

# 10 Years of Corporate Change in the NANOG & IP Backbone Community

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*Since the first NANOG meeting ten years ago, there have been significant changes to the names of companies running various IP backbones. The multitude of mergers, acquisitions, and Chapter-11's over the last decade have seen the names change, but not the issues. In this talk we will take a walk down memory lane and see how the NANOG community has handled the changing corporate world. Did the gut-wrenching changes at our employers help or hinder the community? Are the issues discussed ten years ago at that first NANOG meeting still relevant today?*

Martin J. Levy

*(An ISP founder and someone who has gone through the process of working at an ISP while being acquired by a Telco)*

*9'th Feb 2003*

*mahtin at mahtin dot com*



The North American Network Operators' Group

NANOG30  
CELEBRATING OUR 30th  
MEETING and 10th YEAR  
MIAMI, FLORIDA  
February 8-10, '04  
Radisson Miami Hotel

# Agenda

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- Since the first NANOG meeting ten years ago, there have been significant changes to the names of companies running various IP backbones.
  - The multitude of IPO's, mergers, acquisitions, and (alas) Chapter-11's over the last decade have seen the names change, but not the issues.
  - In this session we will take a walk down memory lane, with two industry veterans and see how the NANOG community has handled the changing corporate world.
  - Two questions...
    - Did the gut-wrenching corporate changes at our employers help or hinder the community?
    - Are the issues discussed ten years ago, at that first NANOG meeting, still relevant today?
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# Genesis of this session

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- Susan Harris asked the three of us...

*Hi everyone. The next NANOG meeting will be something of an extravaganza, as it's our 30th meeting and 10th year. ...*

*... would you all be willing to regale us with a selection of funny merger and acquisition stories? ...*

*... Of course we'd like to focus on providers and vendors that'd be relevant to operators, not necessarily on all the .com comings and goings.*

- ... it would be fun, but ...

- ... Most of the good "dirt" is still covered by NDA's (Non Disclosure Agreements)

- So, here is the politically correct version :-)
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# NANOG's first meeting (May '94)

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From: Pam Ciesla  
Date: Fri May 27 11:28:46 1994  
Subject: NANOG AGENDA

The following is the REVISED agenda for the June 2 & 3 NANOG Meeting being held in Ann Arbor, MI at the Chrysler Center. We are planning to broadcast this meeting over the MBONE.

## Thurs, June 2

09:00	Introductions, etc	Elise Gerich
09:15	Transition overview	Sue Hares
10:15	Overview of AADS, Pacific Bell Joint Proposal	Bellcore, Al Broscius
10:45	Technical Specifications for attaching to NAPs	Panel (PacBell, Ameritech, MFS, Sprint)
12:15 - 13:30	Lunch	
13:30	Service Offering by NAP awardees	NAP Panel
15:00	Break	
15:15	NAP Network Operations	NAP Panel
17:00	End of Day's Session	
18:00	Dinner at Washington Street Station	
21:00	Whirlyball	

## Friday, June 3

09:00	Routing at the ATM Testbed	Jessica Yu
10:00	Network Management for Route Servers	Bill Norton
10:30	Recent changes to PRDB	Steve Richardson
11:00	Routing Registries	Dale Johnson
11:30	Future NANOG Meetings	Elise Gerich
12:00	Adjourn	

