	953	683	3.29
39647	954	343	2.96
21056	955	422	3.02
196922	956	786	3.47
29014	957	225	2.85
11260	958	633	3.22
44814	959	234	2.86
60280	960	629	3.21
10282	961	952	4.06
11427	962	958	4.17
22363	963	904	3.79
2687	964	790	3.48
28788	965	268	2.89
37558	966	339	2.96
28876	967	439	3.04
13360	968	416	3.02
59318	969	381	3.00
11019	970	775	3.45
16164	971	715	3.34
5400	972	322	2.95
56382	973	295	2.91
15924	974	890	3.71
49600	975	223	2.85
1101	976	764	3.42
49127	977	497	3.09
57112	978	306	2.93
21277	979	805	3.51
12676	980	273	2.90
15743	981	350	2.97
8167	982	975	4.51
32244	983	634	3.22
42695	984	354	2.97
58552	985	356	2.97
12312	986	346	2.97
9211	987	143	2.80
49121	989	723	3.35
53356	990	692	3.30
11058	991	678	3.28
32035	992	583	3.17
35213	993	91	2.75
51519	994	709	3.33
47321	995	827	3.55
45009	996	436	3.03
20459	997	174	2.82
8893	998	836	3.57
52925	999	912	3.82
24953	1000	323	2.95

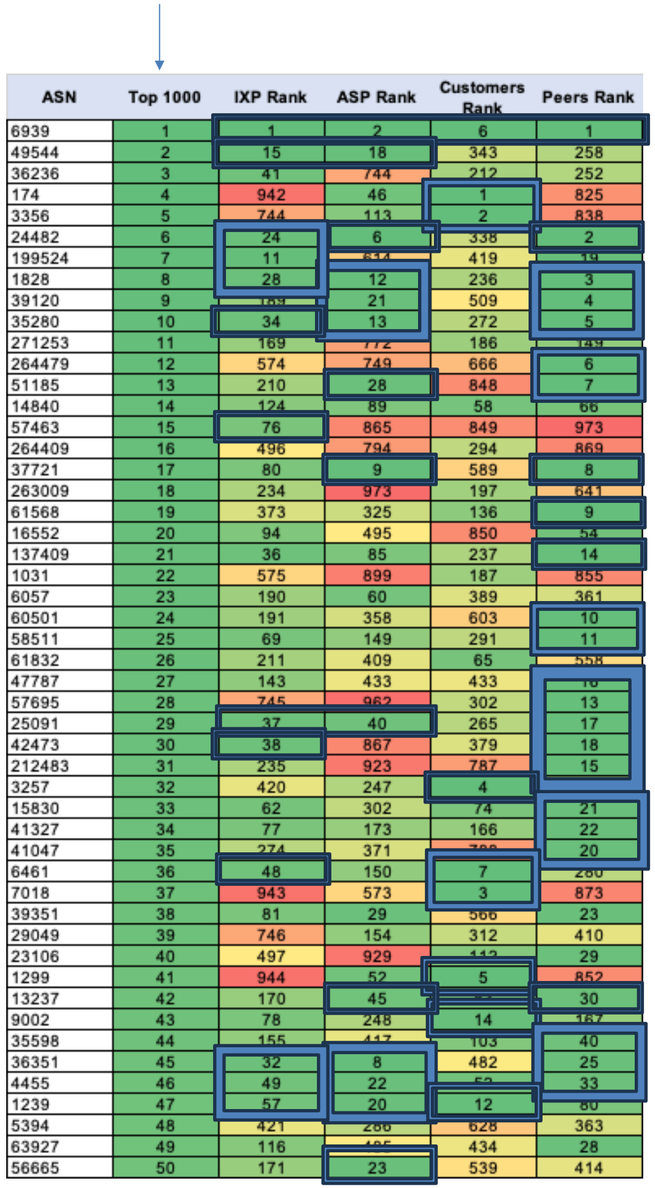
- Small number of adjacencies, but connected to the right peers/customers/IXPs
- Big number of adjacencies, but NOT connected to the right peers/customers/IXPs

