Internet Society State of the Internet

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The Internet: what is it?

- ❑ General definition:
A vast global open information metanetwork (a network of networks)

- ❑ Narrow definition (IP Internet):
a set of at least 16,000 of the 50,000 registered internetworks which are capable of routing Internet Protocol packets among themselves

- ❑ Broad definition:
the IP Internet plus all connected networks capable of routing traffic to a destination device or process

The means by which all the world's computers are able to communicate with eachother

The number of networks passing traffic via the major backbones

Includes application level gateways (e.g., e-mail), store and forward networks, and networks using non-IP protocols

Perspectives

- ☞ Overview
- ☞ Registered Internetworks
- ☞ Connected Internetworks
- ☞ Hosts
- ☞ Traffic
- ☞ Services
- ☞ Gateways

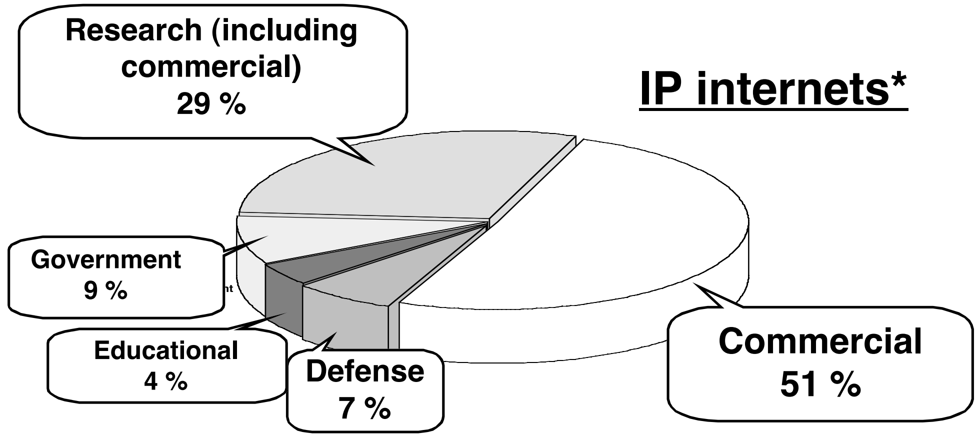
Internets and the Internet - Overview

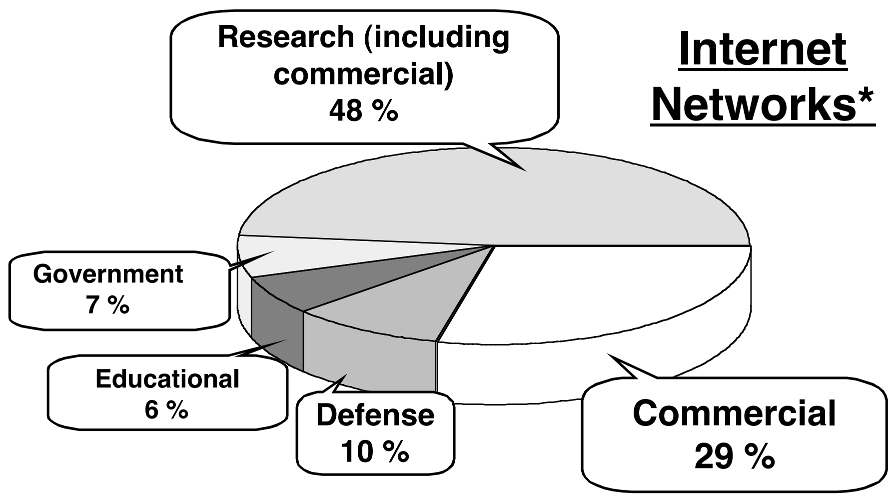
IP internets

- 46,782 registered (26 Jul 93)
- 91 countries (30 Mar 93)
- growing at 12 % / month

Internet

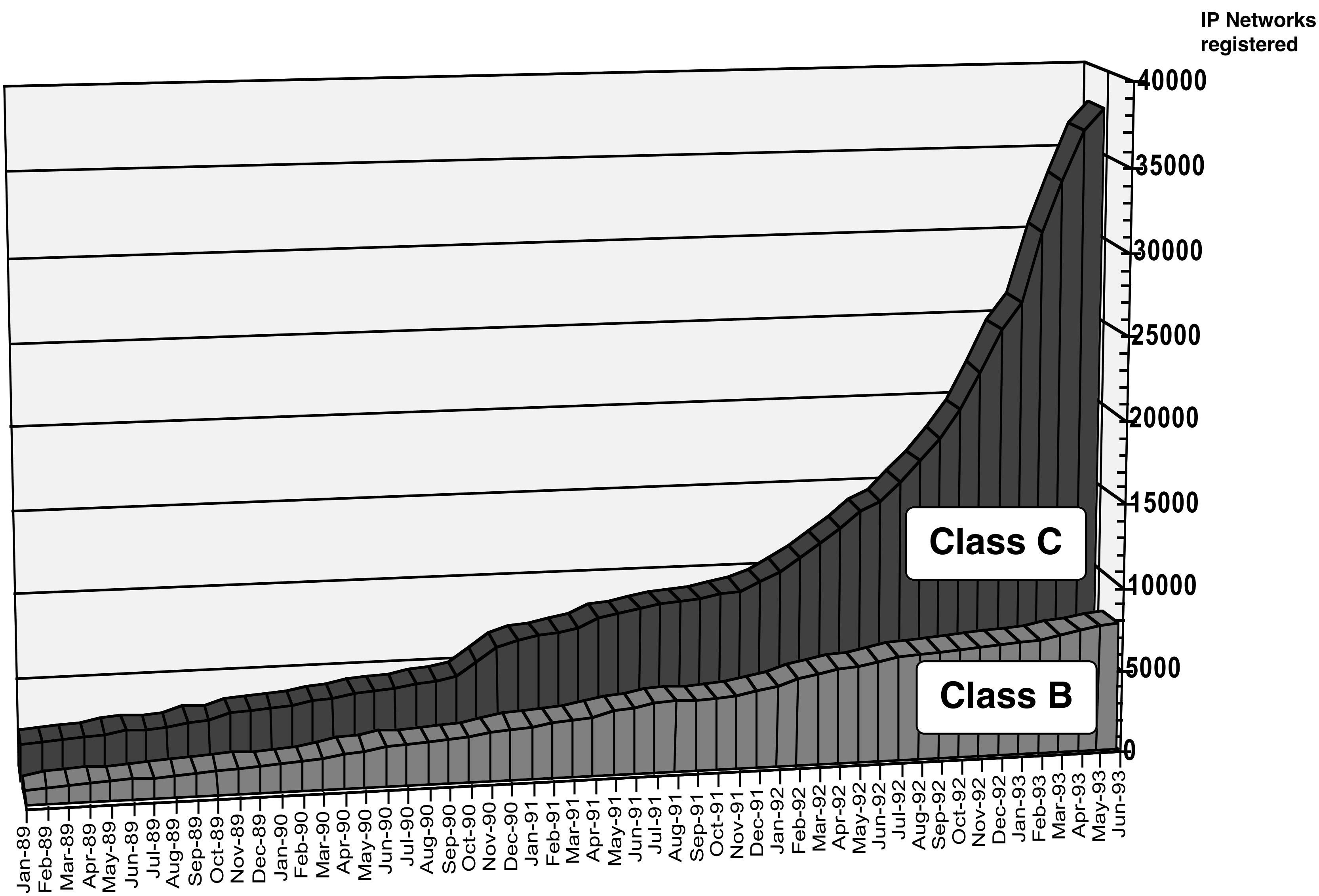
- 15,249 (NSFNet 31 Aug 93) plus 1,040 (CERNex Mar 93) connected IP internets
- 60 IP countries (1 Aug 93)
- '93 ave growth 7.42% / mo (8.98% /mo non-USA)
- 1.776 million computer hosts; 26,000 domains (July 93)
- E-mail and other gateways to 137 countries (Aug 93)





