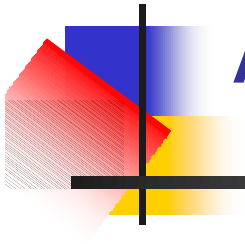


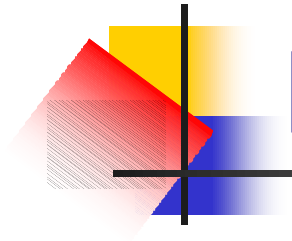
Internet Routing Table Analysis Update

Philip Smith

pfs@cisco.com

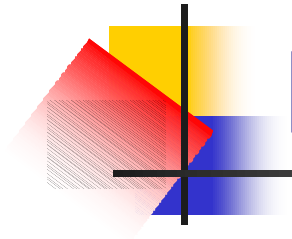
RIPE Routing WG

Amsterdam, January 2003



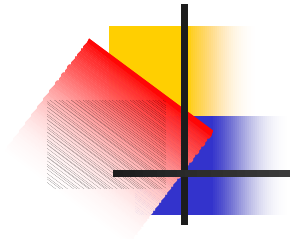
Recent Changes

- Exhaustive search of 192/8 space for unassigned addresses
  - Now combined with IANA listing of former A-space and my search of former B-space
- Total available IPv4 address space outside registry blocks is now known “accurately”
  - Unallocated address space BGP feed available



Recent Changes

- Unique Prefixes
  - Represents the smallest the Internet Routing table can be without losing address space
    - Probably not a very sensible concept to use on a router given the topology of the Internet
- Prefixes after maximum aggregation
  - Represents aggregation effort by the AS (but obviously cannot account for traffic engineering)
  - Represents the smallest the Internet Routing Table could be without the loss of *any* reachability information



Recent Changes (continued)

- Added LACNIC to report
  - Allocations from 200/8 address space
  - Allocations from AS blocks 26592 – 26623 and 27648 – 28671
- Full Stats on APNIC web page
  - http://www.apnic.net/stats/bgp

Routing Report 27 January, 2003

BGP routing table entries examined	119525
Prefixes after maximum aggregation	76528
Unique aggregates announced to Internet	57662
Total ASes present in the Internet Routing Table	14445
Origin-only ASes present in the Internet Routing Table	12551
Origin ASes announcing only one prefix	5652
Transit ASes present in the Internet Routing Table	1894
Transit-only ASes present in the Internet Routing Table	61
Average AS path length visible in the Internet Routing Table	5.3
Max AS path length visible	17
Illegal AS announcements present in the Routing Table	12
Non-routable prefixes present in the Routing Table	0
Prefixes being announced from the IANA Reserved Address blocks	26
Number of addresses announced to Internet	1173581901
Equivalent to 69 /8s, 243 /16s and 112 /24s	
Percentage of available address space announced	31.7
Percentage of allocated address space announced	57.5
Percentage of available address space allocated	55.0
Total number of prefixes smaller than registry allocations	55359

Global per AS prefix count summary

ASN	No of nets	/20 equiv	Max Agg	Description
701	1604	9015	1180	UUNET Technologies, Inc.
7018	1439	7092	968	AT&T
3908	1192	1619	504	Supernet, Inc.
1221	1130	1185	832	Telstra Pty Ltd
1239	958	3126	671	Sprint
702	809	2306	672	UUNET - Commercial IP service
852	679	1124	444	Telus Advanced Communications
1	667	8076	433	GENUITY
7843	592	399	225	Adelphia Corp.
7046	550	825	253	UUNET Technologies, Inc.
4323	528	472	168	Time Warner Communications, I
209	524	2103	333	Qwest
690	521	76	326	Merit Network
7066	492	204	253	Virginia Polytechnic Institut
6197	468	560	106	BellSouth Network Solutions,
18566	447	113	7	Covad Communications
705	424	132	180	UUNET Technologies, Inc.
2386	423	467	228	AT&T Data Communications Serv
6198	421	185	198	BellSouth Network Solutions,
4355	408	313	115	EarthLink, Inc.

Global Aggregation Savings Summary

ASN	No of Nets	Net Savings	Description
3908	1192	688	Supernet, Inc.
7018	1439	471	AT&T
18566	447	440	Covad Communications
7843	592	367	Adelphia Corp.
6197	468	362	BellSouth Network Solutions,
4323	528	360	Time Warner Communications, I
1221	1130	298	Telstra Pty Ltd
11492	299	298	Cable One
7046	550	297	UUNET Technologies, Inc.
4355	408	293	EarthLink, Inc.
6347	372	293	SAVVIS Communications Corpora
1239	958	287	Sprint
4151	329	271	USDA
22927	289	267	TELEFONICA DE ARGENTINA
4814	261	246	China Telecom (Group)
705	424	244	UUNET Technologies, Inc.
376	342	241	Reseau Interordinateurs Scien
7066	492	239	Virginia Polytechnic Institut
852	679	235	Telus Advanced Communications
1	667	234	GENUITY

List of Illegal AS's

Bad AS	Designation	Network	Transit AS	Description
1877	UNALLOCATED	192.108.199.0/24	1880	Stupi, house man's p
64521	PRIVATE	198.189.23.0/24	2151	California State Uni
64521	PRIVATE	198.189.24.0/24	2151	California State Uni
64524	PRIVATE	198.189.134.0/24	2151	California State Uni
64524	PRIVATE	198.189.135.0/24	2151	California State Uni
64524	PRIVATE	198.189.136.0/24	2151	California State Uni
64524	PRIVATE	198.189.137.0/24	2151	California State Uni
64524	PRIVATE	198.189.138.0/24	2151	California State Uni
64521	PRIVATE	198.189.158.0/24	2151	California State Uni
64521	PRIVATE	198.189.235.0/24	2151	California State Uni
64521	PRIVATE	198.189.236.0/24	2151	California State Uni
5757	UNALLOCATED	207.19.224.0/24	701	UUNET Technologies,

Number of prefixes announced by prefix length

/1:0	/2:0	/3:0	/4:0	/5:0	/6:0
/7:0	/8:16	/9:3	/10:8	/11:12	/12:44
/13:91	/14:240	/15:443	/16:7314	/17:1559	/18:2842
/19:8044	/20:7866	/21:5665	/22:8591	/23:10270	/24:65807
/25:162	/26:175	/27:94	/28:77	/29:62	/30:07
/31:0	/32:43				

Advertised IANA Reserved Addresses

Network	Origin AS	Description
39.0.0.0/8	4554	Exchange Point Blocks
132.0.0.0/10	568	DISO-UNRRA
135.0.0.0/13	10455	Lucent Technologies
137.0.0.0/13	568	DISO-UNRRA
158.0.0.0/13	568	DISO-UNRRA
178.54.59.0/24	7018	AT&T
192.31.242.0/24	771	NASA Ames Research Center
192.44.0.0/19	702	UUNET - Commercial IP service
192.72.0.0/18	4780	Digital United Inc.
192.72.0.0/16	4780	Digital United Inc.
192.83.16.0/20	5515	Sonera Solution Autonomous Sy
192.83.32.0/19	5515	Sonera Solution Autonomous Sy
192.83.96.0/22	5515	Sonera Solution Autonomous Sy
192.83.100.0/24	5515	Sonera Solution Autonomous Sy
192.119.135.0/24	270	NASA
192.135.50.0/24	7018	AT&T

continued...