Options	as-path length	Peers
1	LOW	HIGH
2	LOW	LOW
3	HIGH	HIGH

ASN	Top 1000	ASP Rank	AVG ASP
262791	75	950	3.96
140984	319	951	3.96
33667	895	952	3.97
10429	391	953	3.98
1221	475	954	3.99
140731	304	955	3.99
57406	180	956	4.00
286	103	957	4.00
20562	151	958	4.00
50384	484	959	4.00
47734	226	960	4.00
265175	840	961	4.00
7015	712	962	4.00
139341	524	963	4.01
9730	951	964	4.01
59105	397	965	4.02
33491	538	966	4.02
18747	903	967	4.02
33651	740	968	4.03
37497	189	969	4.04
24429	389	970	4.05
10282	961	971	4.06
10796	665	972	4.08
263541	121	973	4.10
22927	858	974	4.12
39384	241	975	4.12
60802	806	976	4.15
11427	962	977	4.17
25933	721	978	4.21
37989	728	979	4.21
8289	852	980	4.24
57695	28	981	4.26
42385	811	982	4.27
53070	79	983	4.30
11670	655	984	4.31
139057	653	985	4.32
142271	714	986	4.33
38047	398	987	4.33
7474	633	988	4.34
54004	418	989	4.35
52361	870	990	4.35
35505	880	991	4.44
263009	18	992	4.47
268976	77	993	4.50
8167	982	994	4.51
212508	838	995	4.65
328474	650	996	4.72
132847	306	997	4.75
263508	73	998	4.80
45820	588	999	4.94
18881	751	1000	5.00
Grand Tot	493035	481671	3104.34

- Source: RIPE NCC – [RIPE stat]

Summary



ASN	Top 1000	IXP Rank	ASP Rank	Customers Rank	Peers Rank
6939	1	1	2	6	1
49544	2	15	18	343	258
36236	3	41	744	212	252
174	4	942	46	1	825
3356	5	744	113	2	838
24482	6	24	6	338	2
199524	7	11	614	419	19
1828	8	28	12	236	3
39120	9	169	21	509	4
35280	10	34	13	272	5
271253	11	169	772	186	149
264479	12	574	749	666	6
51185	13	210	28	848	7
14840	14	124	89	58	66
57463	15	76	865	849	973
264409	16	496	794	294	869
37721	17	80	9	589	8
263009	18	234	973	197	641
61568	19	373	325	136	9
16552	20	94	495	850	54
137409	21	36	85	237	14
1031	22	575	899	187	855
6057	23	190	60	389	361
60501	24	191	358	603	10
58511	25	69	149	291	11
61832	26	211	409	65	558
47787	27	143	433	433	16
57695	28	745	962	302	13
25091	29	37	40	265	17
42473	30	38	867	379	18
212483	31	235	923	787	15
3257	32	420	247	4	
15830	33	62	302	74	21
41327	34	77	173	166	22
41047	35	274	371	[illegible]	20
6461	36	48	150	7	280
7018	37	943	573	3	873
39351	38	81	29	566	23
29049	39	746	154	312	410
23106	40	497	929	112	29
1299	41	944	52	5	852
13237	42	170	45	[illegible]	30
9002	43	78	248	14	167
35598	44	155	417	103	40
36351	45	32	8	482	25
4455	46	49	22	52	33
1239	47	57	20	12	80
5394	48	421	286	628	363
63927	49	116	485	434	28
56665	50	171	23	539	414

Your AS Rank will improve the more you peer !

- Source: RIPE NCC – RIPE stat
- Source: CAIDA – AS Rank
- Source: Hurricane Electric – BGP Peer Report

CONTACT

Email me:

dbelev@netix.net

Email our expert team:

contact@netix.net

Get involved on social media:

@NetIX

@netix_dotnet

@NetIXnet

@netix_dotnet

@NetIXdotnet