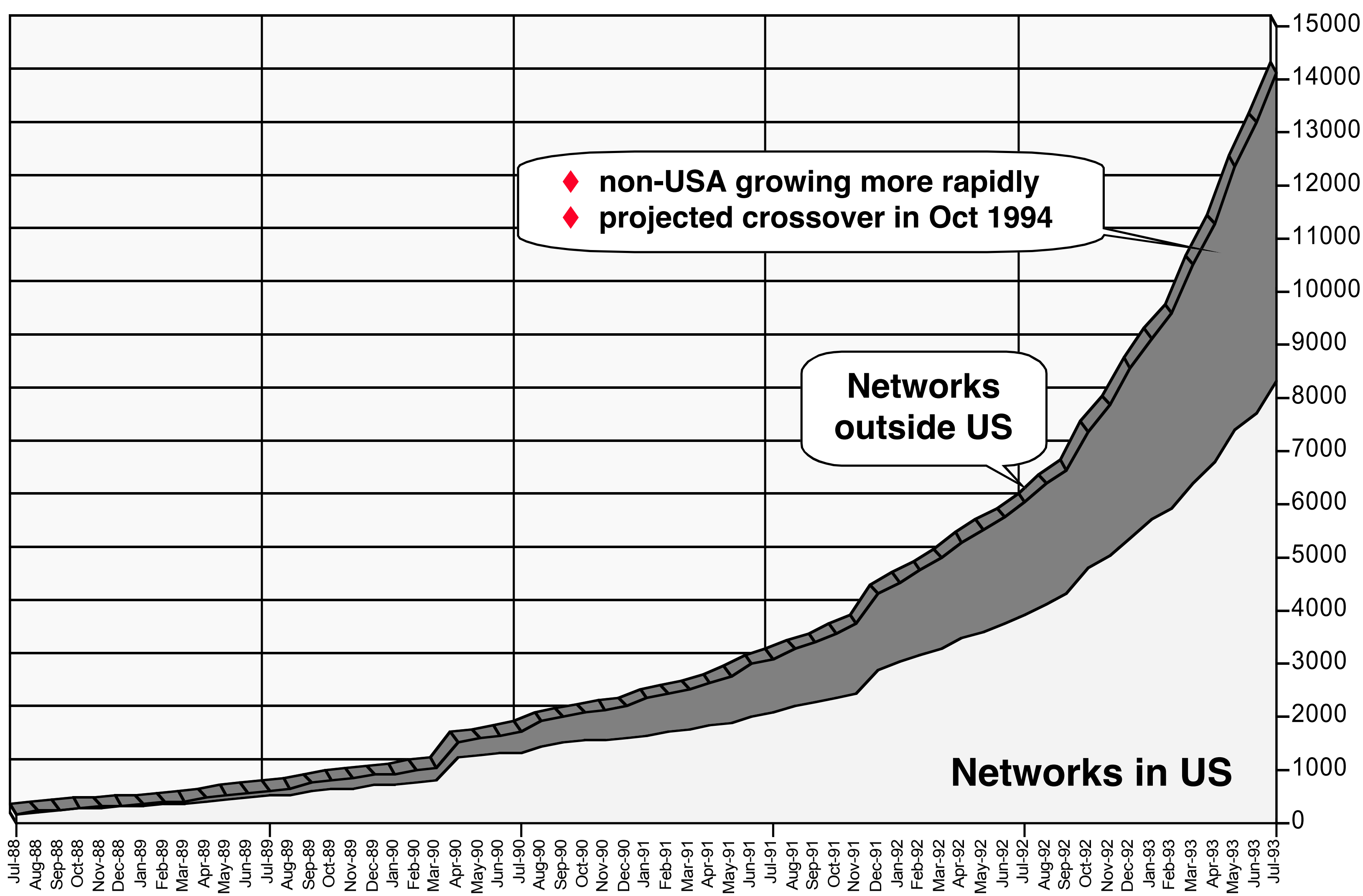
Sources: rs.internic, nis.nsf, sri.com (Lottor), Yu, Landweber .
* Rutkowski parse of Mar'93 InterNIC and NSF data

Historical Profile of Registered IP Networks



Source: <rs.internic.net> 1 Jul 1993

Historical Profile of Connected IP Networks



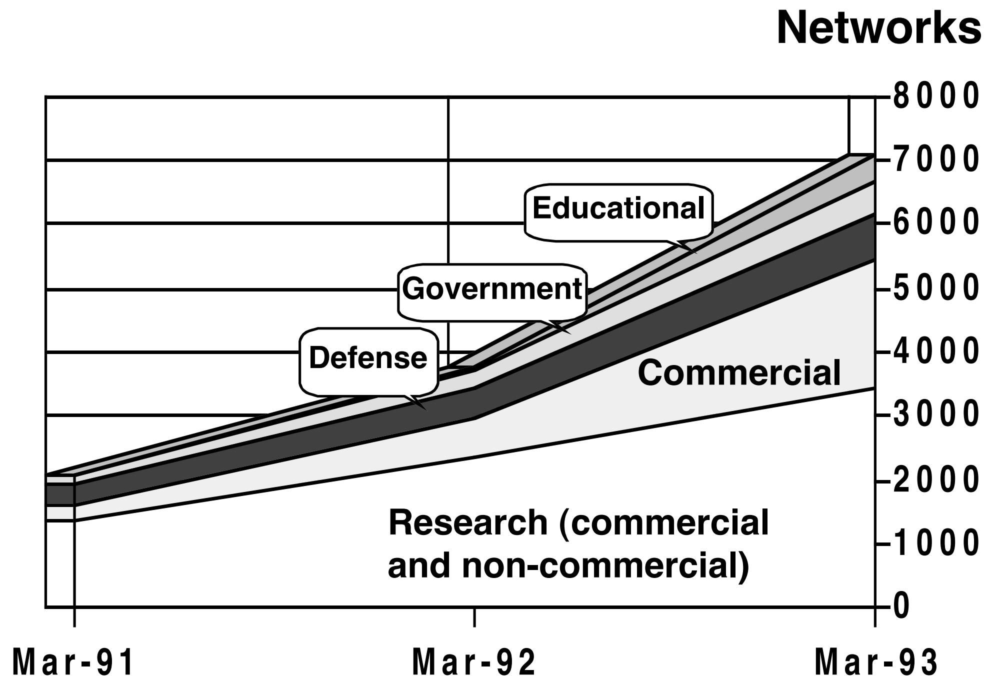
Sources: <nis.nsf.net> 8 Aug 93

Evolution of Internet Users

Evolution of types of networks transiting traffic via NSFNet backbone shown by their registered category