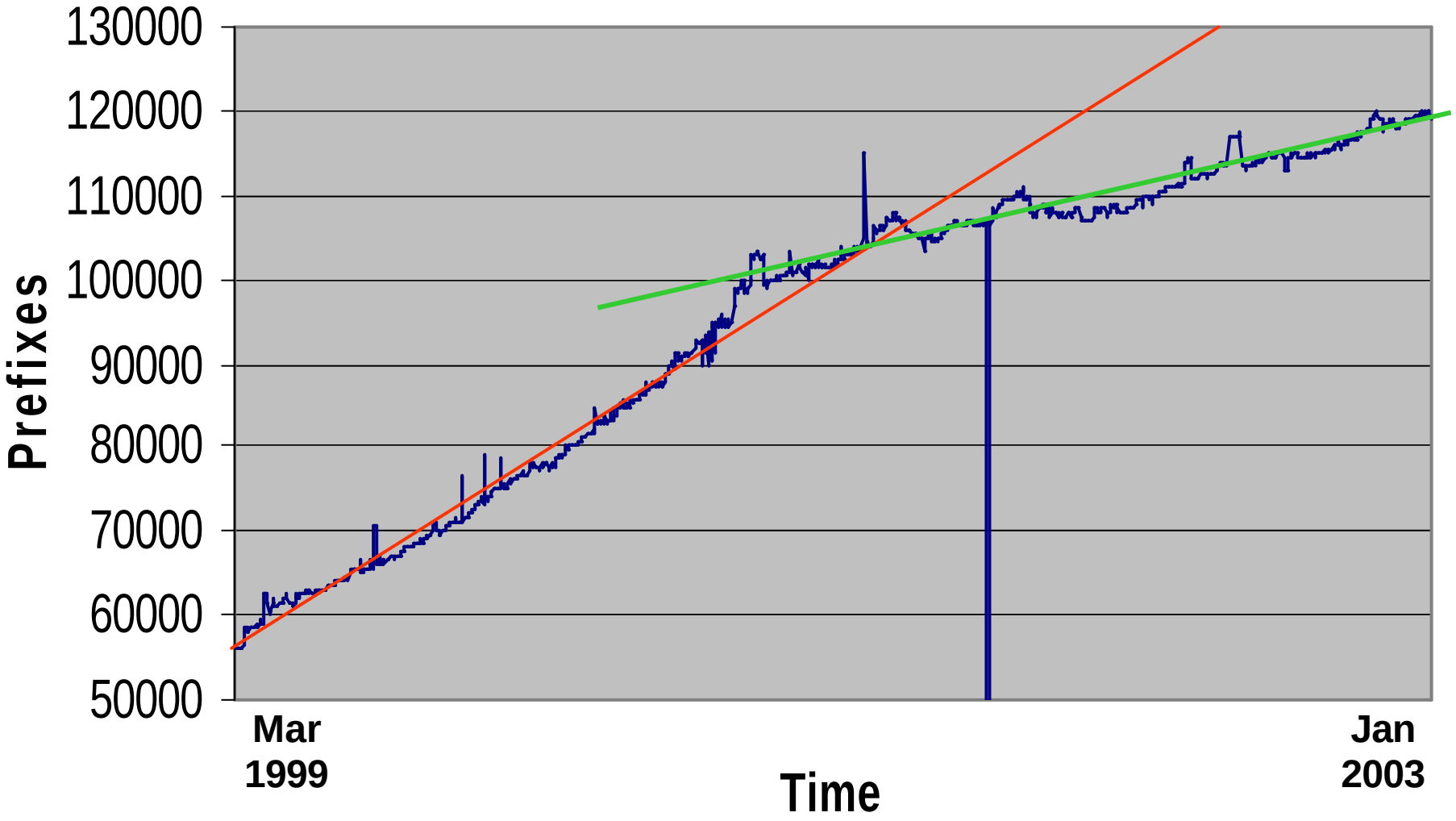
Advertised IANA Reserved Addresses

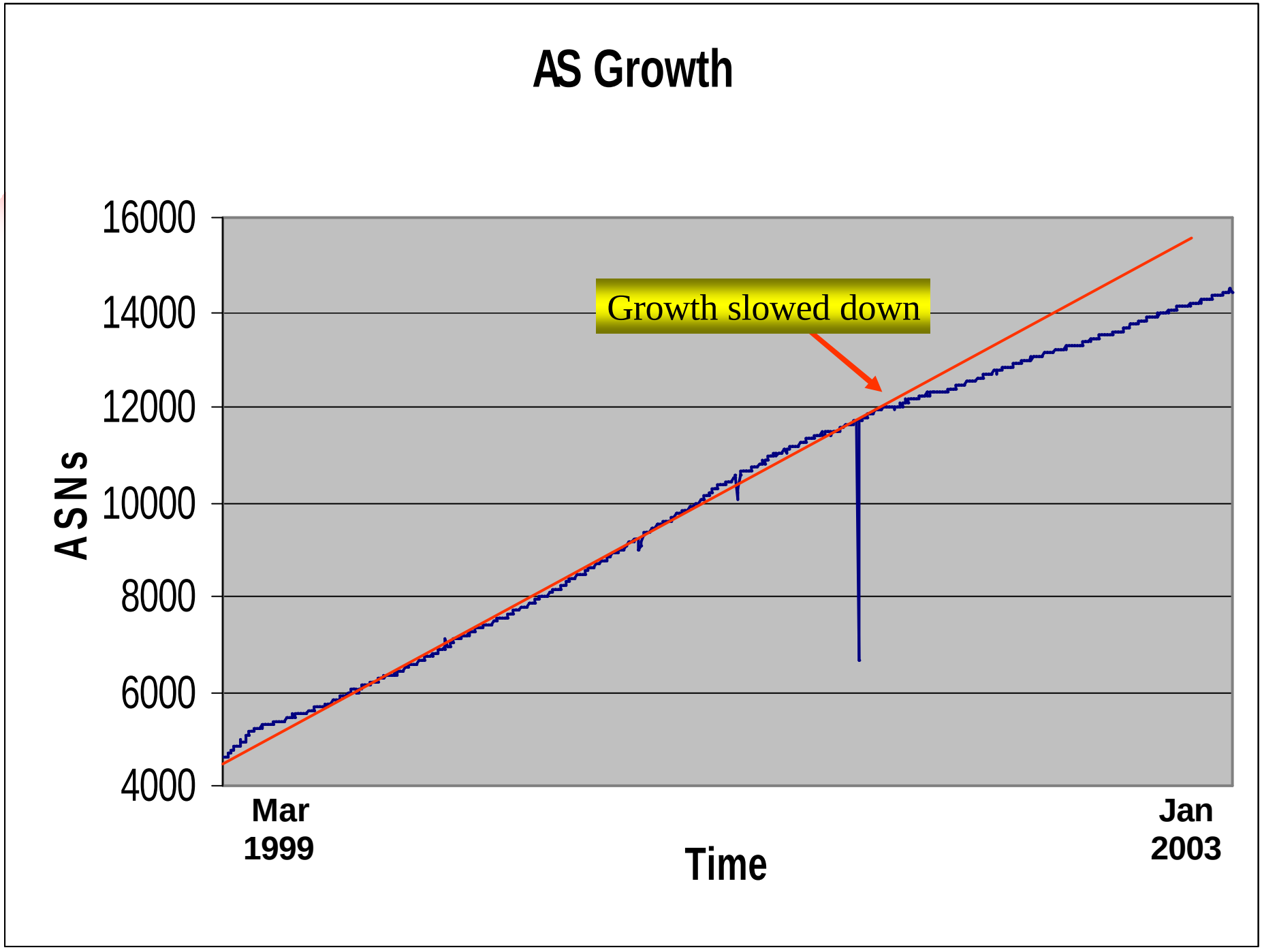
Network	Origin AS	Description
192.136.79.0/24	719	LANLINK autonomous system
192.136.86.0/24	719	LANLINK autonomous system
192.136.87.0/24	719	LANLINK autonomous system
192.136.88.0/24	719	LANLINK autonomous system
192.139.62.0/24	6539	GT Group Telecom Services Cor
192.140.0.0/16	5511	France Telecom
192.153.136.0/21	568	DISO-UNRRA
192.156.164.0/24	19548	Adelphia Business Solutions
192.172.0.0/19	568	DISO-UNRRA
192.243.36.0/23	2044	AUSNet, Inc.

Prefixes Smaller than Registry Allocations

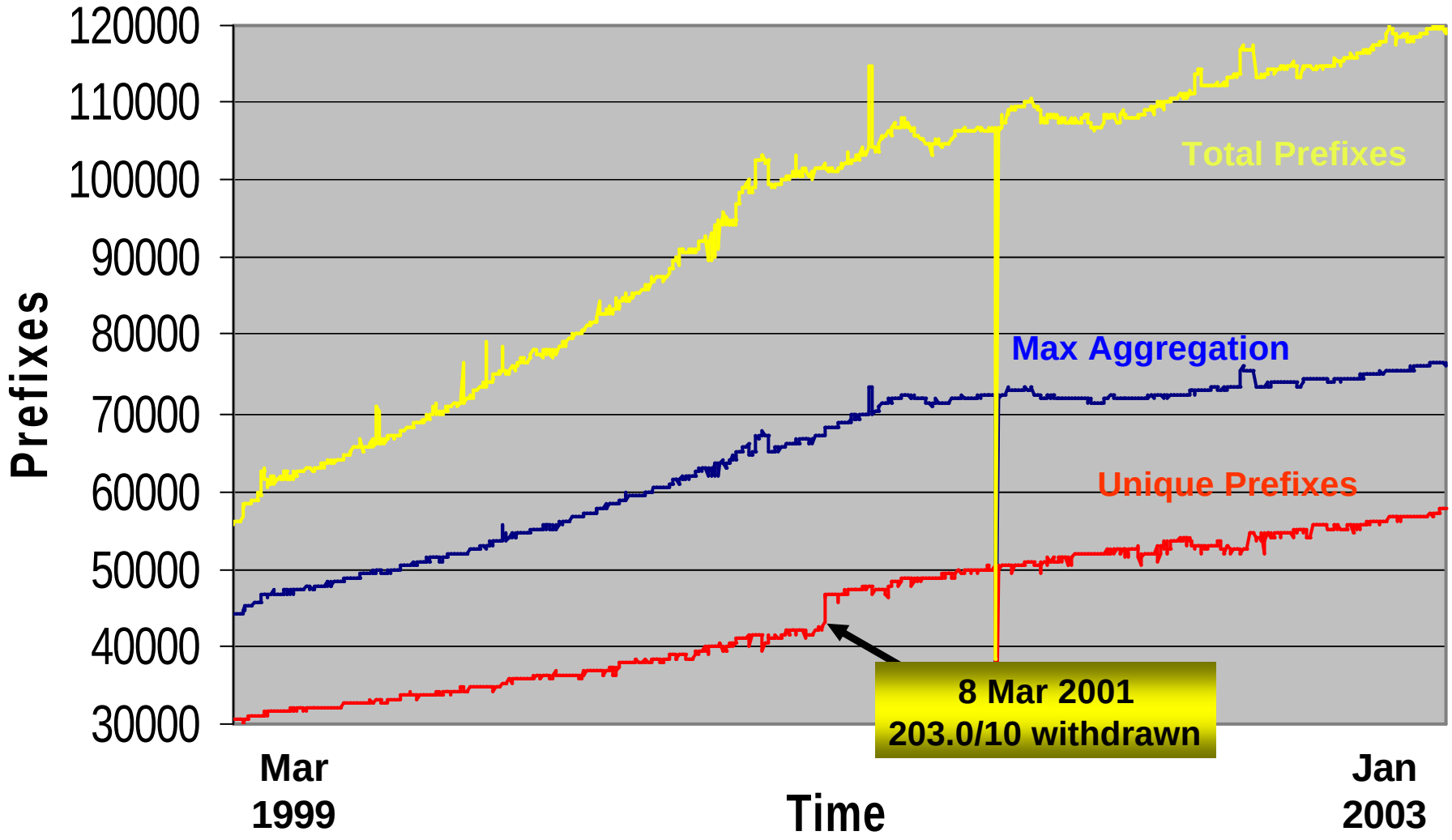
ASN	No of nets	Total ann.	Description
3908	768	1192	Supernet, Inc.
7018	521	1439	AT&T
702	498	809	UUNET - Commercial IP service
690	470	521	Merit Network
18566	442	447	Covad Communications
701	421	1604	UUNET Technologies, Inc.
7066	391	492	Virginia Polytechnic Institut
7843	363	592	Adelphia Corp.
1239	354	958	Sprint
6197	344	468	BellSouth Network Solutions,
6198	335	421	BellSouth Network Solutions,
6140	305	317	ImpSat
11492	298	299	Cable One
22927	288	289	TELEFONICA DE ARGENTINA
7046	249	550	UUNET Technologies, Inc.
3215	240	312	France Telecom Transpac
20115	230	351	Charter Communications
4355	228	408	EarthLink, Inc.
2386	226	423	AT&T Data Communications Serv
7303	226	227	Telecom Argentina Stet-France

BGP Routing Table

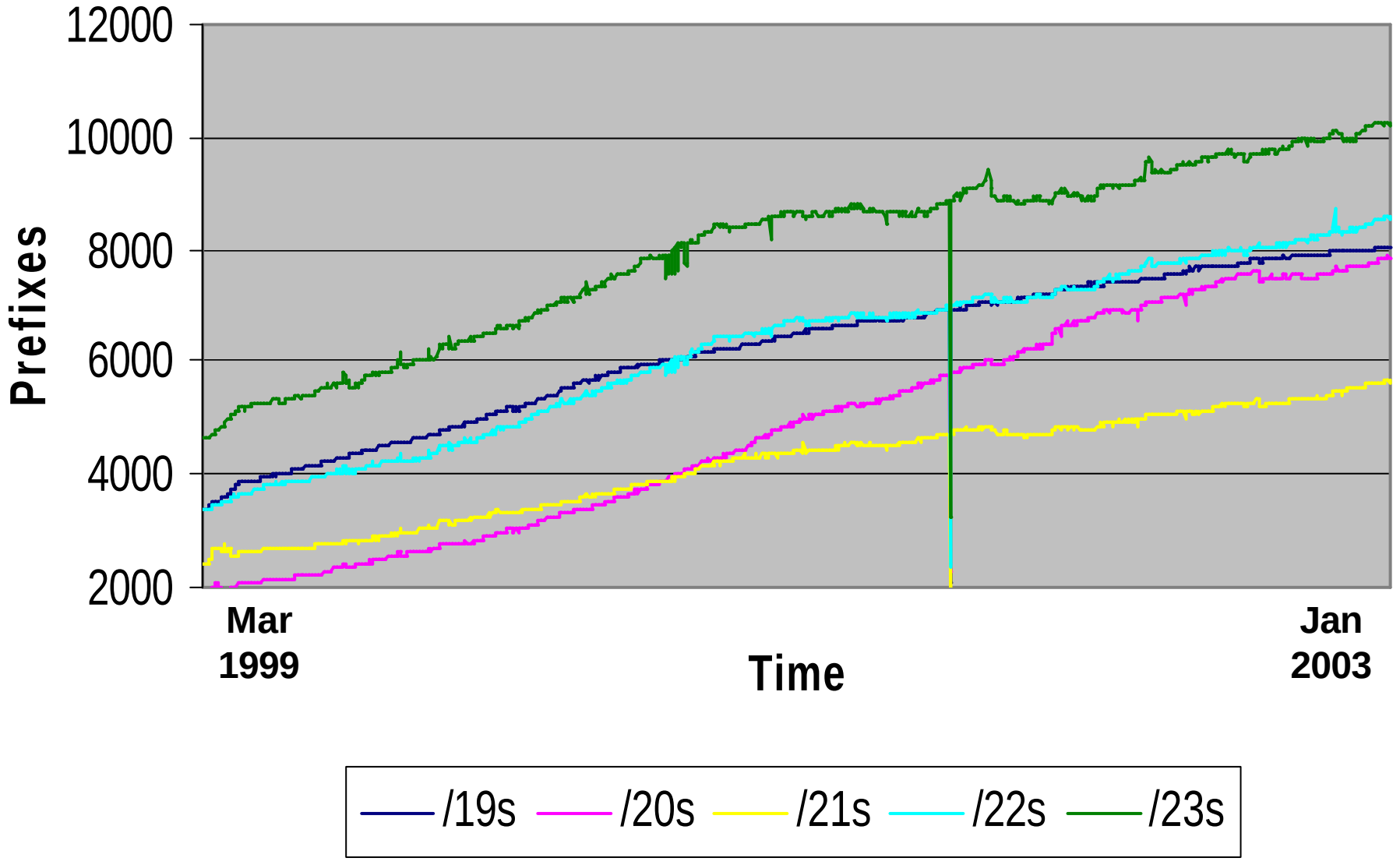



AS Growth
16000
14000
12000
10000
8000
6000
4000
ASNs
Growth slowed down
Mar
1999
Jan
2003
Time

