

Global Growth of the INTERNET

Virtuosity Comes to American Foreign Policy

***The Global Information
Infrastructure: Implications
for American Foreign Policy***

**Loy Henderson Auditorium
U.S. Department of State
Washington DC USA**

Anthony M. Rutkowski
Executive Director
Internet Society*
Reston VA USA

*** Statements are not presented as those of
the Society -an international educational
organization**

What is the Internet? and Not

The Internet

7 Million
Computers
Seamlessly
Integrated via
60,000 Largely
Private Networks

On-Line Providers

Dialup Access
to Providers'
Computer
Systems

Gateway
s

Gateway
s

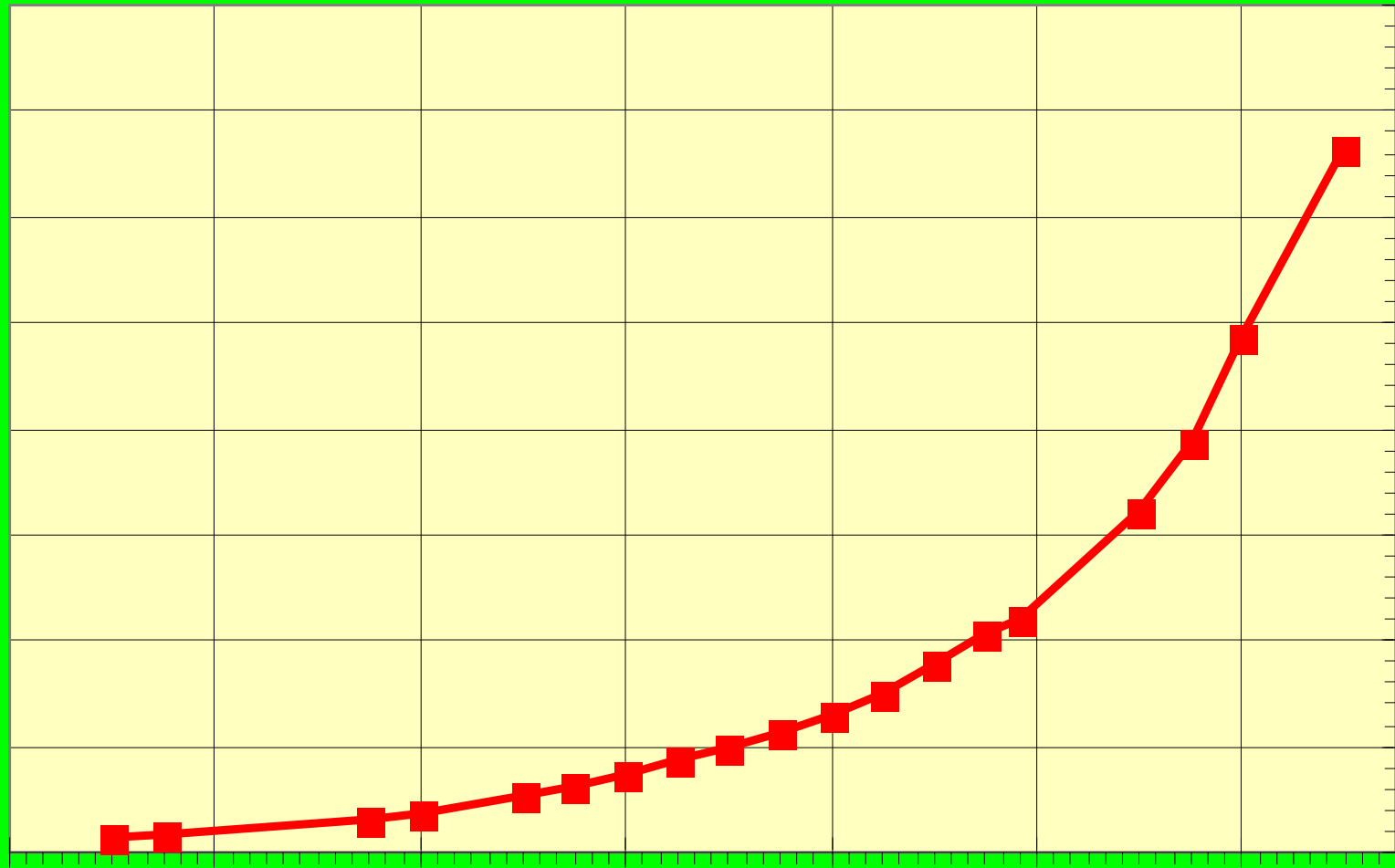
UUCP Nets,
FidoNets,
BitNets,
X400,...