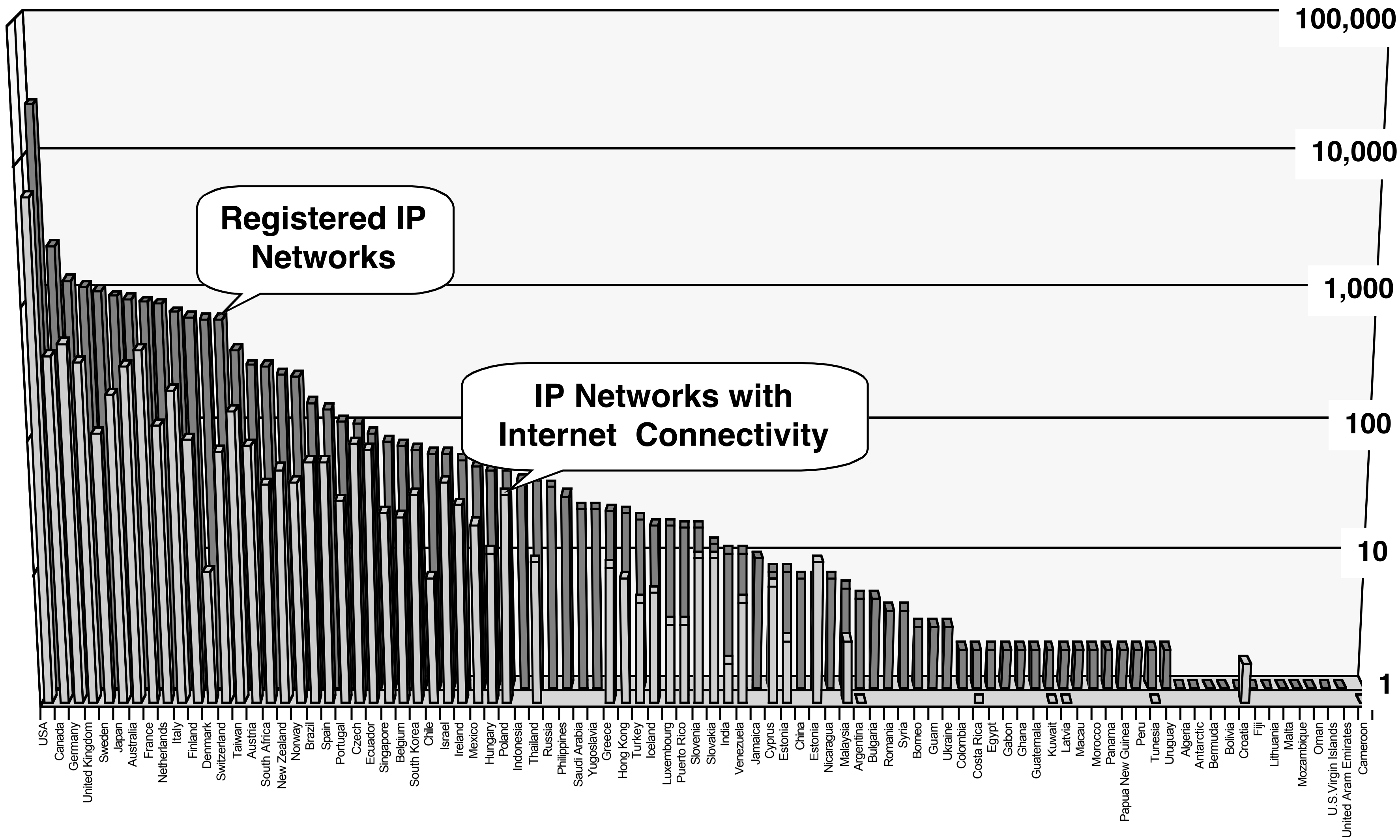
Networks

	Mar-91	Mar-92	Mar-93
Research	1359	2335	3423
Commercial	269	653	2038
Defense	304	439	696
Government	150	283	498
Educational	2	40	460



Sources: NIS.NSF.NET official statistics database correlated with RS.InterNIC.NET registration database

Global Distribution of Internet Protocol Networks



Sources: <rs.internic.net>, <nis.nsf.net> 1 Apr 93

Reachable Hosts

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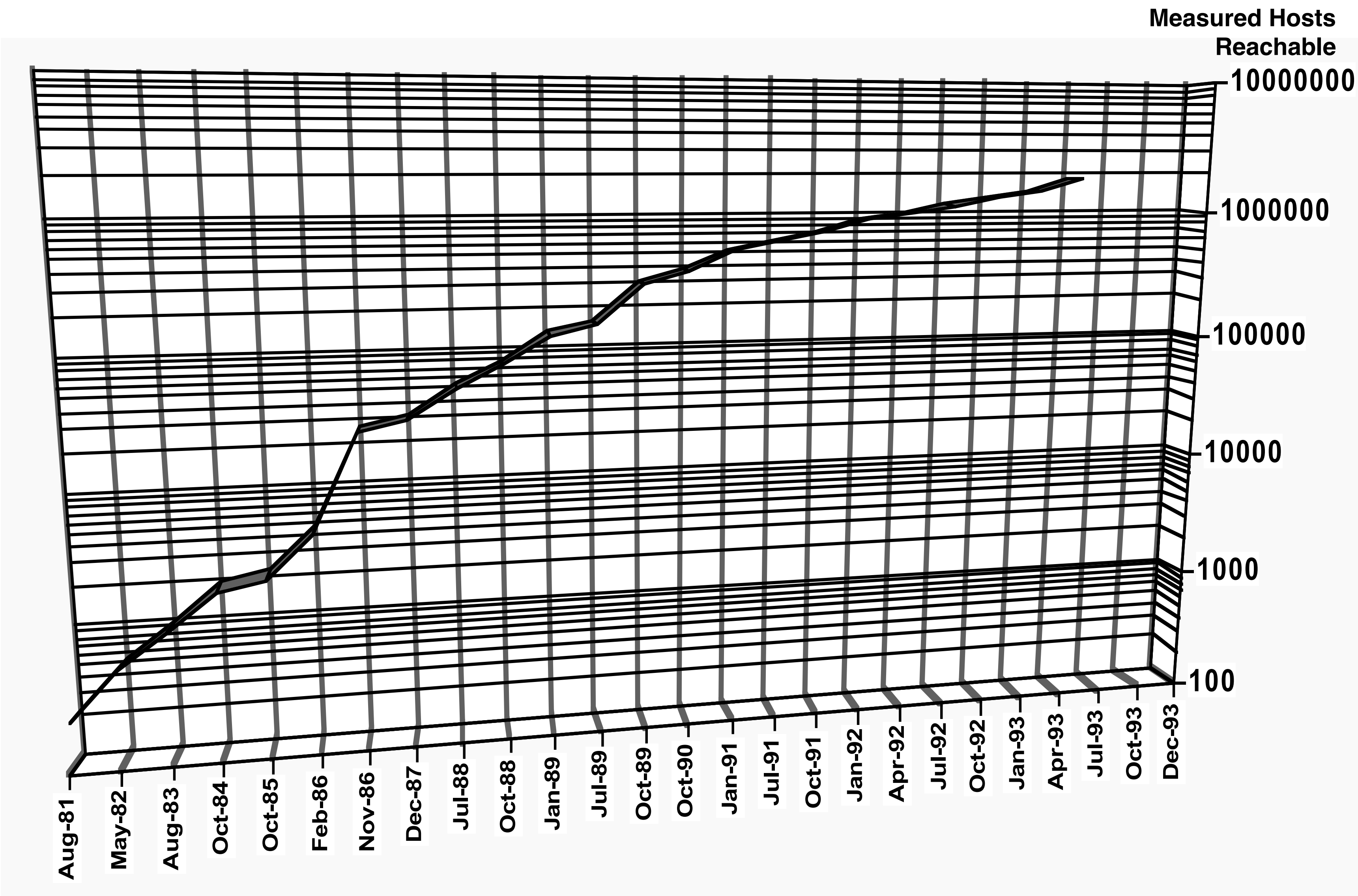
Internet Hosts Reachable 1981-1993



Source: <ftp.nisc.sri.com> /pub/zone (work by Mark K. Lottor)