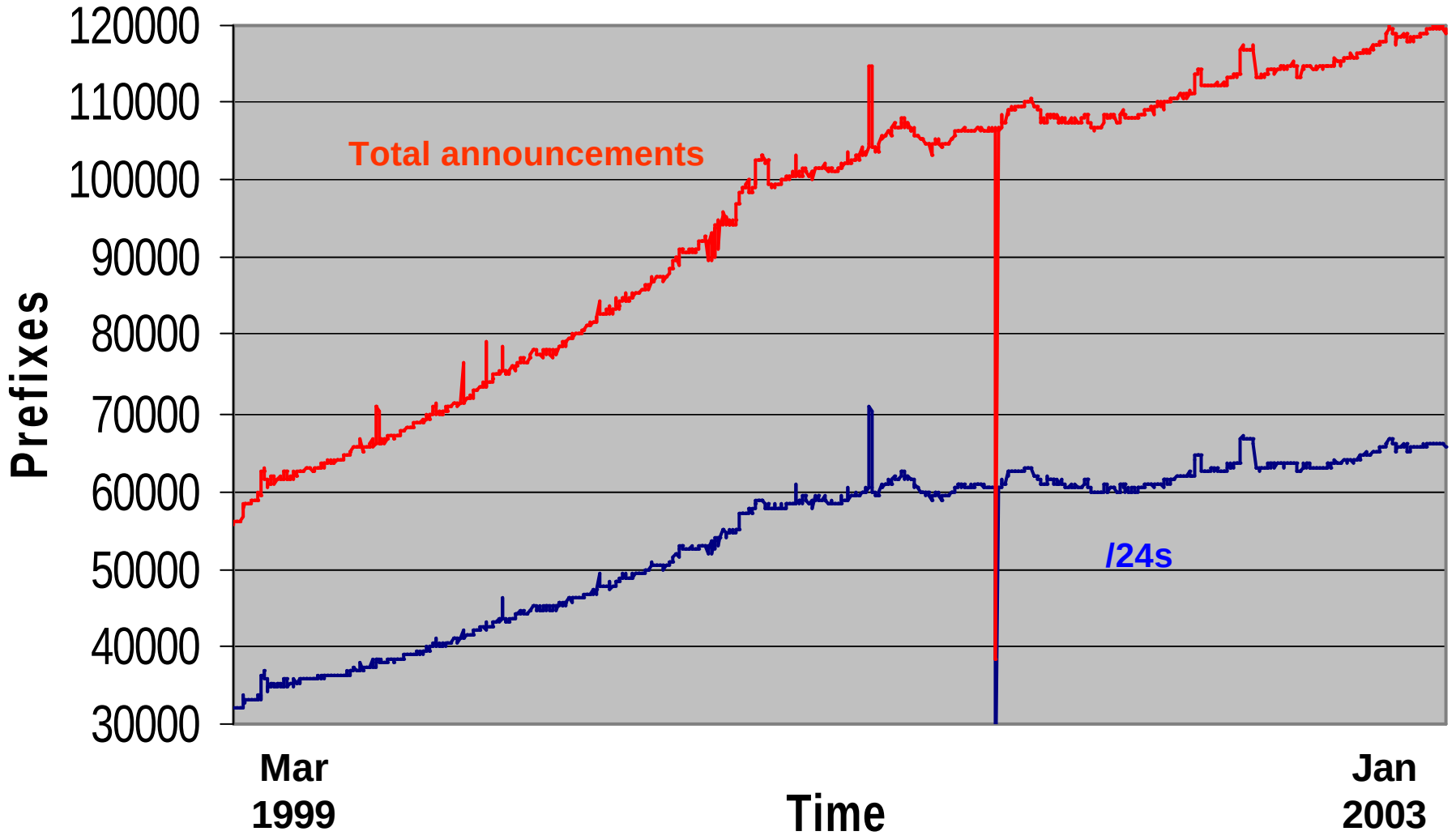
Unique Prefixes vs Max Aggregation

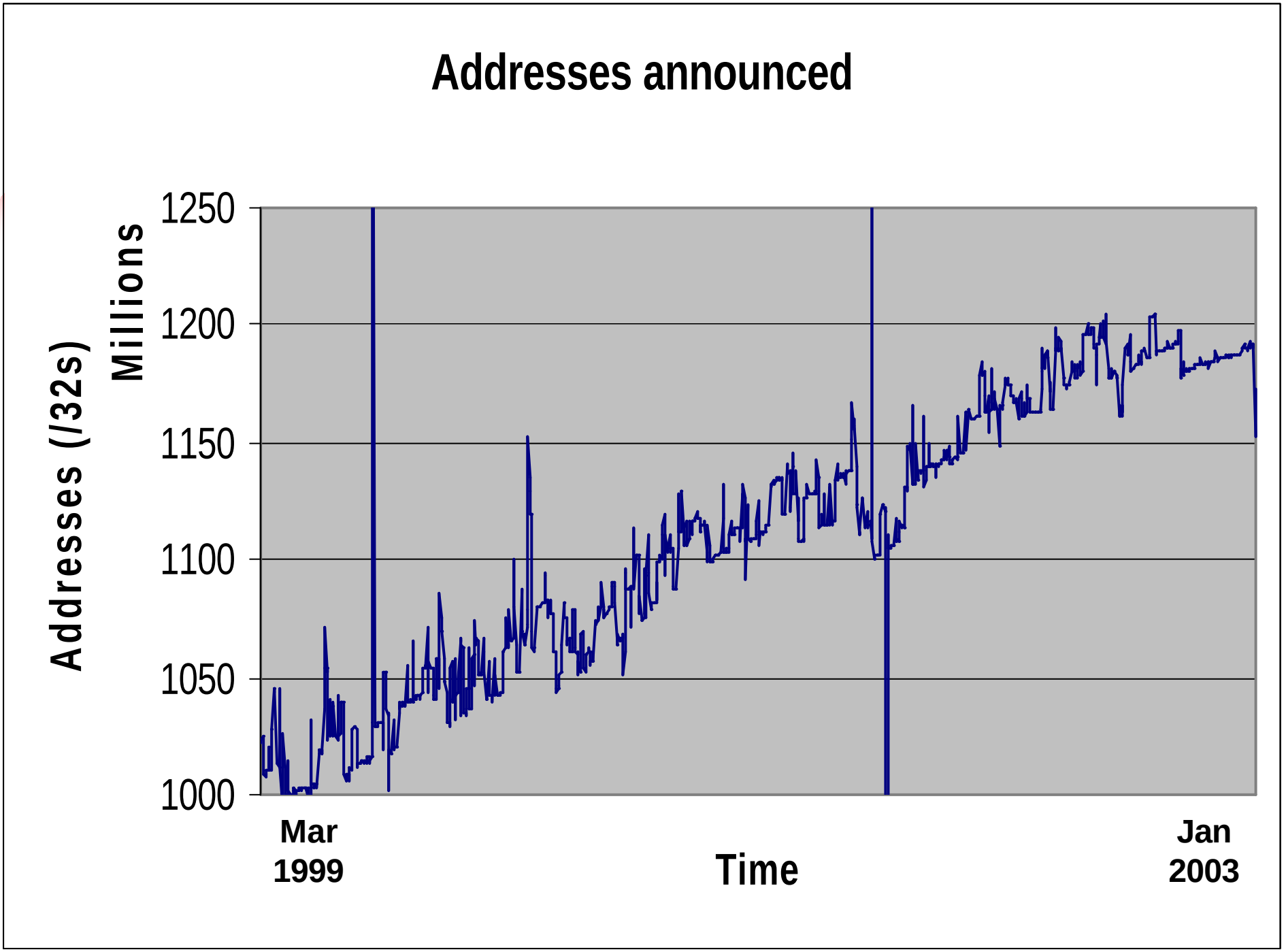


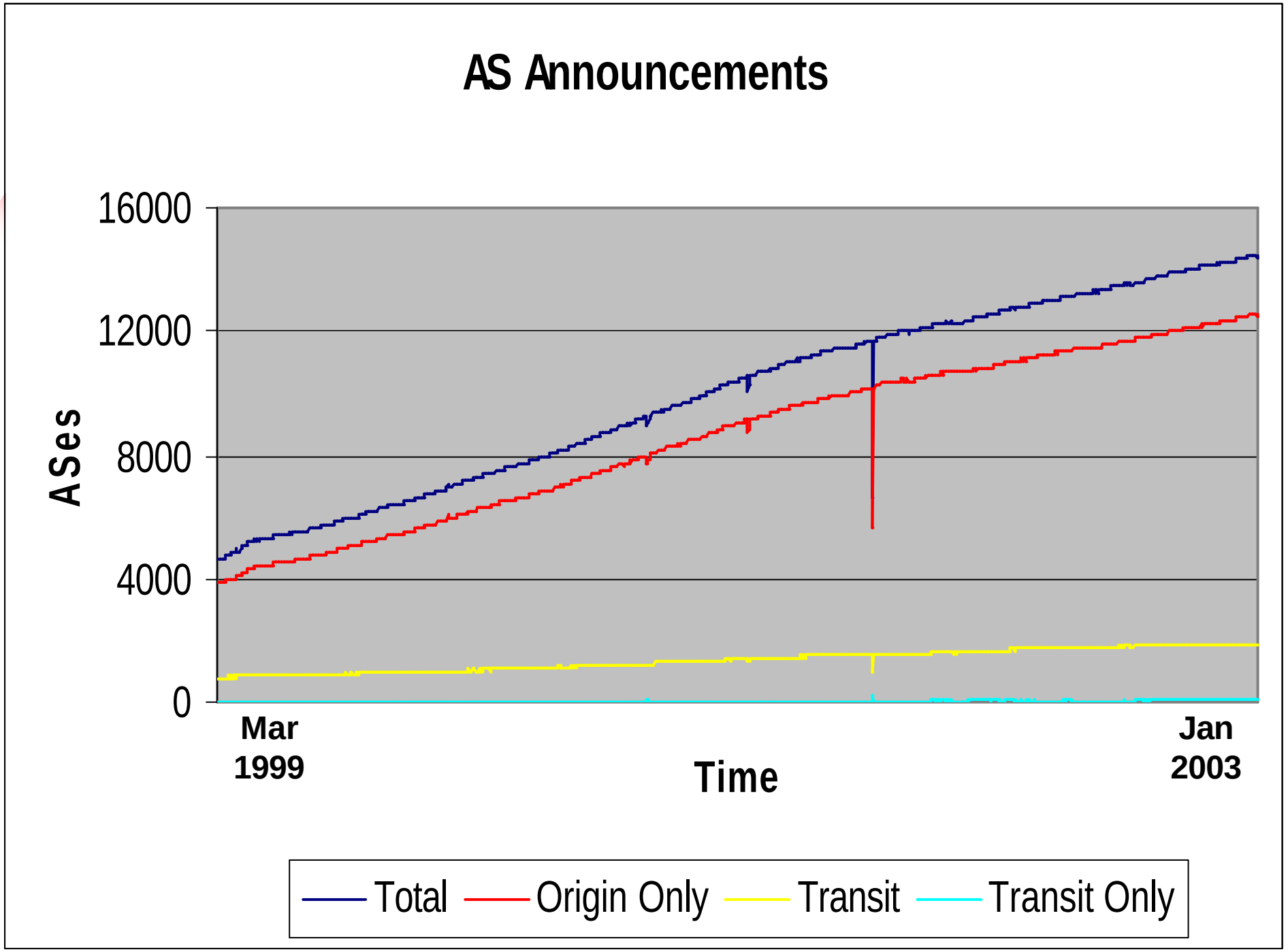
Prefixes sizes announced

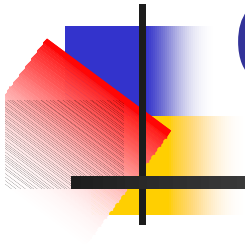


/24s announced




Addresses announced
Addresses (/32s)
Millions
1250
1200
1150
1100
1050
1000
Mar
1999
Time
Jan
2003


AS Announcements
16000
12000
8000
4000
0
ASes
Mar
1999
Jan
2003
Time
Total
Origin Only
Transit
Transit Only