# NANOG meeting topics

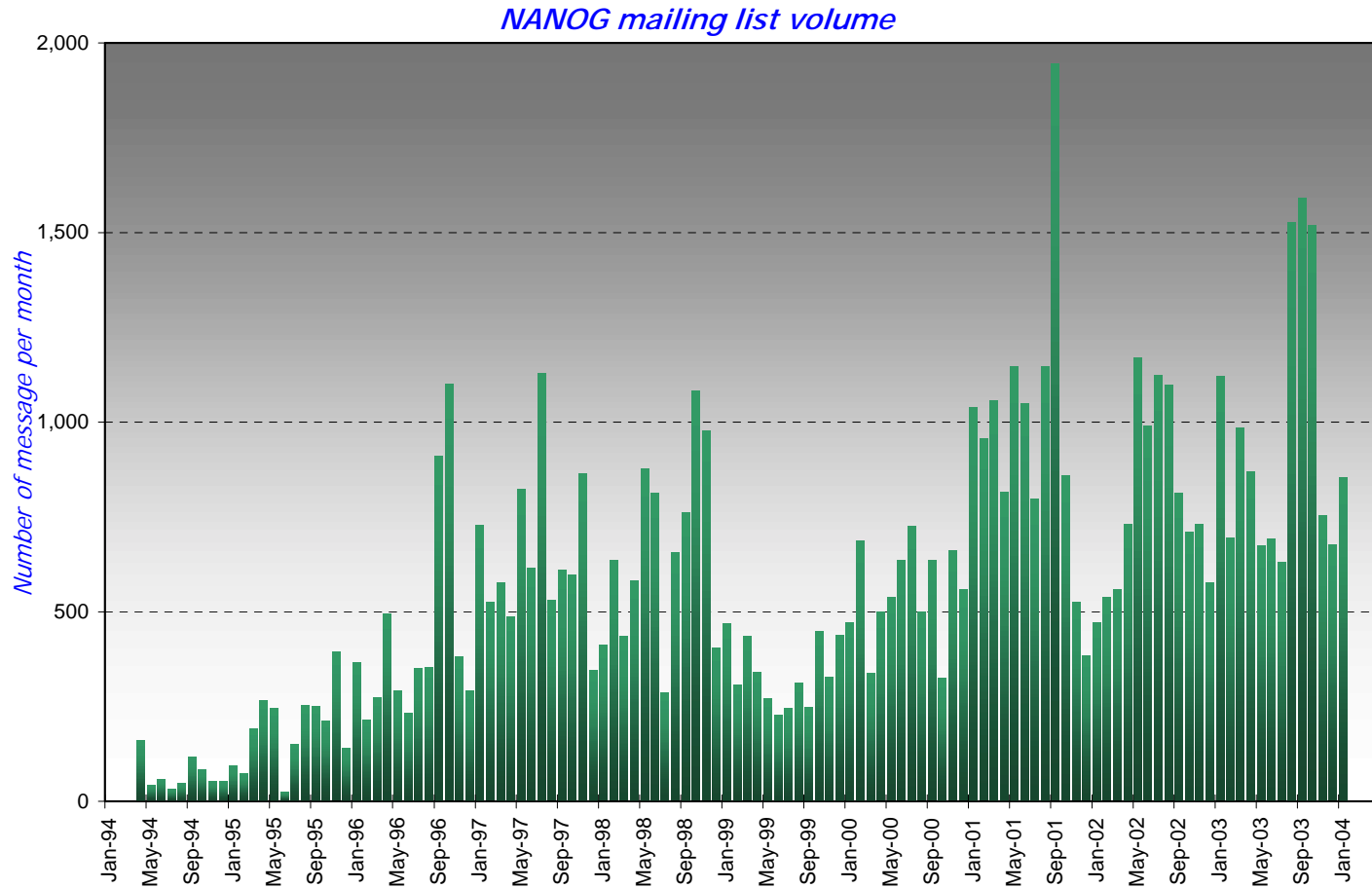
	NANOG 1	NANOG 2	NANOG 3	NANOG 4	NANOG 5	NANOG 6	NANOG 7	NANOG 8	NANOG 9	NANOG 10	NANOG 11	NANOG 12	NANOG 13	NANOG 14	NANOG 15	NANOG 16	NANOG 17	NANOG 18	NANOG 19	NANOG 20	NANOG 21	NANOG 22	NANOG 23	NANOG 24	NANOG 25	NANOG 26	NANOG 27	NANOG 28	NANOG 29	NANOG 30	
EXCHANGE POINTS & NAP's			YES	YES	YES	YES	YES	YES	YES	YES		YES		YES	YES	YES		YES		YES	YES			YES	YES		YES				
PEERING POLICY & FILTERING					YES	YES												YES		YES	YES										
TRANSIT							YES	YES				YES				YES			YES	YES				YES	YES	YES	YES				
RA & RADB					YES	YES	YES	YES	YES	YES		YES	YES				YES				YES			YES							
SECURITY & IPSEC & VPN's			YES			YES							YES			YES		YES	YES	YES	YES	YES	YES	YES		YES	YES		YES	YES	
DiffServ & QoS & CAR/RED									YES		YES		YES	YES	YES					YES	YES			YES			YES				
BGP & OSPF & ISIS					YES			YES	YES	YES	YES	YES	YES		YES	YES		YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	
MPLS															YES	YES		YES			YES	YES	YES	YES		YES		YES		YES	
TCP					YES				YES											YES									YES		
SYN FLOODS & DDOS & WORMS								YES							YES		YES	YES			YES	YES	YES	YES		YES	YES			YES	
ROUTE FLAPS				YES				YES	YES																						
ATM			YES	YES																											
TRANSPORT							YES		YES	YES					YES	YES	YES	YES			YES	YES			YES		YES	YES	YES	YES	
HARDWARE											YES	YES		YES	YES		YES				YES		YES	YES	YES	YES		YES	YES		
NIC's																															
REGISTRIES	YES	YES			YES		YES				YES	YES	YES	YES	YES	YES		YES			YES	YES		YES	YES	YES	YES	YES	YES	YES	YES
DNS & TLD's				YES							YES				YES	YES	YES	YES				YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
SOFTWARE	YES	YES			YES	YES	YES	YES	YES				YES	YES	YES		YES	YES	YES			YES		YES			YES			YES	
IPv6 & VBNS & INTERNET2				YES	YES			YES	YES				YES	YES	YES					YES		YES	YES				YES		YES	YES	
MULTICAST					YES	YES			YES	YES			YES		YES	YES	YES			YES	YES	YES		YES	YES						
NETWORK ANALYSIS					YES	YES	YES	YES	YES	YES			YES		YES	YES	YES			YES	YES	YES	YES			YES	YES	YES	YES	YES	YES
OPERATIONAL ISSUES						YES		YES					YES				YES					YES	YES	YES		YES		YES	YES	YES	YES
ECONOMICS					YES	YES	YES																								
LAST MILE																	YES	YES		YES						YES	YES				
SPAM										YES						YES	YES		YES												YES
VoIP																										YES	YES				YES
GOVERNMENT															YES						YES					YES	YES		YES		