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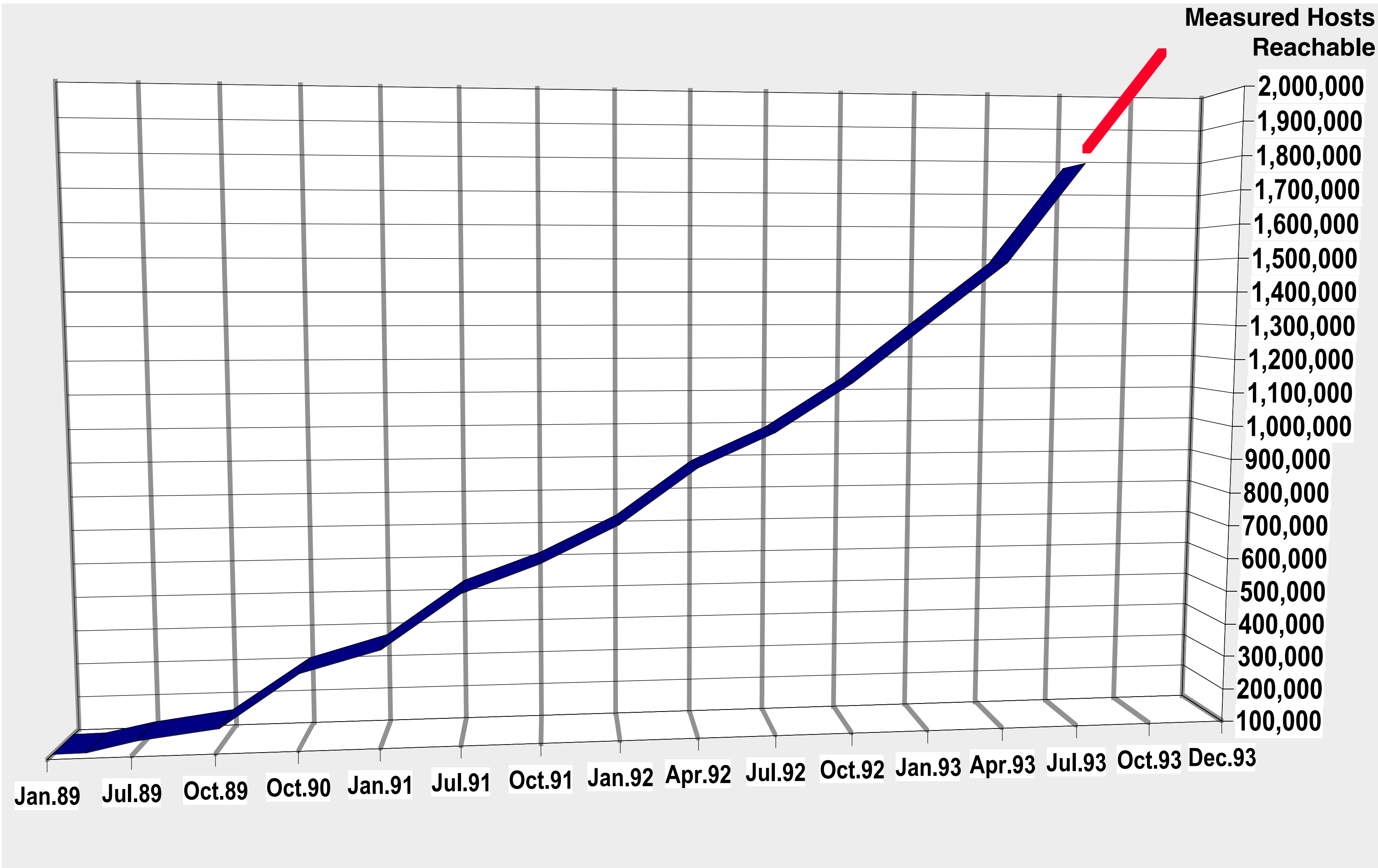
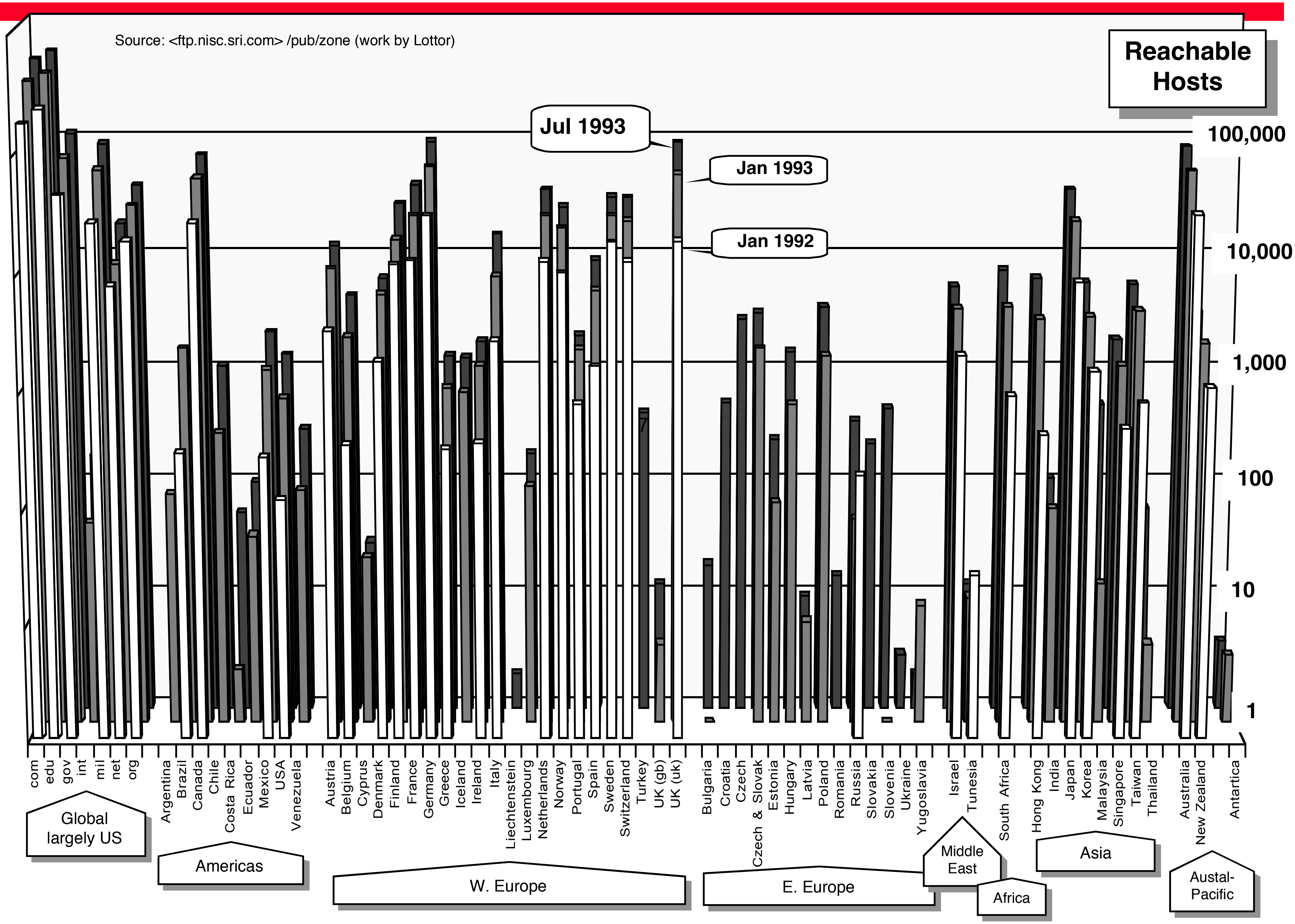
Internet Hosts Reachable 1989-1993

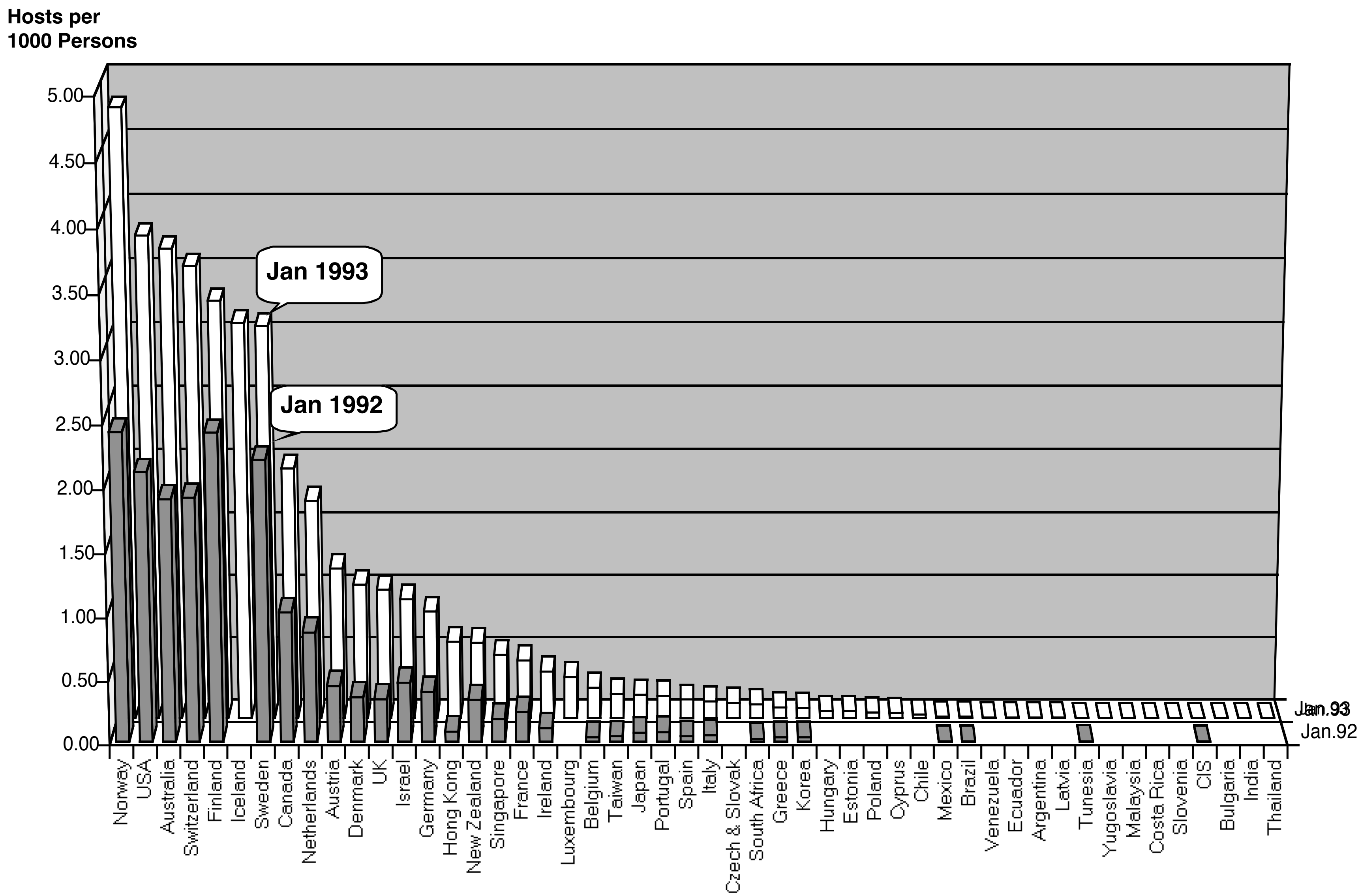


Source: <ftp.nisc.sri.com> /pub/zone (work by Mark K. Lottor)