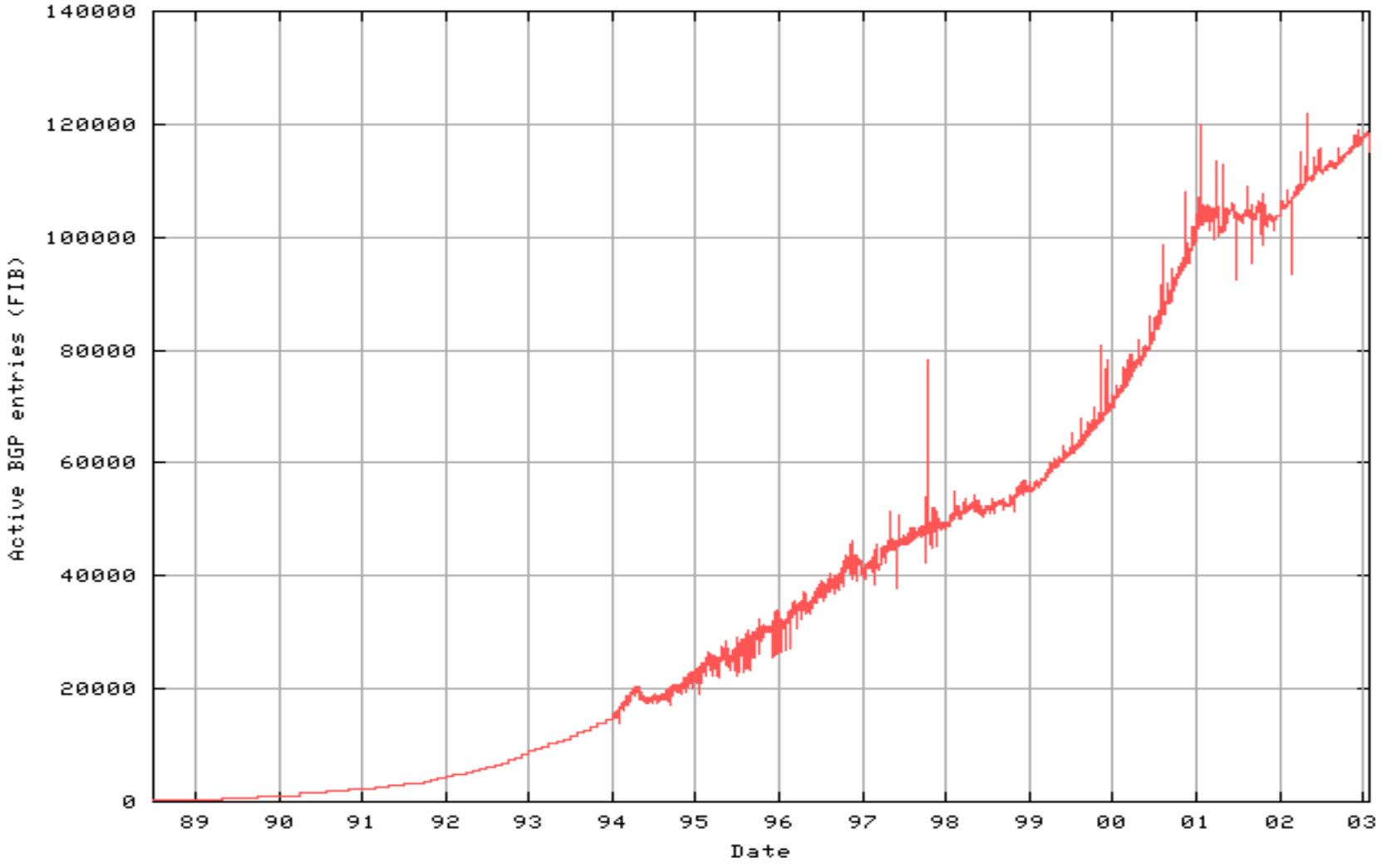


CIDR Report Update

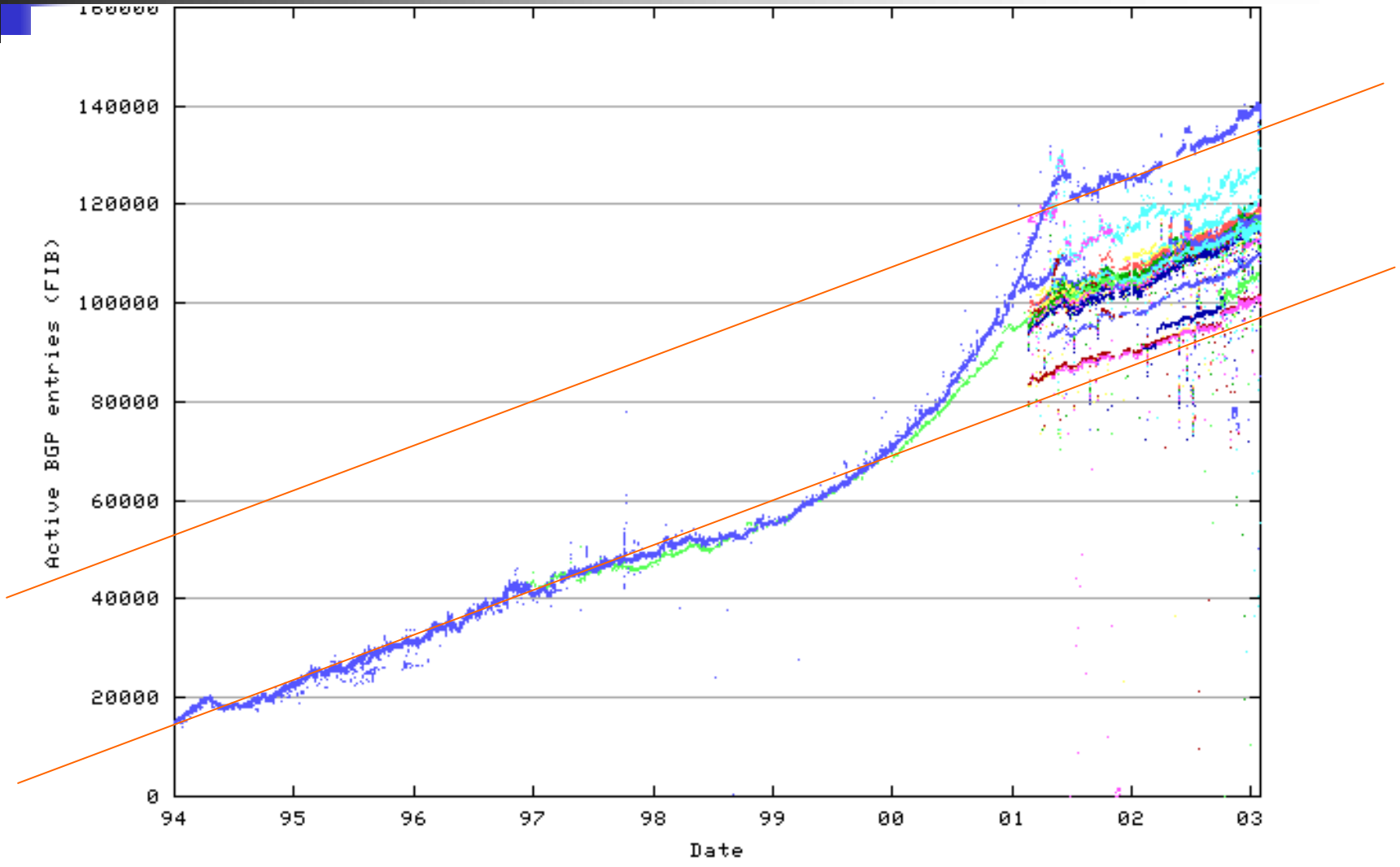
The New CIDR Report and
Routing Table Update

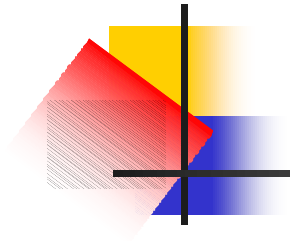
Geoff Huston & Philip Smith

What's Happening (AS4637)



Route Views' View





BGP Trends

- Table growth appears to have resumed a linear growth rate of about 10,000 entries per year

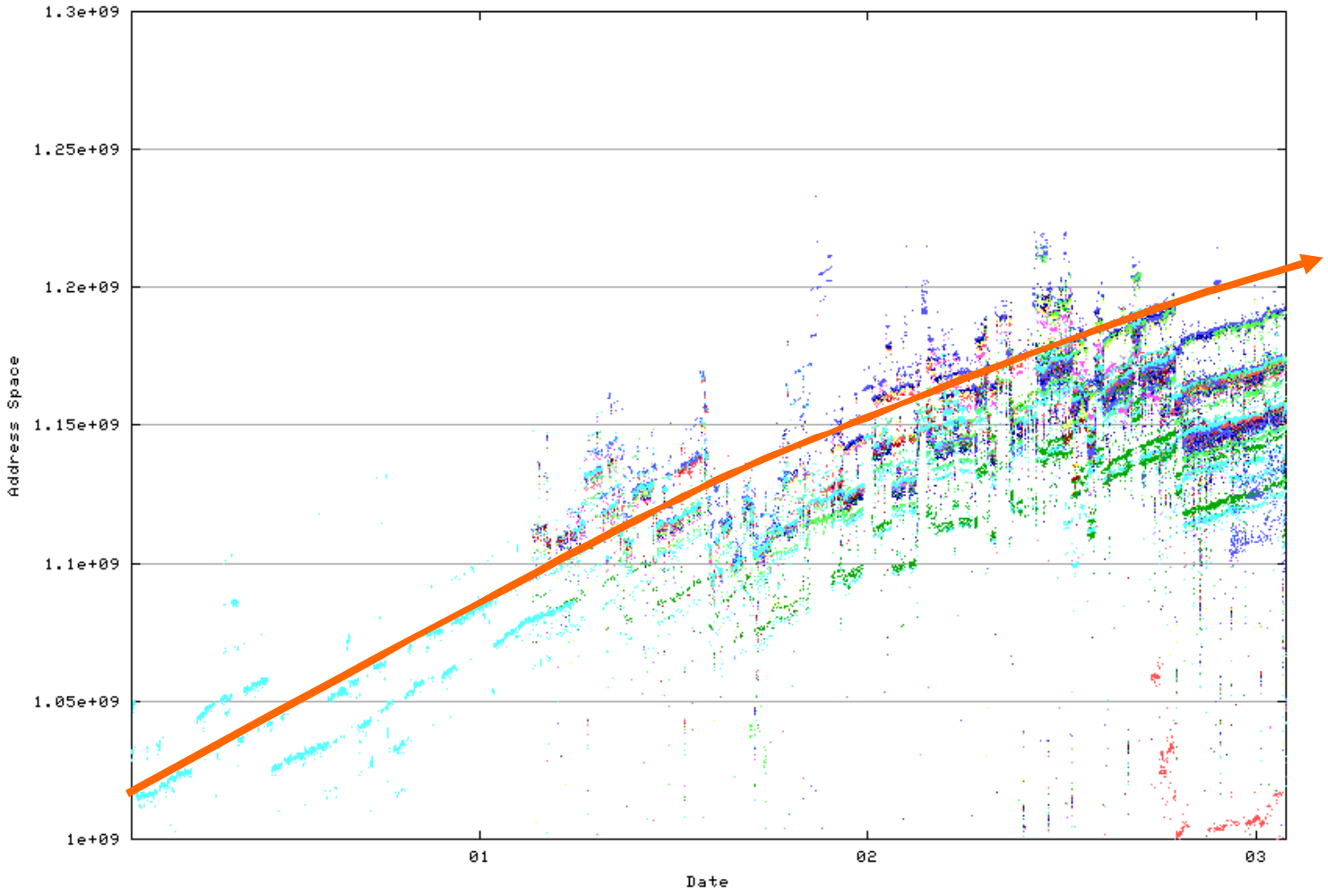
Is this a stable state?

For how long?