YES YES

YES YES YES

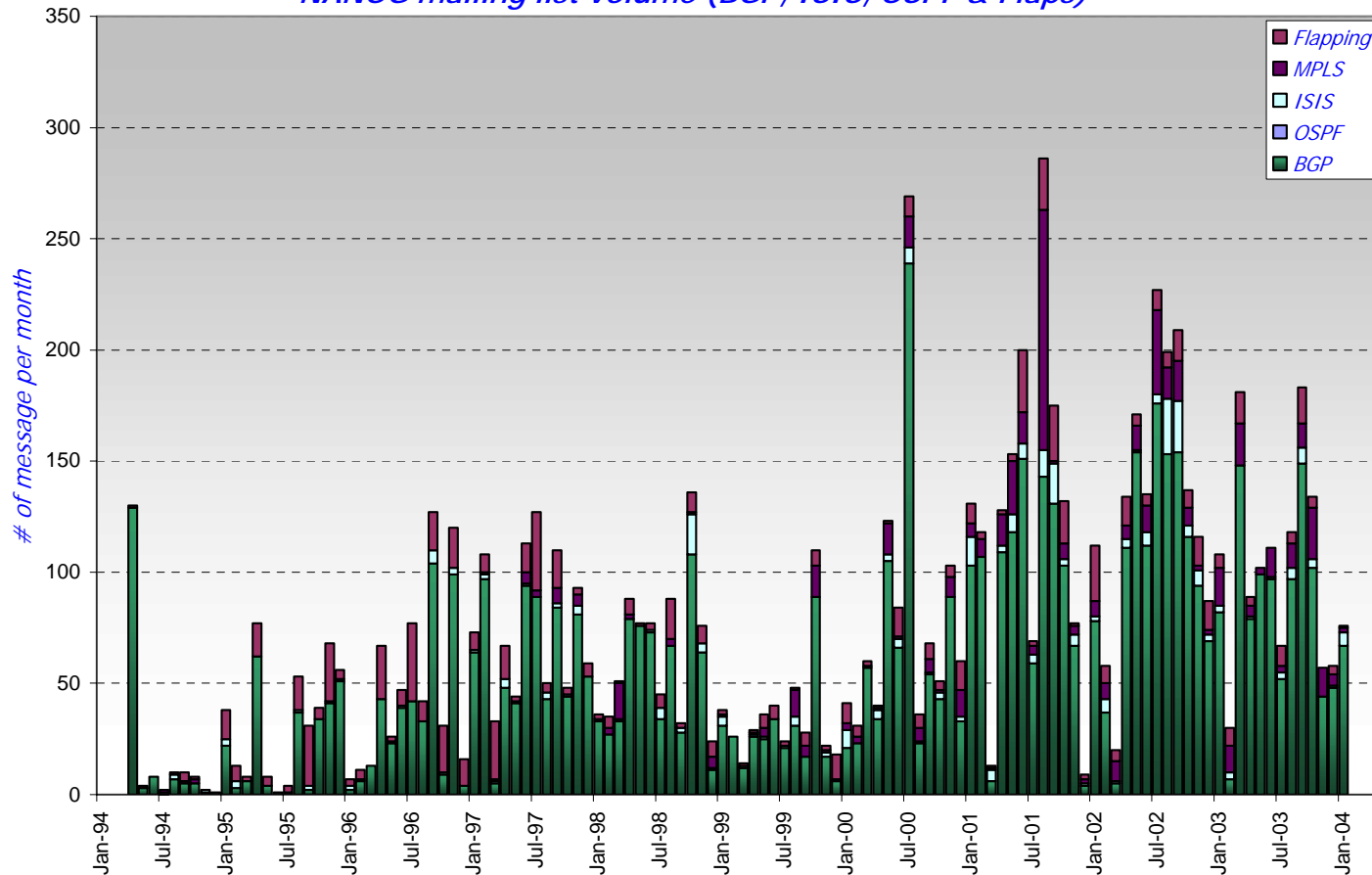


# Is NANOG what it discusses?

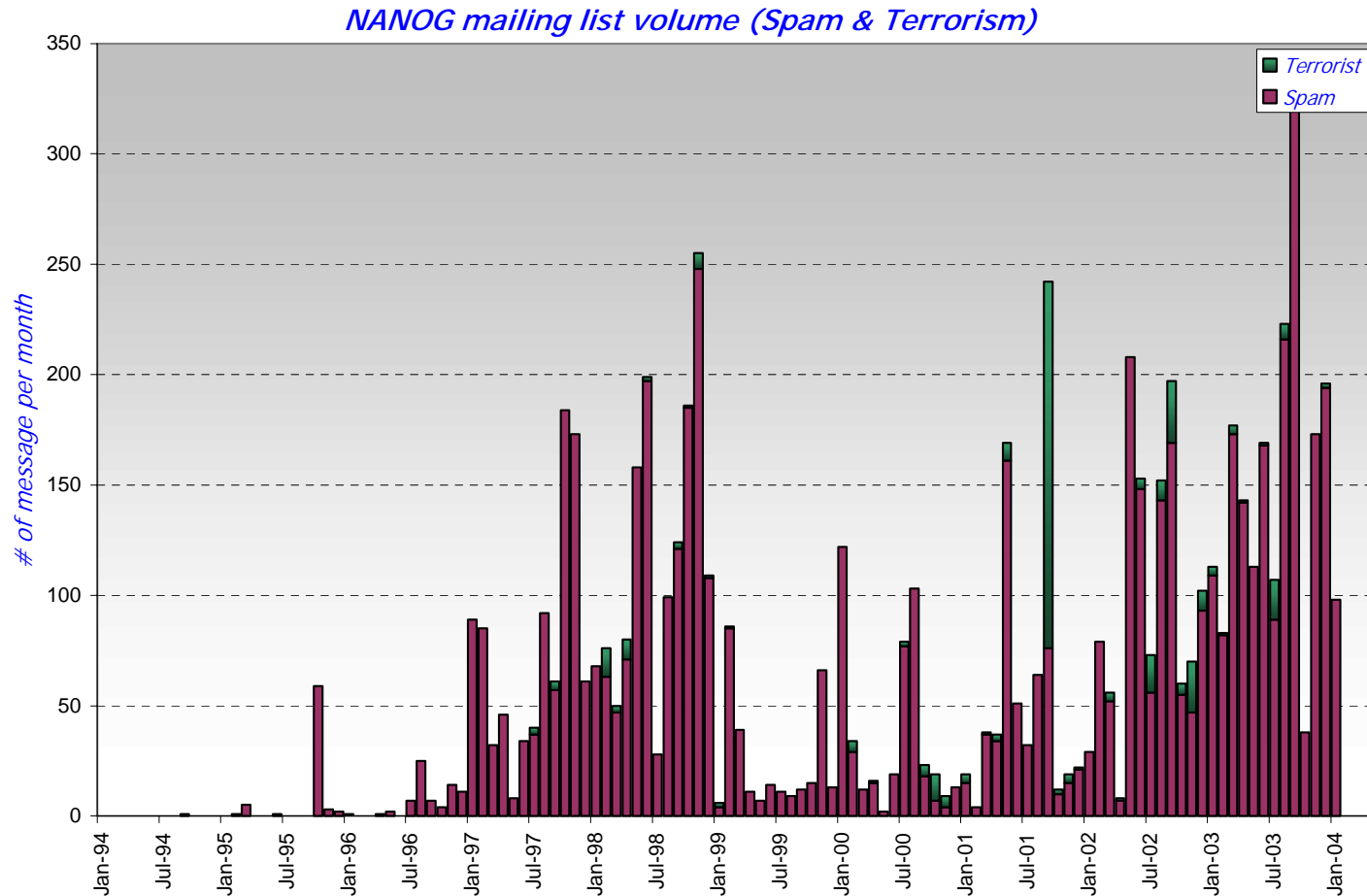


# NANOG discusses BGP, OSPF, MPLS, etc.

*NANOG mailing list volume (BGP, ISIS, OSPF & Flaps)*



# NANOG discusses Spam & Terrorist.





# Does subject matter relate to corporate changes?