Global Growth of Internet Hosts in 1992-93



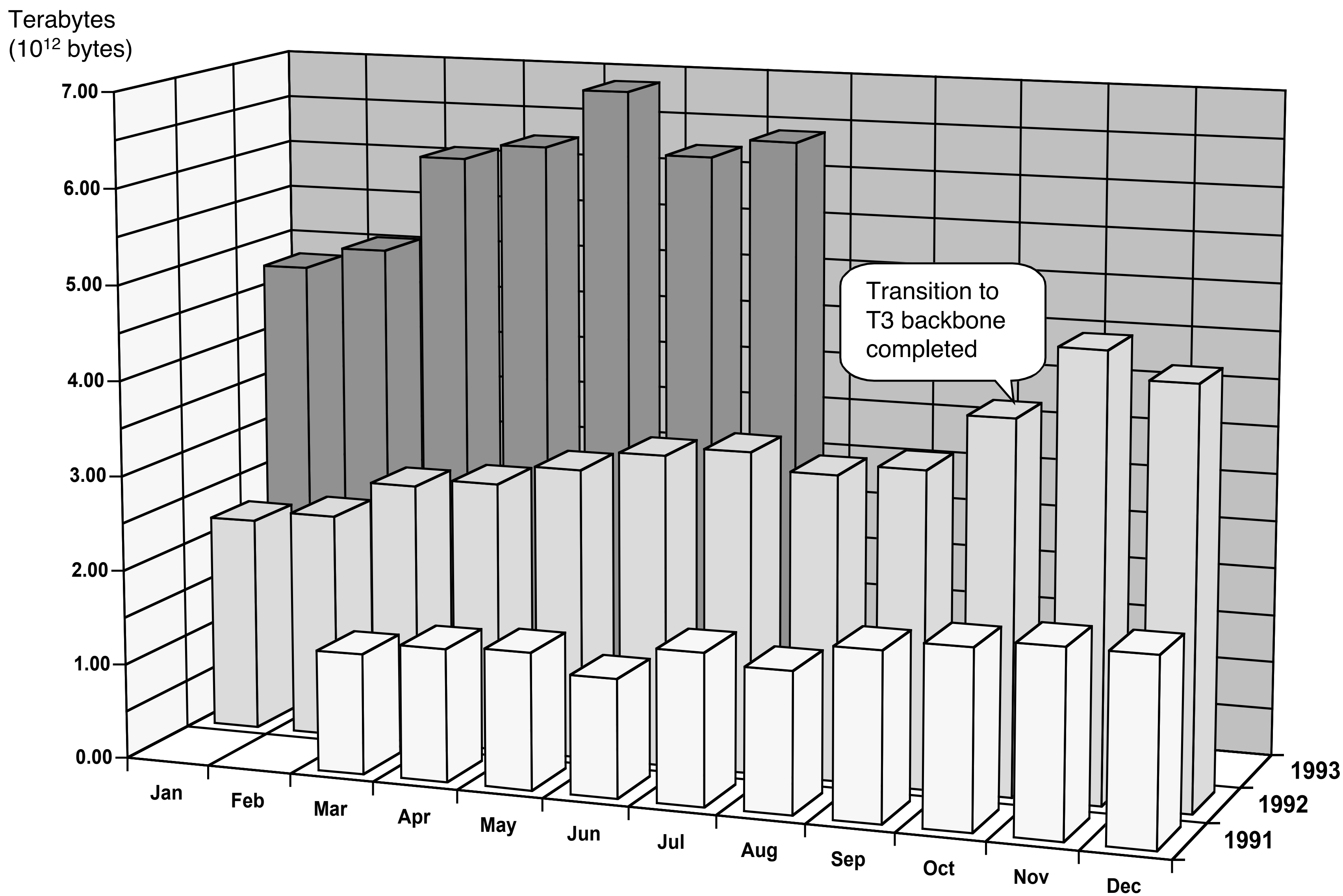
1992 Internet National Host per Capita Growth