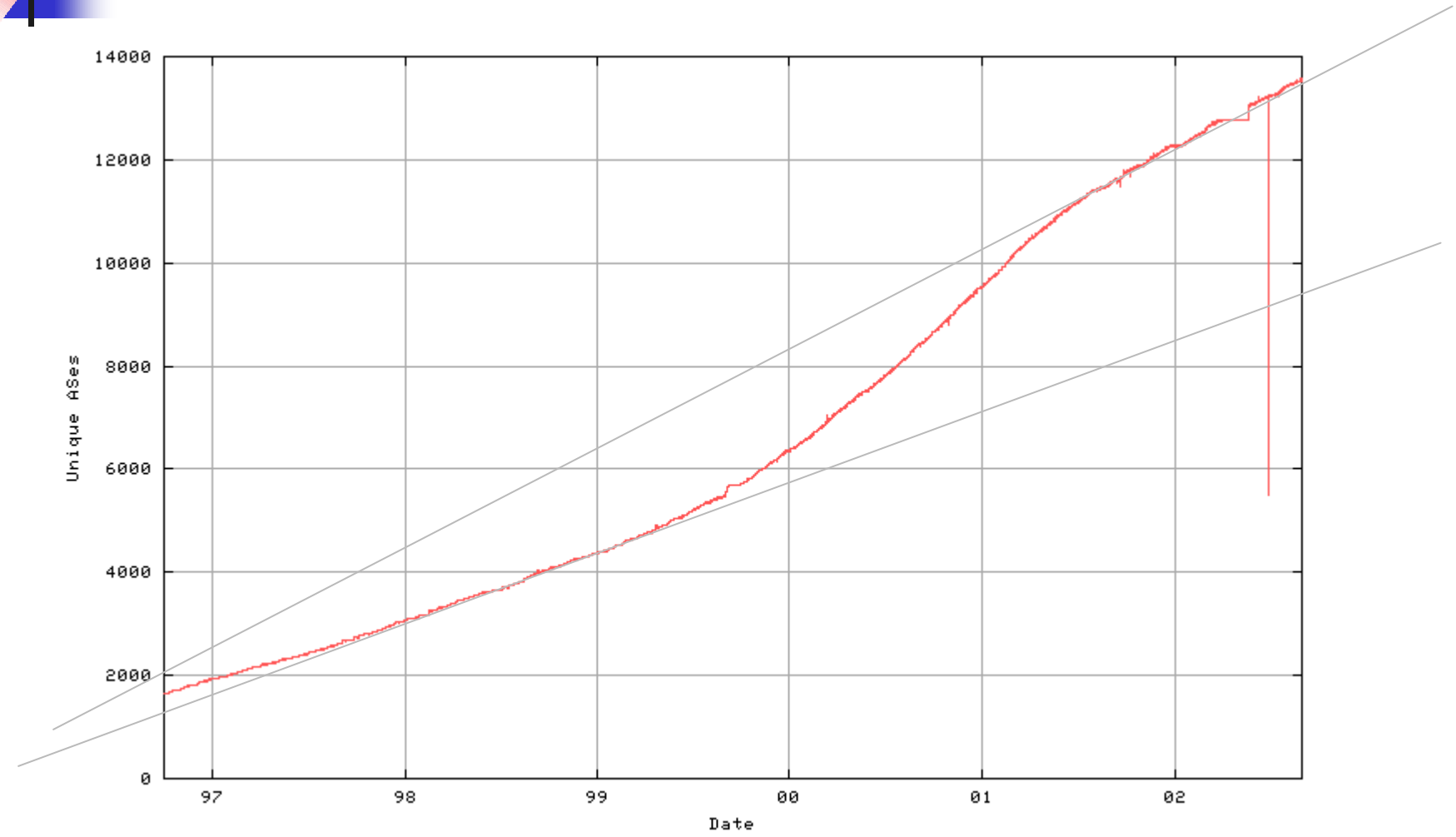
Will exponential growth resume?

If so, at what rate?

Total Size of Address Space Advertised in the BGP Table



Number of AS's

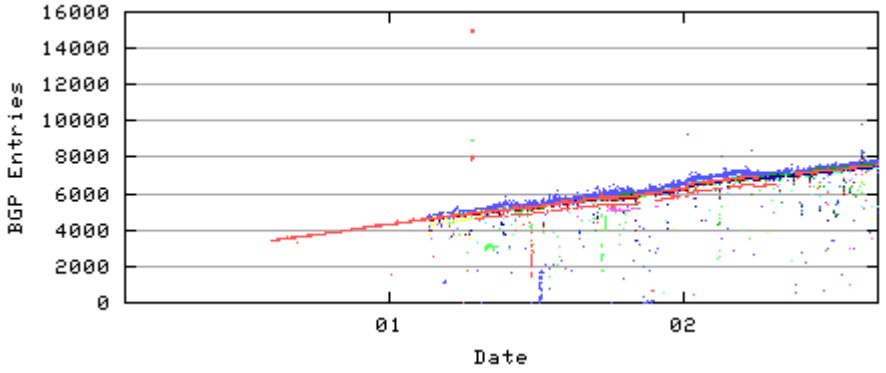


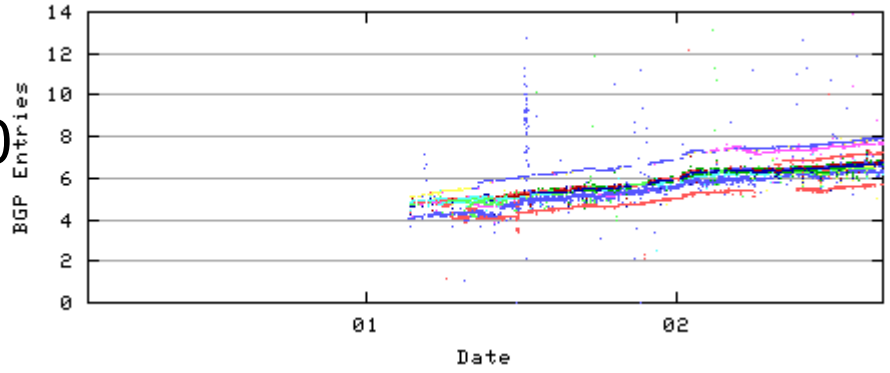
Prefix Comparison /20 and /24

Number of Entries

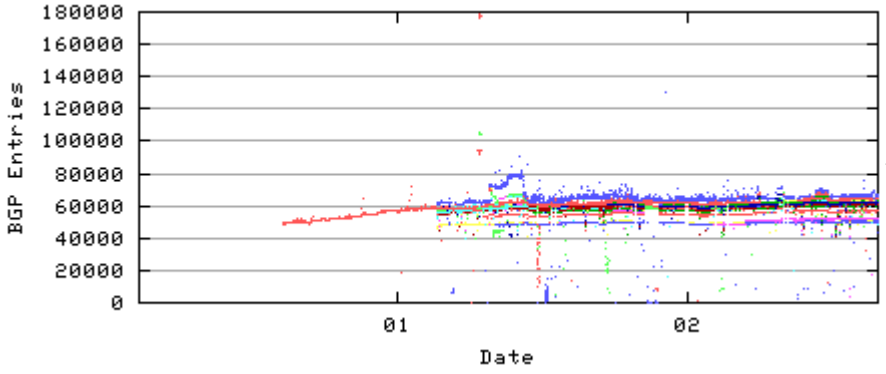
% of BGP Table

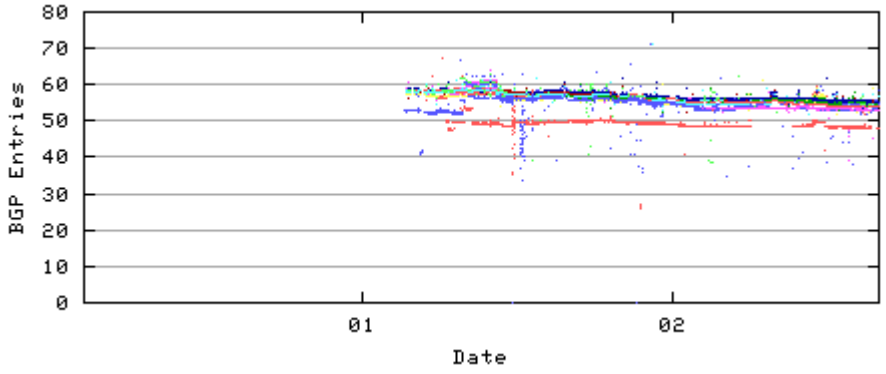
/20

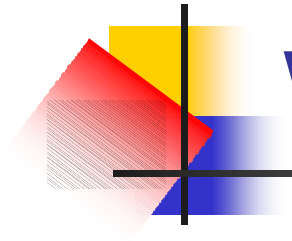




/24

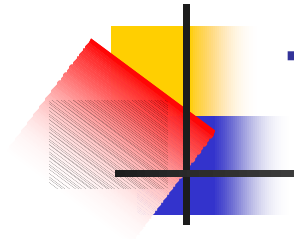






What Happened...

- Growth rates have come down
- The routing space appeared to be better managed in 2002
  - Less routing “noise”
  - Better adherence to hierarchical aggregation in the routed address space

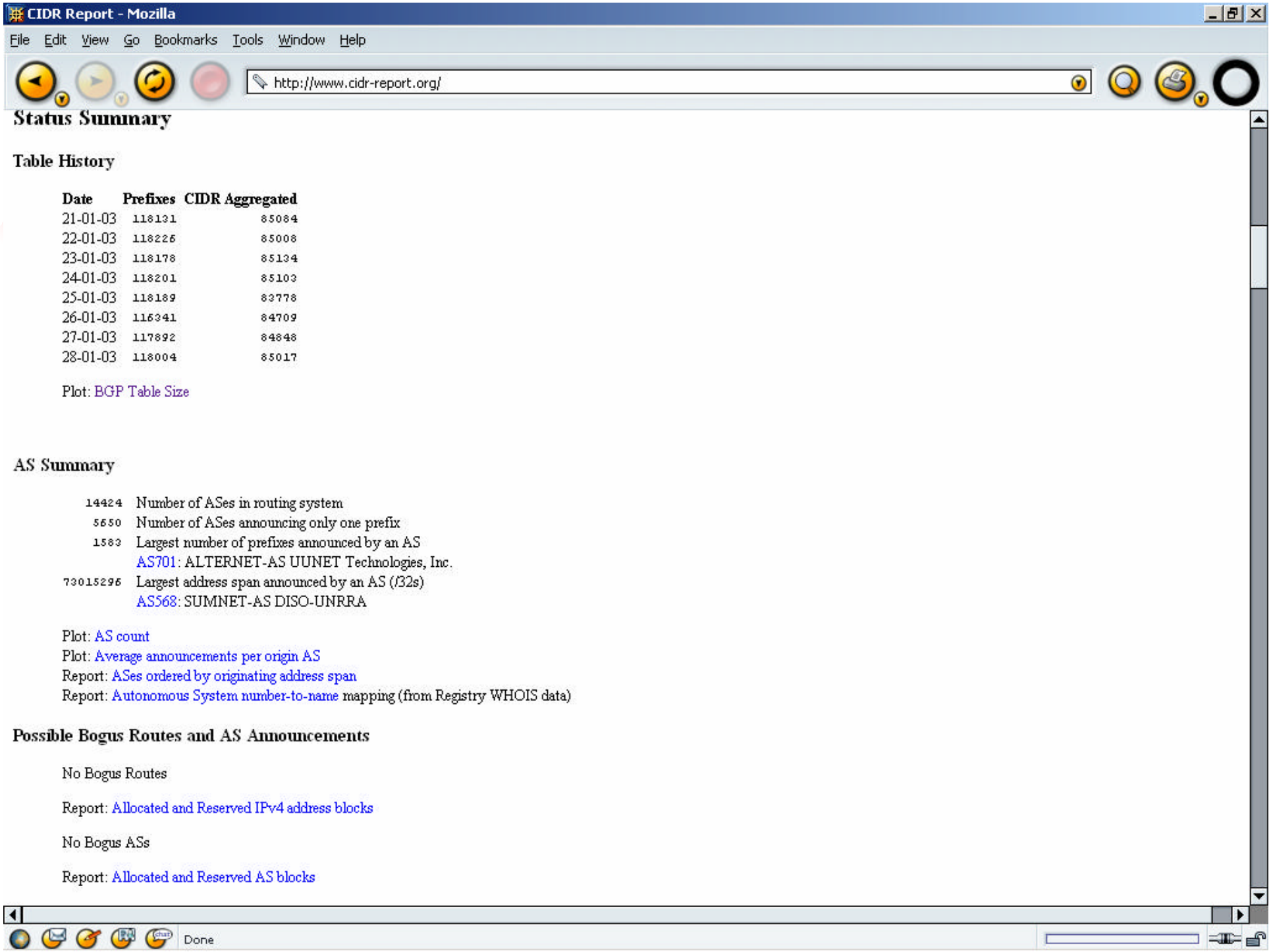


The CIDR Report

- Has moved its home!
- Rewritten to use the BGP Analysis as input

  http://bgp.potaroo.net/cidr

  http://www.cidr-report.org
- **Diagnosis** not **analysis**
  - Intended to show how greater efficiency in terms of BGP table size can be obtained without loss of routing and policy information
  - Show what forms of origin AS aggregation could be performed and the potential benefit of such actions to the total table size



Status Summary

Table History

Date	Prefixes	CIDR Aggregated
21-01-03	118131	85084
22-01-03	118226	85008
23-01-03	118178	85134
24-01-03	118201	85103
25-01-03	118189	83778
26-01-03	116341	84709
27-01-03	117892	84848
28-01-03	118004	85017

Plot: BGP Table Size

AS Summary

14424	Number of ASes in routing system
5650	Number of ASes announcing only one prefix
1583	Largest number of prefixes announced by an AS
	AS701: ALTERNET-AS UUNET Technologies, Inc.
73015296	Largest address span announced by an AS (/32s)
	AS568: SUMNET-AS DISO-UNRRA

Plot: AS count
Plot: Average announcements per origin AS
Report: ASes ordered by originating address span
Report: Autonomous System number-to-name mapping (from Registry WHOIS data)