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## Yes

- Interest in how much a competitor is worth
- Acquired entities and will its AS# be merged with another AS#?
- Will peering policy change (de-peering?)

## No

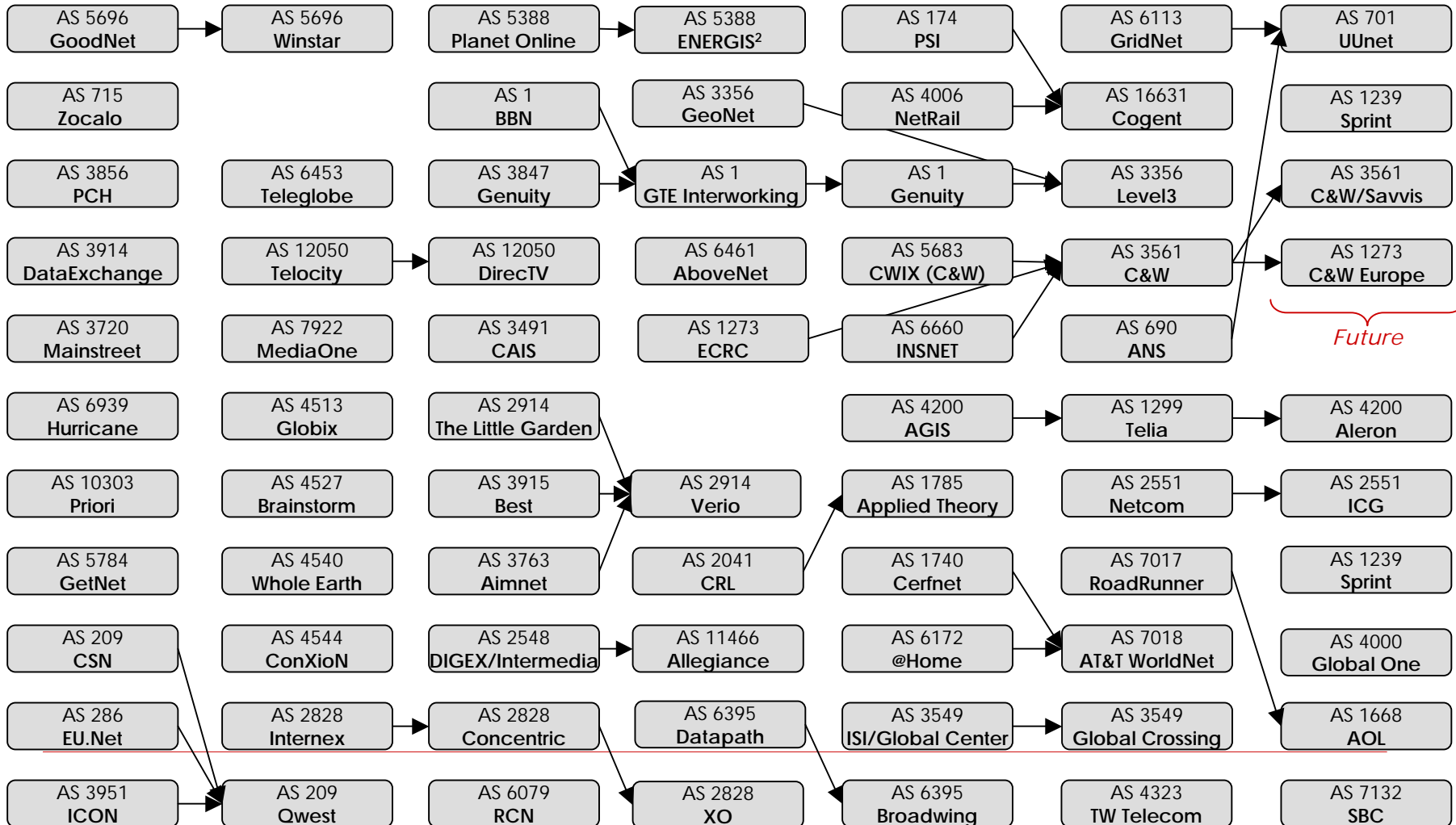
- There is a clear evidence that we continue to discuss (at great length) the same technical subjects
  - People move between companies and sometimes take their “opinions” with them
  - NANOG still has a very high involvement from research community
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# Two different types of companies within the NANOG world