sources: SRI Jan 1993 Hosts; World Almanac 1990 population statistics

Internet Traffic

NSF Backbone Network History of Traffic



Source: <nis.nsf.net> /statistics/nsfnet

Note: Combined T1 & T3 Traffic prior to Oct 1992

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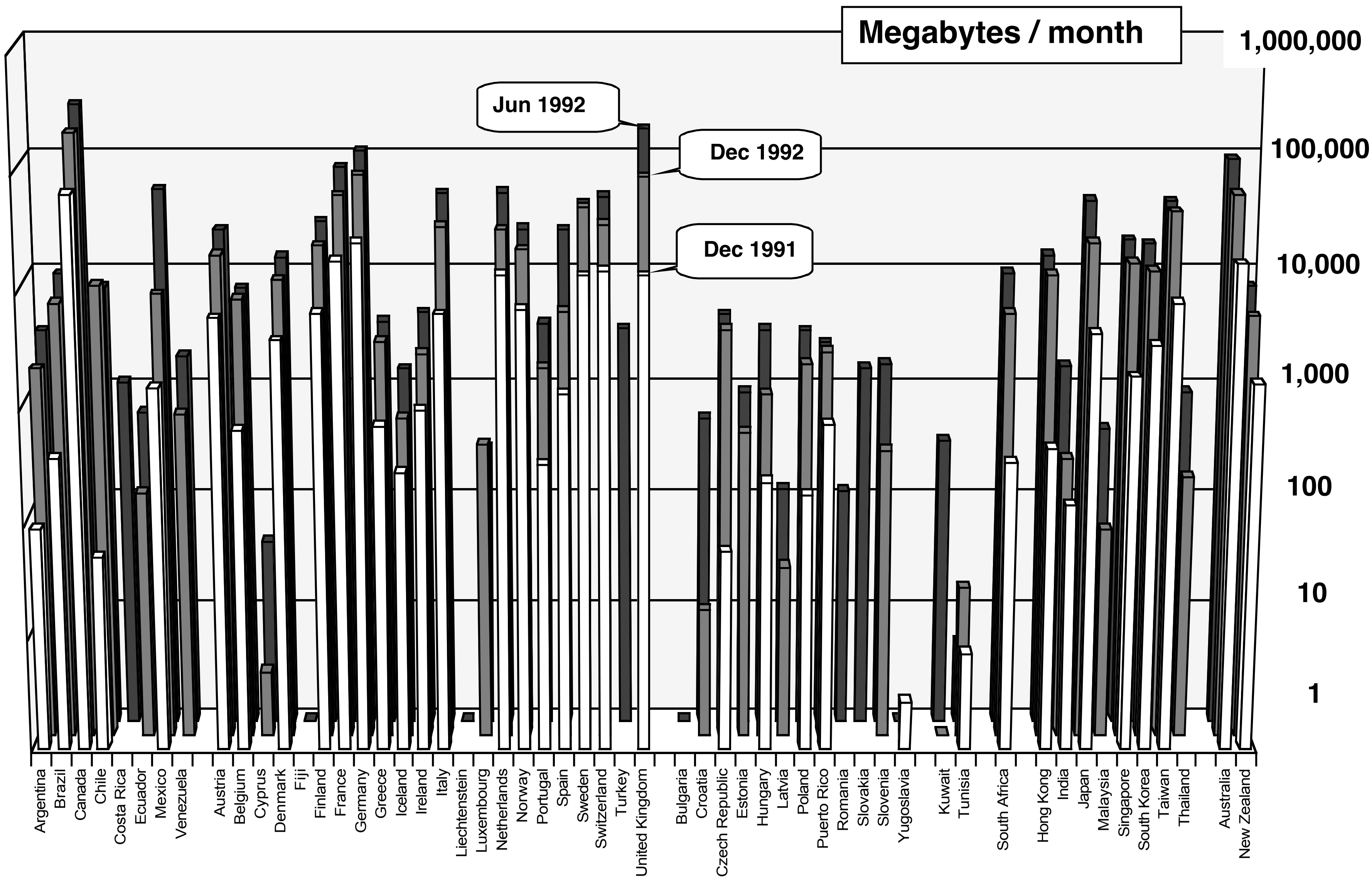
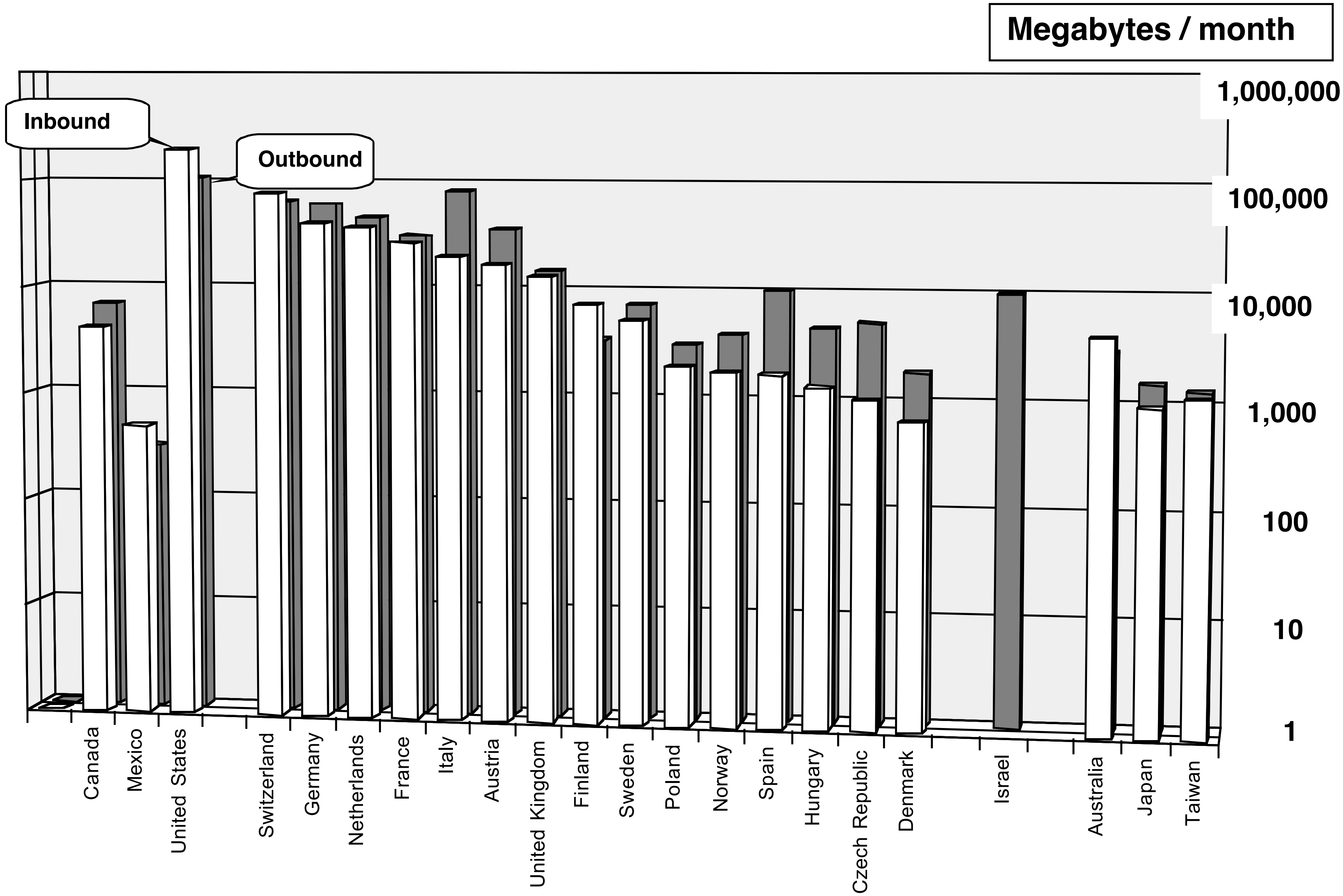
Growth of Outbound US-NSF Internet Traffic 1992-1993



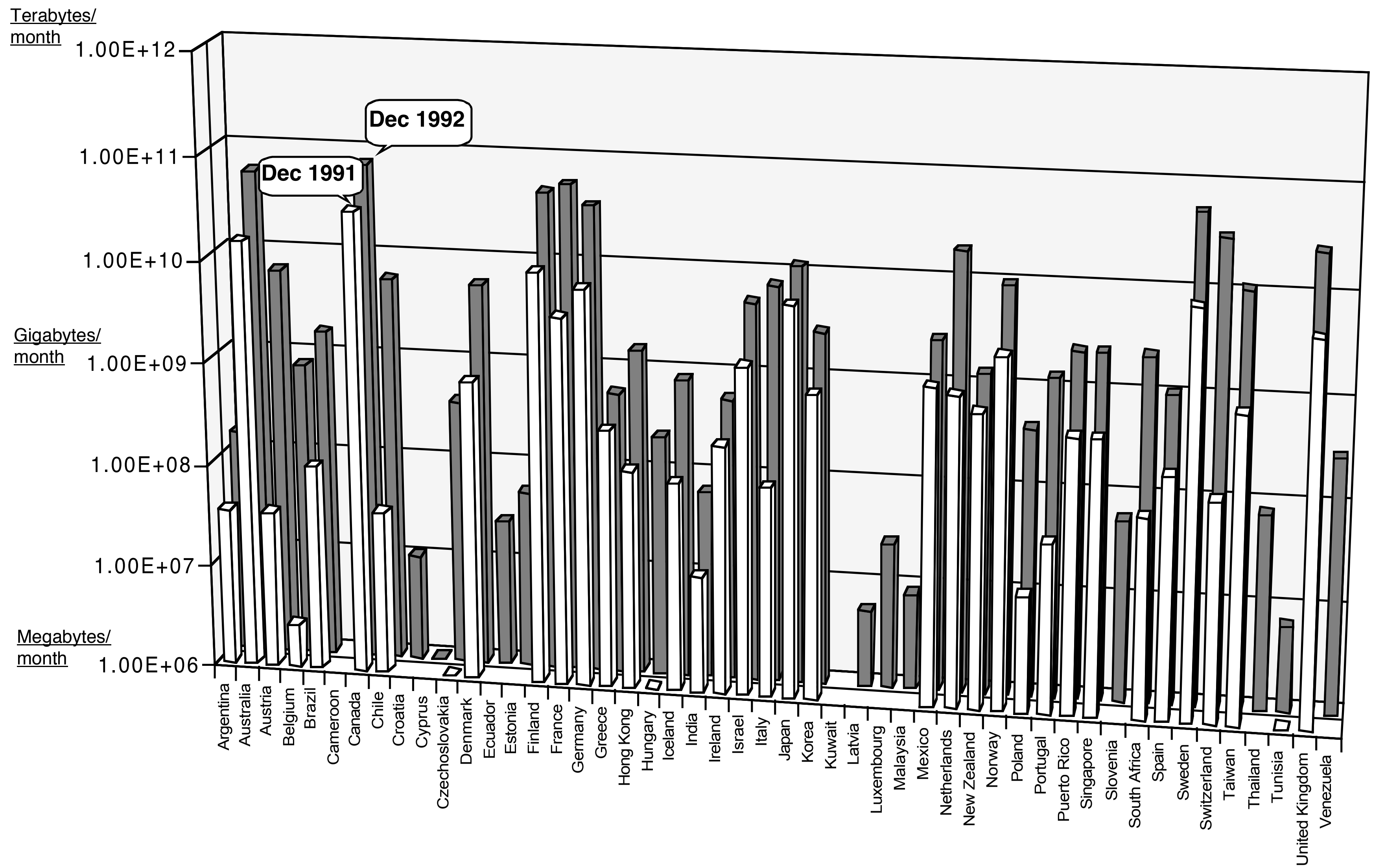
Source: <nis.nsf.net> /statistics/nsfnet Jul 1993