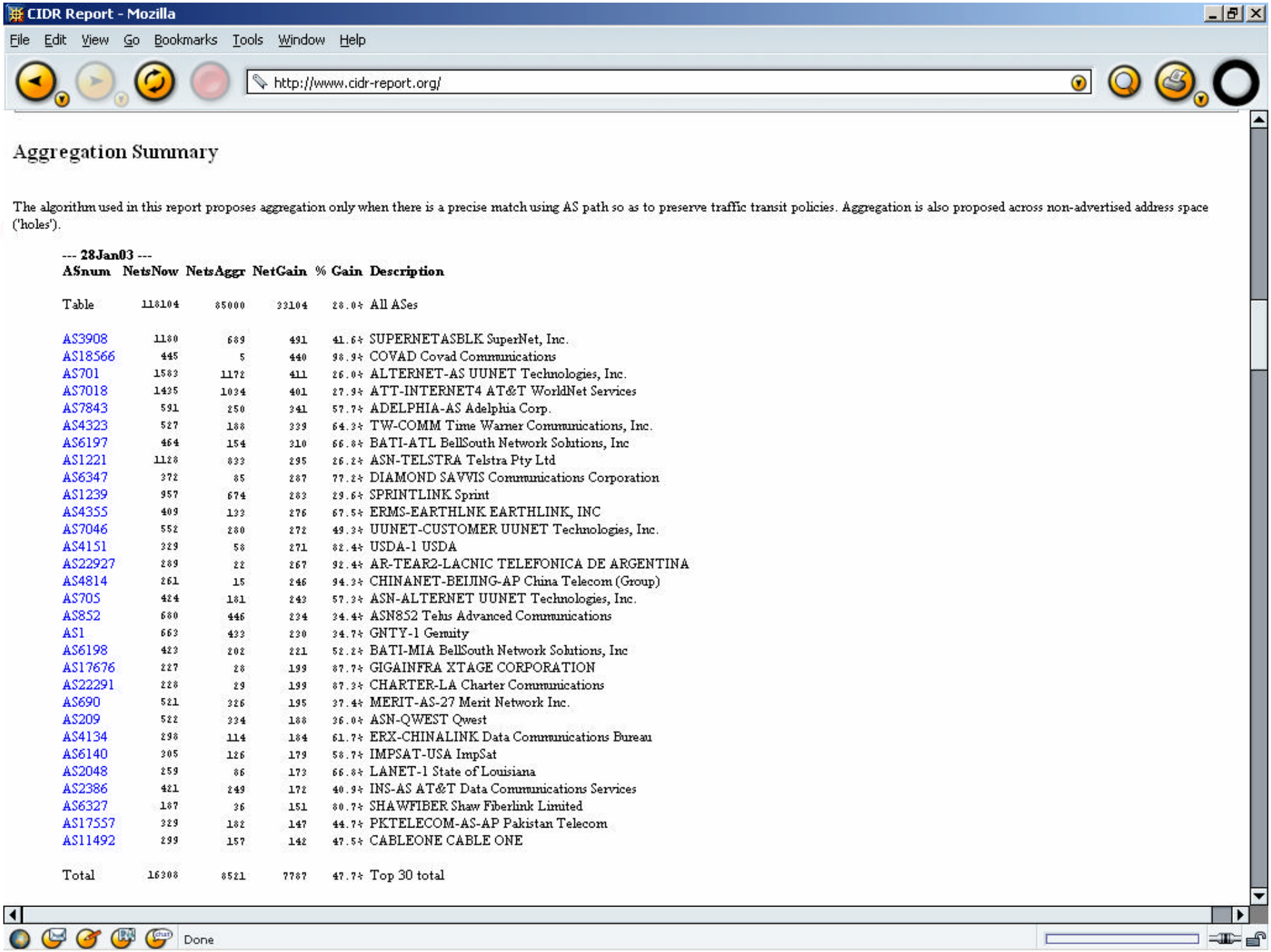
Possible Bogus Routes and AS Announcements

No Bogus Routes

Report: Allocated and Reserved IPv4 address blocks

No Bogus ASs

Report: Allocated and Reserved AS blocks

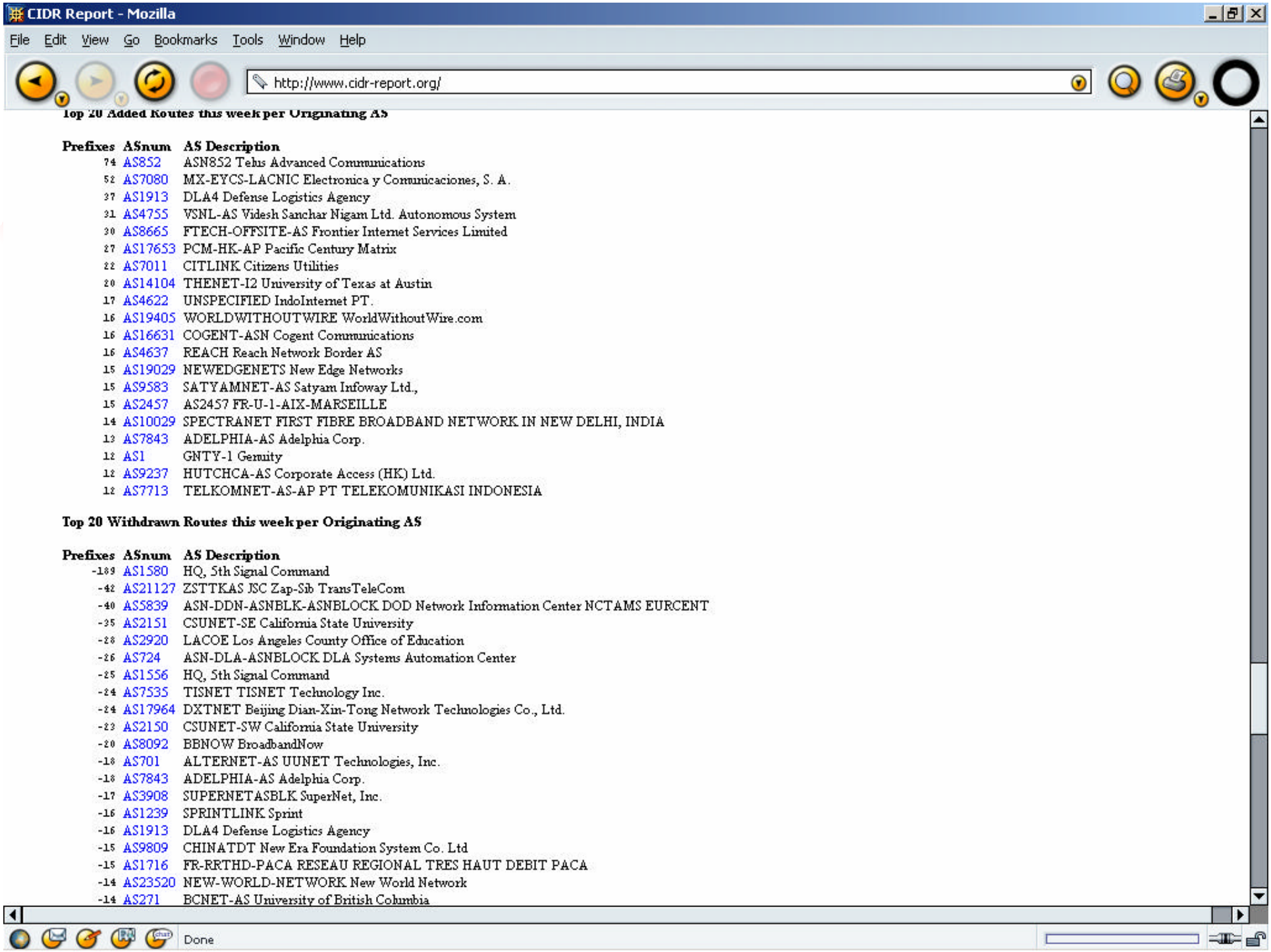


Aggregation Summary

The algorithm used in this report proposes aggregation only when there is a precise match using AS path so as to preserve traffic transit policies. Aggregation is also proposed across non-advertised address space ('holes').

--- **28Jan03** ---

ASnum	NetsNow	NetsAggr	NetGain	% Gain	Description
Table	118104	85000	33104	28.0%	All ASes
AS3908	1180	689	491	41.6%	SUPERNETASBLK SuperNet, Inc.
AS18566	445	5	440	98.9%	COVAD Covad Communications
AS701	1583	1172	411	26.0%	ALTERNET-AS UUNET Technologies, Inc.
AS7018	1435	1034	401	27.9%	ATT-INTERNET4 AT&T WorldNet Services
AS7843	591	250	341	57.7%	ADELPHIA-AS Adelphia Corp.
AS4323	527	188	339	64.3%	TW-COMM Time Warner Communications, Inc.
AS6197	464	154	310	66.8%	BATI-ATL BellSouth Network Solutions, Inc
AS1221	1128	833	295	26.2%	ASN-TELSTRA Telstra Pty Ltd
AS6347	372	85	287	77.2%	DIAMOND SAVVIS Communications Corporation
AS1239	957	674	283	29.6%	SPRINTLINK Sprint
AS4355	409	133	276	67.5%	ERMS-EARTHLNK EARTHLINK, INC
AS7046	552	280	272	49.3%	UUNET-CUSTOMER UUNET Technologies, Inc.
AS4151	329	58	271	82.4%	USDA-1 USDA
AS22927	289	22	267	92.4%	AR-TEAR2-LACNIC TELEFONICA DE ARGENTINA
AS4814	261	15	246	94.3%	CHINANET-BEIJING-AP China Telecom (Group)
AS705	424	181	243	57.3%	ASN-ALTERNET UUNET Technologies, Inc.
AS852	680	446	234	34.4%	ASN852 Telus Advanced Communications
AS1	663	433	230	34.7%	GNTY-1 Genuity
AS6198	423	202	221	52.2%	BATI-MIA BellSouth Network Solutions, Inc
AS17676	227	28	199	87.7%	GIGAINFRA XTAGE CORPORATION
AS22291	228	29	199	87.3%	CHARTER-LA Charter Communications
AS690	521	326	195	37.4%	MERIT-AS-27 Merit Network Inc.
AS209	522	334	188	36.0%	ASN-QWEST Qwest
AS4134	298	114	184	61.7%	ERX-CHINALINK Data Communications Bureau
AS6140	305	126	179	58.7%	IMPSAT-USA ImpSat
AS2048	259	86	173	66.8%	LANET-1 State of Louisiana
AS2386	421	249	172	40.9%	INS-AS AT&T Data Communications Services
AS6327	187	36	151	80.7%	SHAWFIBER Shaw Fiberlink Limited
AS17557	329	182	147	44.7%	PKTELECOM-AS-AP Pakistan Telecom
AS11492	299	157	142	47.5%	CABLEONE CABLE ONE
Total	16308	8521	7787	47.7%	Top 30 total