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- ISP's and early IP backbones
    - Independent, variable funding, organic growth, unregulated
    - 1997 saw ISP's get funding (IPO's)
      - Digex, Concentric, etc.
  - Telco's
    - Controlled by regulations
    - Common mindset was... Didn't "get" the Internet
    - IPO process provided large war-chest to help acquire ISP's
  - Both needed each other
    - Local loop and long haul were both the dominant domain of the telco's, but fundamental to an ISP's business
    - Early on, plenty of customers were migrating to local ISP's, or AOL, Earthlink, etc.
    - ISP's wanted an "exit" (pre mid-2000 mindset)
    - ISP's were available very cheaply (post 2000 mindset)
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# Who were/are the players?



# What did consolidation look like?

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From: "Cantor, Brian E." <BCantor@wcom.net>  
Subject: CompuServe Peering Notice  
Date: Fri, 30 Mar 2001 15:06:15 -0500

VIA E-MAIL

Dear CompuServe Peer,

As we previously have communicated to you, WorldCom is in the process of optimizing its networks, and as part of this process, we plan to integrate the legacy CompuServe networks (AS4183 and AS5621) into other networks operated by WorldCom. As a result, WorldCom plans to terminate the legacy CompuServe's network connections to the public exchanges.

This integration project is still in the planning stages, and we have not yet determined a precise date for shutting down the CompuServe connections to particular public exchanges. However, we wanted to inform you of our plans as far in advance as possible in order for you to begin taking any steps that may be necessary once the CompuServe networks are no longer available for peering.

For planning purposes, you should assume that your peering connection with CompuServe will terminate as of June 30, 2001. It is very possible that WorldCom will not complete its integration of the CompuServe network by June 30, in which case we may continue our peering relationship, by mutual consent, until the integration is completed. No peering connections can be guaranteed however, beyond June 30. Of course, if you wish to terminate your peering connection with CompuServe at an earlier date, we would be happy to discuss that with you.

If you have any questions or concerns, please send them to [compuserve-peering@wcom.net](mailto:compuserve-peering@wcom.net).

Sincerely,

Brian E. Cantor  
Internet Network Engineer

# Introductions...

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## □ John Curran

### ■ CTO XO Communications

- Previously with BBN, GTE Internetworking, Genuity, Nextlink

## □ Doug Humphrey

### ■ Founder DIGEX

### ■ Founder Skycache (Cidera)

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