CERN Exchange Internet Traffic March 1993



Source: <nis.nsf.net> /statistics/nsfnet Jul 1993

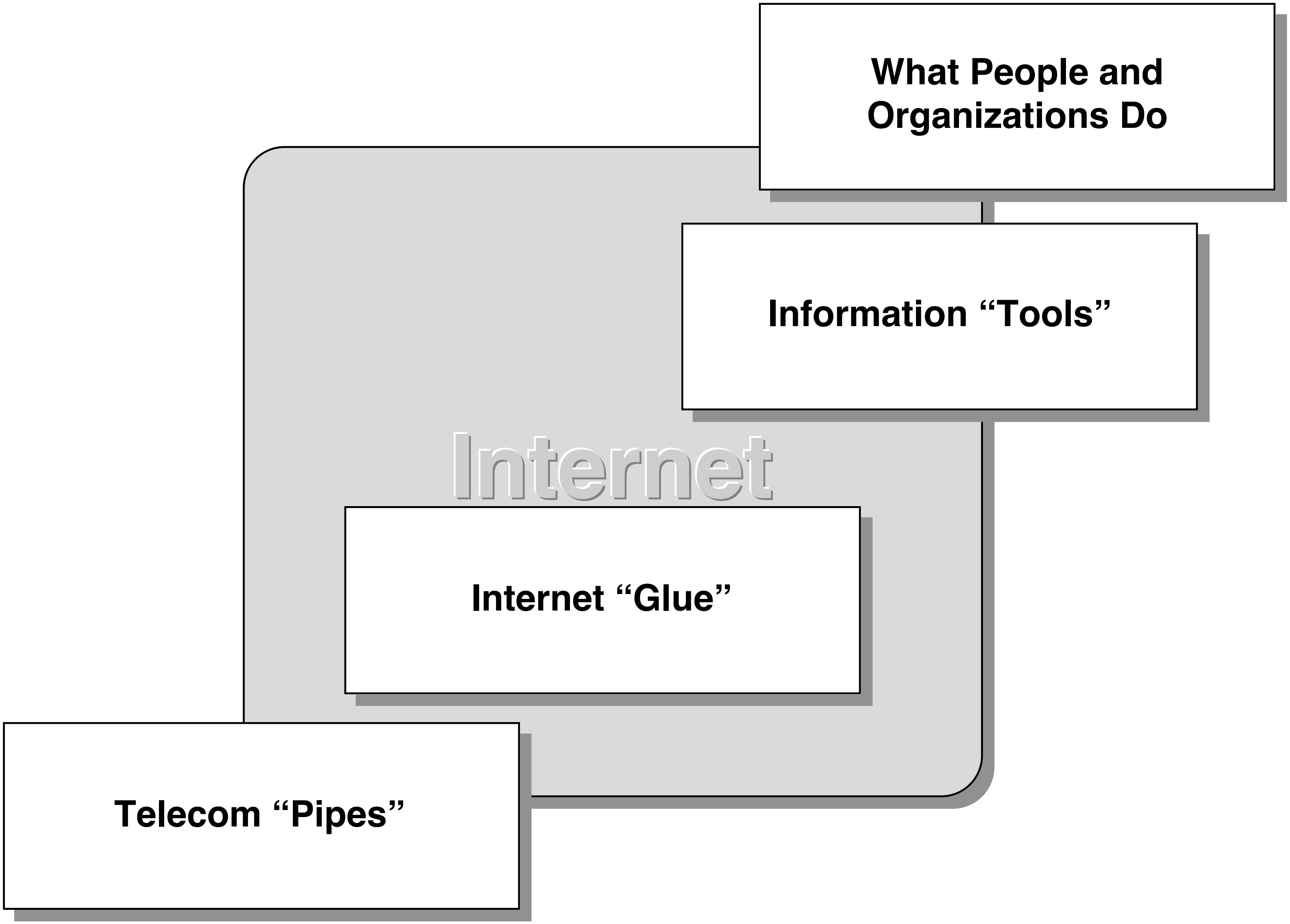
1992 Growth of Inbound US-NSF Internet Traffic



Source: <nis.nsf.net> /statistics/nsfnet Jan 1993

Internet Services

How does it fit together: an information food chain



Growth of Internet Services: Navigating Global Information Space

Allows Personal news feeds

Allows Personal browsing

Allows Finding People

Allows Finding Information

Allows Automated Gathering

The Basics
- Remote computer use
- Transferring files
- email

Mailing Lists and Bulletin Board Services
- Automated mailing lists
- News distribution

Interactive Information Delivery Services
- Gopher
- World Wide Web

Directory Services
- WHOIS Netfind
  X.500

Indexing Services
- archie Veronica
- WAIS
  online library catalogues

Active Agents
- Knowbots

Emerging Internet Services: enabling mercantilism

Allows exchange of commercial business records

Allows property transactions

Allows entertainment and broadcasting

Allows office and home integration

Allows portability

Commercial Electronic Data

- Bellcore Mercantilism Project
- Educational EDI initiative
- MCC EINet initiative

Applying Encryption Technology

- Signature verification
- "Digicash"
- Copyright protection
- Privacy enhancement