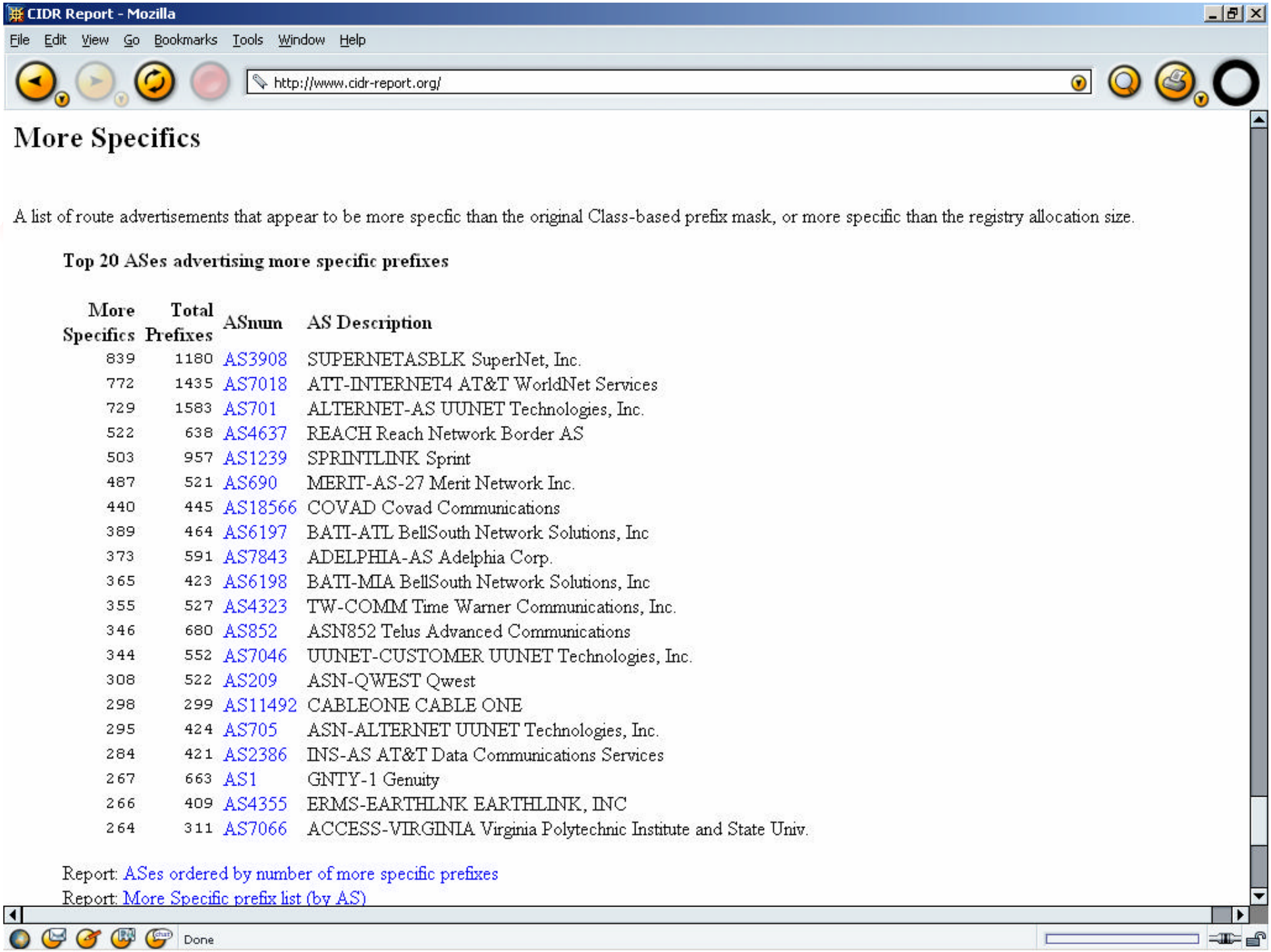


Top 20 Added Routes this week per Originating AS

Prefixes	ASnum	AS Description
74	AS852	ASN852 Telus Advanced Communications
52	AS7080	MX-EYCS-LACNIC Electronica y Comunicaciones, S. A.
37	AS1913	DLA4 Defense Logistics Agency
31	AS4755	VSNL-AS Videsh Sanchar Nigam Ltd. Autonomous System
30	AS8665	FTECH-OFFSITE-AS Frontier Internet Services Limited
27	AS17653	PCM-HK-AP Pacific Century Matrix
22	AS7011	CITLINK Citizens Utilities
20	AS14104	THENET-I2 University of Texas at Austin
17	AS4622	UNSPECIFIED IndoInternet PT.
16	AS19405	WORLDWITHOUTWIRE WorldWithoutWire.com
16	AS16631	COGENT-ASN Cogent Communications
16	AS4637	REACH Reach Network Border AS
15	AS19029	NEWEDGENETS New Edge Networks
15	AS9583	SATYAMNET-AS Satyam Infoway Ltd.,
15	AS2457	AS2457 FR-U-1-AIX-MARSEILLE
14	AS10029	SPECTRANET FIRST FIBRE BROADBAND NETWORK IN NEW DELHI, INDIA
13	AS7843	ADELPHIA-AS Adelphia Corp.
12	AS1	GNTY-1 Genuity
12	AS9237	HUTCHCA-AS Corporate Access (HK) Ltd.
12	AS7713	TELKOMNET-AS-AP PT TELEKOMUNIKASI INDONESIA

Top 20 Withdrawn Routes this week per Originating AS

Prefixes	ASnum	AS Description
-189	AS1580	HQ, 5th Signal Command
-42	AS21127	ZSTTKAS JSC Zap-Sib TransTeleCom
-40	AS5839	ASN-DDN-ASNBLK-ASNBLOCK DOD Network Information Center NCTAMS EURCENT
-35	AS2151	CSUNET-SE California State University
-28	AS2920	LACOE Los Angeles County Office of Education
-26	AS724	ASN-DLA-ASNBLOCK DLA Systems Automation Center
-25	AS1556	HQ, 5th Signal Command
-24	AS7535	TISNET TISNET Technology Inc.
-24	AS17964	DXTNET Beijing Dian-Xin-Tong Network Technologies Co., Ltd.
-23	AS2150	CSUNET-SW California State University
-20	AS8092	BBNOW BroadbandNow
-18	AS701	ALTERNET-AS UUNET Technologies, Inc.
-18	AS7843	ADELPHIA-AS Adelphia Corp.
-17	AS3908	SUPERNETASBLK SuperNet, Inc.
-16	AS1239	SPRINTLINK Sprint
-16	AS1913	DLA4 Defense Logistics Agency
-15	AS9809	CHINATDT New Era Foundation System Co. Ltd
-15	AS1716	FR-RRTHD-PACA RESEAU REGIONAL TRES HAUT DEBIT PACA
-14	AS23520	NEW-WORLD-NETWORK New World Network
-14	AS271	BCNET-AS University of British Columbia



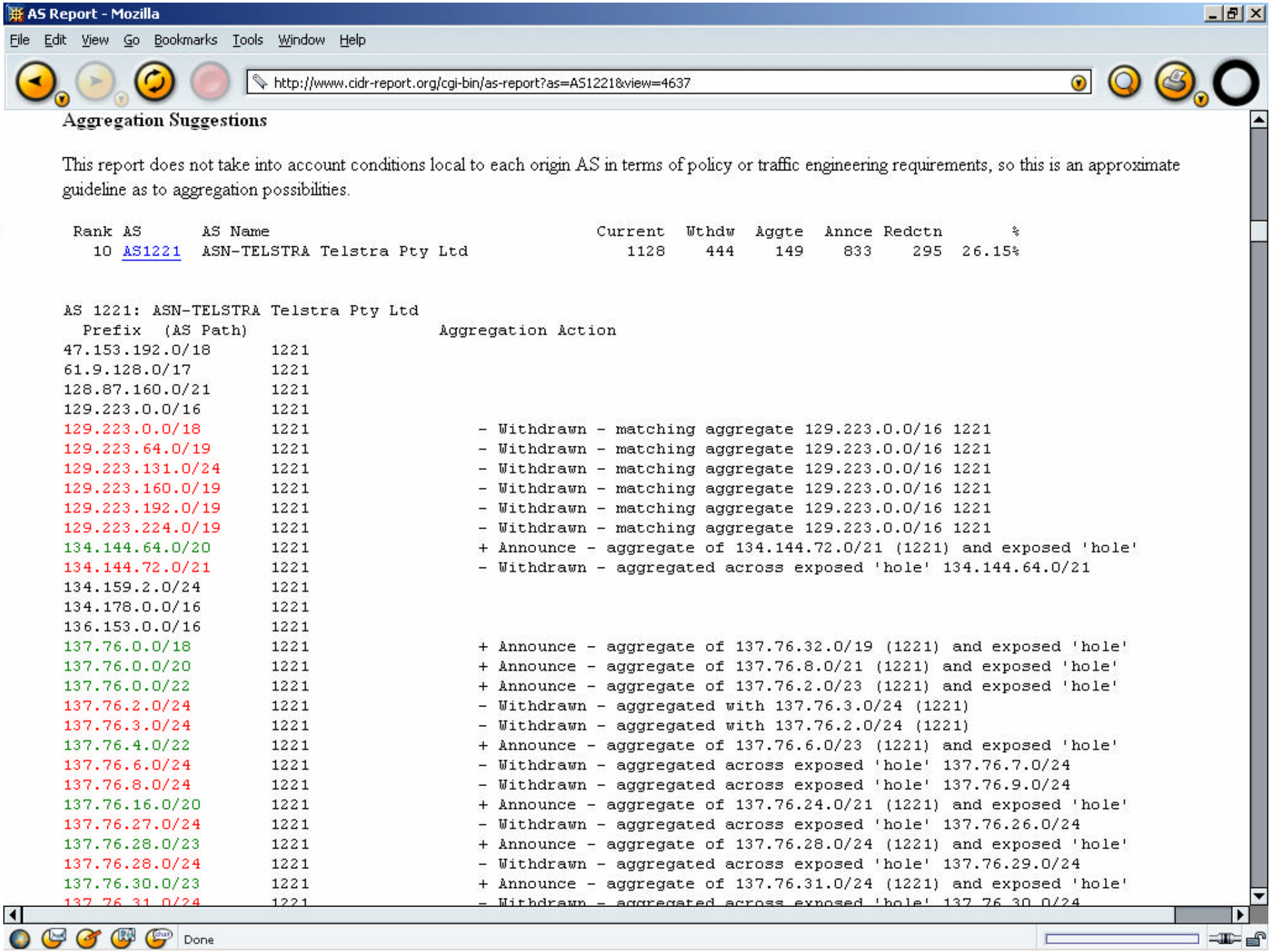
More Specifics

A list of route advertisements that appear to be more specific than the original Class-based prefix mask, or more specific than the registry allocation size.

Top 20 ASes advertising more specific prefixes

More Specifics	Total Prefixes	ASnum	AS Description
839	1180	AS3908	SUPERNETASBLK SuperNet, Inc.
772	1435	AS7018	ATT-INTERNET4 AT&T WorldNet Services
729	1583	AS701	ALTERNET-AS UUNET Technologies, Inc.
522	638	AS4637	REACH Reach Network Border AS
503	957	AS1239	SPRINTLINK Sprint
487	521	AS690	MERIT-AS-27 Merit Network Inc.
440	445	AS18566	COVAD Covad Communications
389	464	AS6197	BATI-ATL BellSouth Network Solutions, Inc
373	591	AS7843	ADELPHIA-AS Adelphia Corp.
365	423	AS6198	BATI-MIA BellSouth Network Solutions, Inc
355	527	AS4323	TW-COMM Time Warner Communications, Inc.
346	680	AS852	ASN852 Telus Advanced Communications
344	552	AS7046	UUNET-CUSTOMER UUNET Technologies, Inc.
308	522	AS209	ASN-QWEST Qwest
298	299	AS11492	CABLEONE CABLE ONE
295	424	AS705	ASN-ALTERNET UUNET Technologies, Inc.
284	421	AS2386	INS-AS AT&T Data Communications Services
267	663	AS1	GNTY-1 Genuity
266	409	AS4355	ERMS-EARTHLNK EARTHLINK, INC
264	311	AS7066	ACCESS-VIRGINIA Virginia Polytechnic Institute and State Univ.

Report: ASes ordered by number of more specific prefixes
Report: More Specific prefix list (by AS)



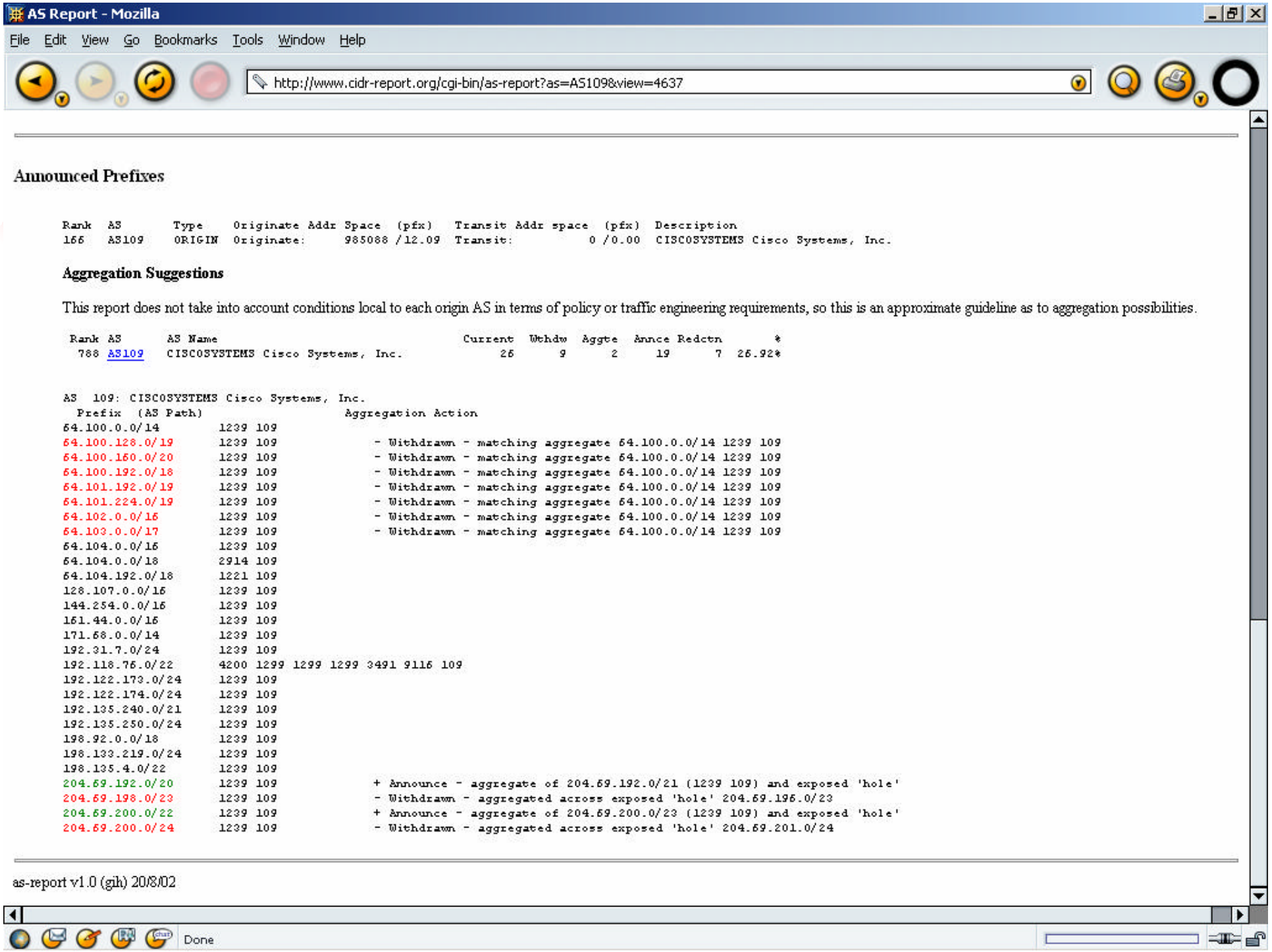
Aggregation Suggestions

This report does not take into account conditions local to each origin AS in terms of policy or traffic engineering requirements, so this is an approximate guideline as to aggregation possibilities.

Rank	AS	AS Name	Current	Wthdw	Aggte	Annce	Redctn	%
10	AS1221	ASN-TELSTRA Telstra Pty Ltd	1128	444	149	833	295	26.15%

AS 1221: ASN-TELSTRA Telstra Pty Ltd

Prefix	(AS Path)	Aggregation Action
47.153.192.0/18	1221	
61.9.128.0/17	1221	
128.87.160.0/21	1221	
129.223.0.0/16	1221	
129.223.0.0/18	1221	- Withdrawn - matching aggregate 129.223.0.0/16 1221
129.223.64.0/19	1221	- Withdrawn - matching aggregate 129.223.0.0/16 1221
129.223.131.0/24	1221	- Withdrawn - matching aggregate 129.223.0.0/16 1221
129.223.160.0/19	1221	- Withdrawn - matching aggregate 129.223.0.0/16 1221
129.223.192.0/19	1221	- Withdrawn - matching aggregate 129.223.0.0/16 1221
129.223.224.0/19	1221	- Withdrawn - matching aggregate 129.223.0.0/16 1221
134.144.64.0/20	1221	+ Announce - aggregate of 134.144.72.0/21 (1221) and exposed 'hole'
134.144.72.0/21	1221	- Withdrawn - aggregated across exposed 'hole' 134.144.64.0/21
134.159.2.0/24	1221	
134.178.0.0/16	1221	
136.153.0.0/16	1221	
137.76.0.0/18	1221	+ Announce - aggregate of 137.76.32.0/19 (1221) and exposed 'hole'
137.76.0.0/20	1221	+ Announce - aggregate of 137.76.8.0/21 (1221) and exposed 'hole'
137.76.0.0/22	1221	+ Announce - aggregate of 137.76.2.0/23 (1221) and exposed 'hole'
137.76.2.0/24	1221	- Withdrawn - aggregated with 137.76.3.0/24 (1221)
137.76.3.0/24	1221	- Withdrawn - aggregated with 137.76.2.0/24 (1221)
137.76.4.0/22	1221	+ Announce - aggregate of 137.76.6.0/23 (1221) and exposed 'hole'
137.76.6.0/24	1221	- Withdrawn - aggregated across exposed 'hole' 137.76.7.0/24
137.76.8.0/24	1221	- Withdrawn - aggregated across exposed 'hole' 137.76.9.0/24
137.76.16.0/20	1221	+ Announce - aggregate of 137.76.24.0/21 (1221) and exposed 'hole'
137.76.27.0/24	1221	- Withdrawn - aggregated across exposed 'hole' 137.76.26.0/24
137.76.28.0/23	1221	+ Announce - aggregate of 137.76.28.0/24 (1221) and exposed 'hole'
137.76.28.0/24	1221	- Withdrawn - aggregated across exposed 'hole' 137.76.29.0/24
137.76.30.0/23	1221	+ Announce - aggregate of 137.76.31.0/24 (1221) and exposed 'hole'
137.76.31.0/24	1221	- Withdrawn - aggregated across exposed 'hole' 137.76.30.0/24



Announced Prefixes

Rank	AS	Type	Originate Addr Space	(pfx)	Transit Addr space	(pfx)	Description
166	AS109	ORIGIN	Originate:	985088 /12.09	Transit:	0 /0.00	CISCOSYSTEMS Cisco Systems, Inc.

Aggregation Suggestions

This report does not take into account conditions local to each origin AS in terms of policy or traffic engineering requirements, so this is an approximate guideline as to aggregation possibilities.

Rank	AS	AS Name	Current	Wthdw	Aggte	Annce	Redctn	%
788	AS109	CISCOSYSTEMS Cisco Systems, Inc.	26	9	2	19	7	26.92%

AS 109: CISCOSYSTEMS Cisco Systems, Inc.

Prefix	(AS Path)	Aggregation Action
64.100.0.0/14	1239 109	
64.100.128.0/19	1239 109	- Withdrawn - matching aggregate 64.100.0.0/14 1239 109
64.100.160.0/20	1239 109	- Withdrawn - matching aggregate 64.100.0.0/14 1239 109
64.100.192.0/18	1239 109	- Withdrawn - matching aggregate 64.100.0.0/14 1239 109
64.101.192.0/19	1239 109	- Withdrawn - matching aggregate 64.100.0.0/14 1239 109
64.101.224.0/19	1239 109	- Withdrawn - matching aggregate 64.100.0.0/14 1239 109
64.102.0.0/16	1239 109	- Withdrawn - matching aggregate 64.100.0.0/14 1239 109
64.103.0.0/17	1239 109	- Withdrawn - matching aggregate 64.100.0.0/14 1239 109
64.104.0.0/16	1239 109	
64.104.0.0/18	2914 109	
64.104.192.0/18	1221 109	
128.107.0.0/16	1239 109	
144.254.0.0/16	1239 109	
161.44.0.0/16	1239 109	
171.68.0.0/14	1239 109	
192.31.7.0/24	1239 109	
192.118.76.0/22	4200 1299 1299 1299 3491 9116 109	
192.122.173.0/24	1239 109	
192.122.174.0/24	1239 109	
192.135.240.0/21	1239 109	
192.135.250.0/24	1239 109	
198.92.0.0/18	1239 109	
198.133.219.0/24	1239 109	
198.135.4.0/22	1239 109	
204.69.192.0/20	1239 109	+ Announce - aggregate of 204.69.192.0/21 (1239 109) and exposed 'hole'
204.69.198.0/23	1239 109	- Withdrawn - aggregated across exposed 'hole' 204.69.196.0/23
204.69.200.0/22	1239 109	+ Announce - aggregate of 204.69.200.0/23 (1239 109) and exposed 'hole'
204.69.200.0/24	1239 109	- Withdrawn - aggregated across exposed 'hole' 204.69.201.0/24

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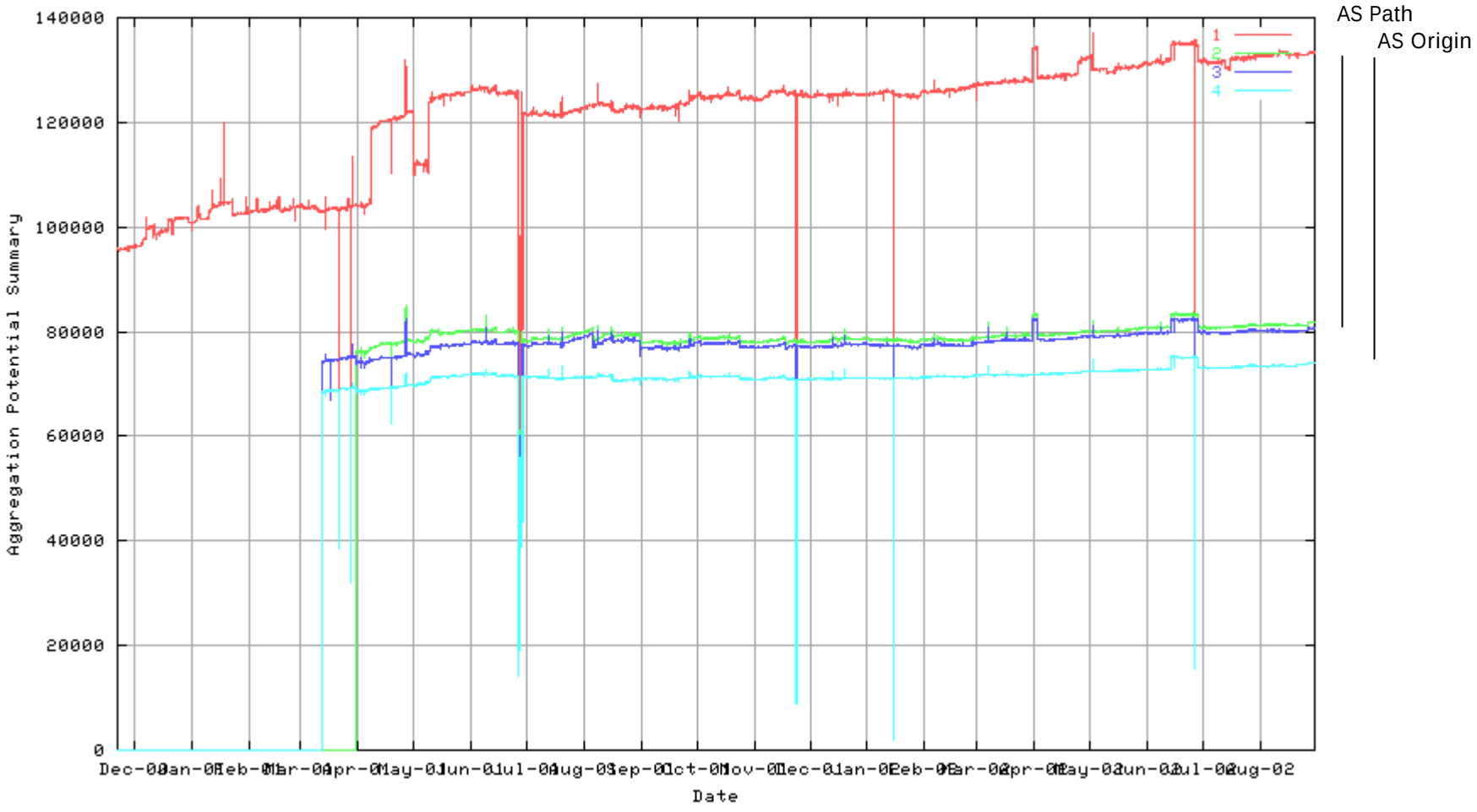
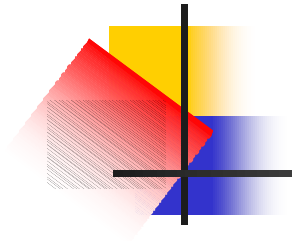
Aggregation Potential

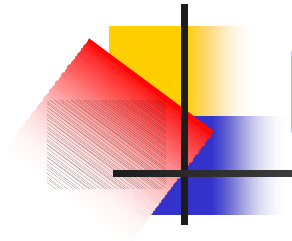




Mixed News

- BGP Table growth has been slowed down considerably though the more careful use of aggregate routes in recently advertised networks.

- Despite this, it is still the case that up to 50% of the current BGP table is the outcome of inadequate control of routing information



BGP Analysis Resources

- http://bgp.potaroo.net
- http://www.cidr-report.org
- CIDR Report
  - Sent to routing-wg list
- Routing Report
  - Sent to routing-wg list