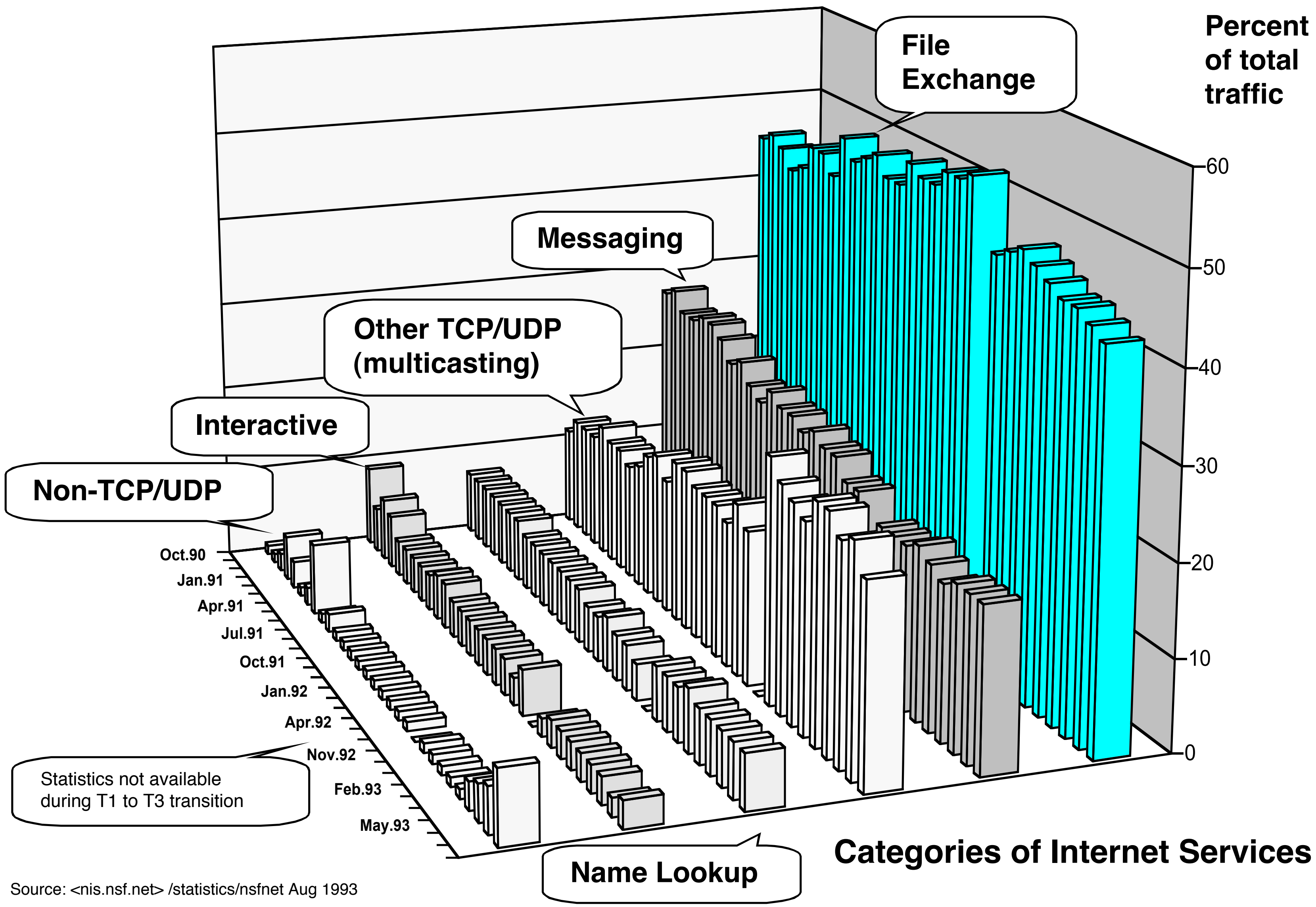
Multimedia

- MIME
- National Public Internet multicasts
- DARTNet Project

Office and Entertainment Connectivity

Mobile

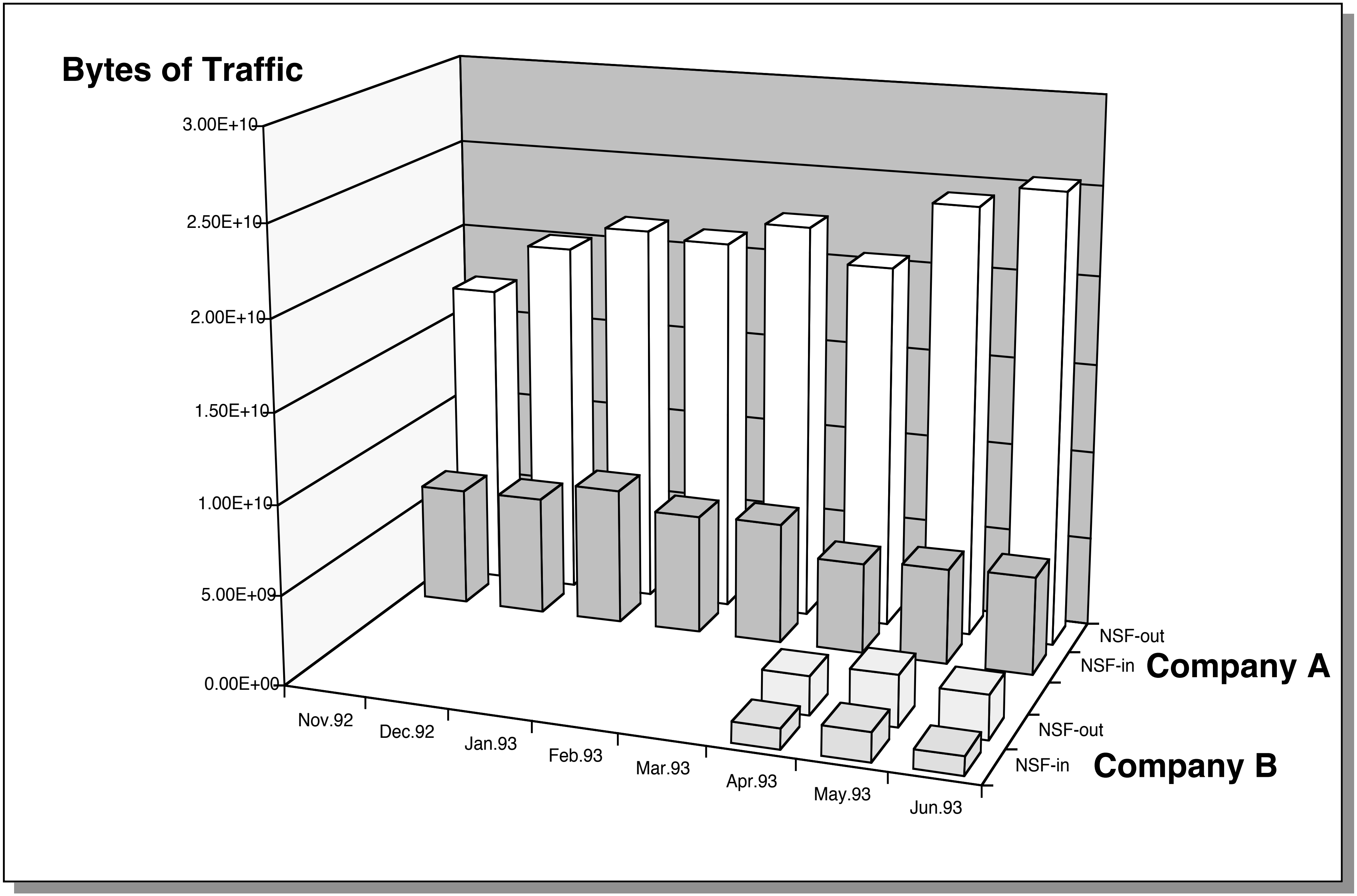
NSF Internet Backbone Network History of Services



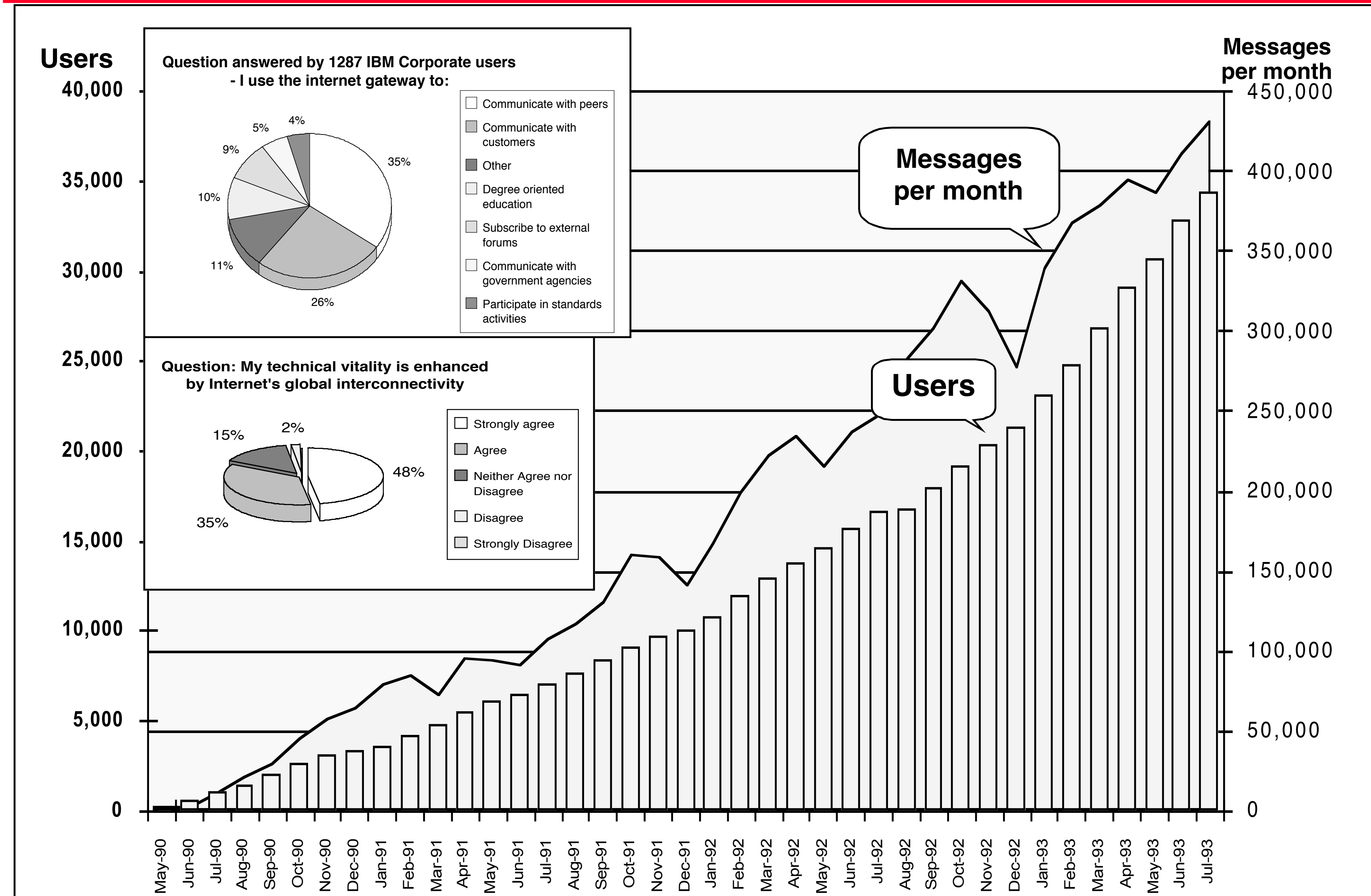
Source: <nis.nsf.net> /statistics/nsfnet Aug 1993

Internet Gateways

Commercial E-Mail Gateways



IBM Corporate-Internet Gateway Historical Profile



Source: Advantis, Tampa FL