Other Computer Networks

Internet Host Counts 1989-1995

Host Computers

8,000,000
7,000,000
6,000,000
5,000,000
4,000,000
3,000,000
2,000,000
1,000,000
0



Jan.89

Jan.90

Jan.91

Jan.92

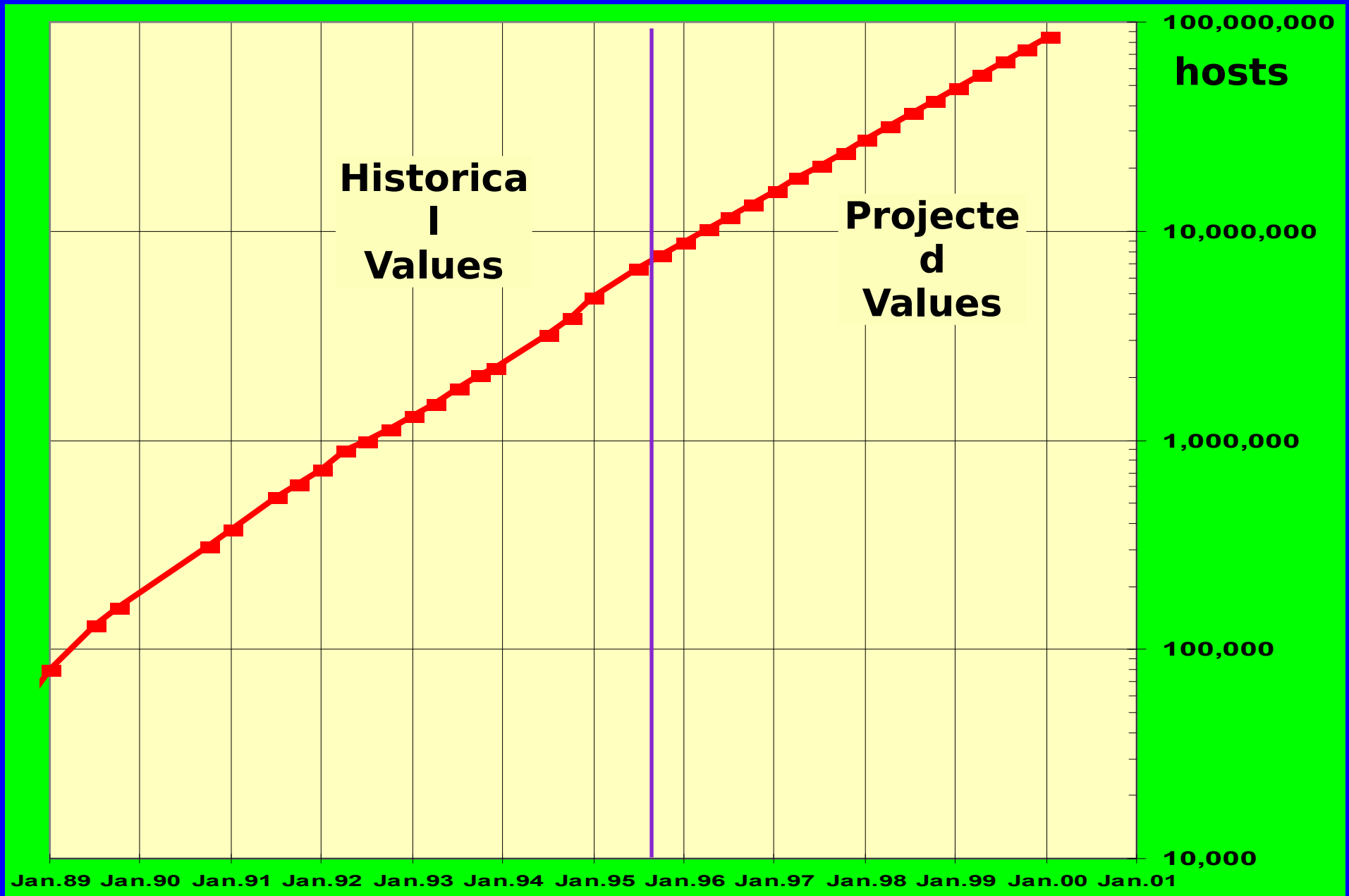
Jan.93

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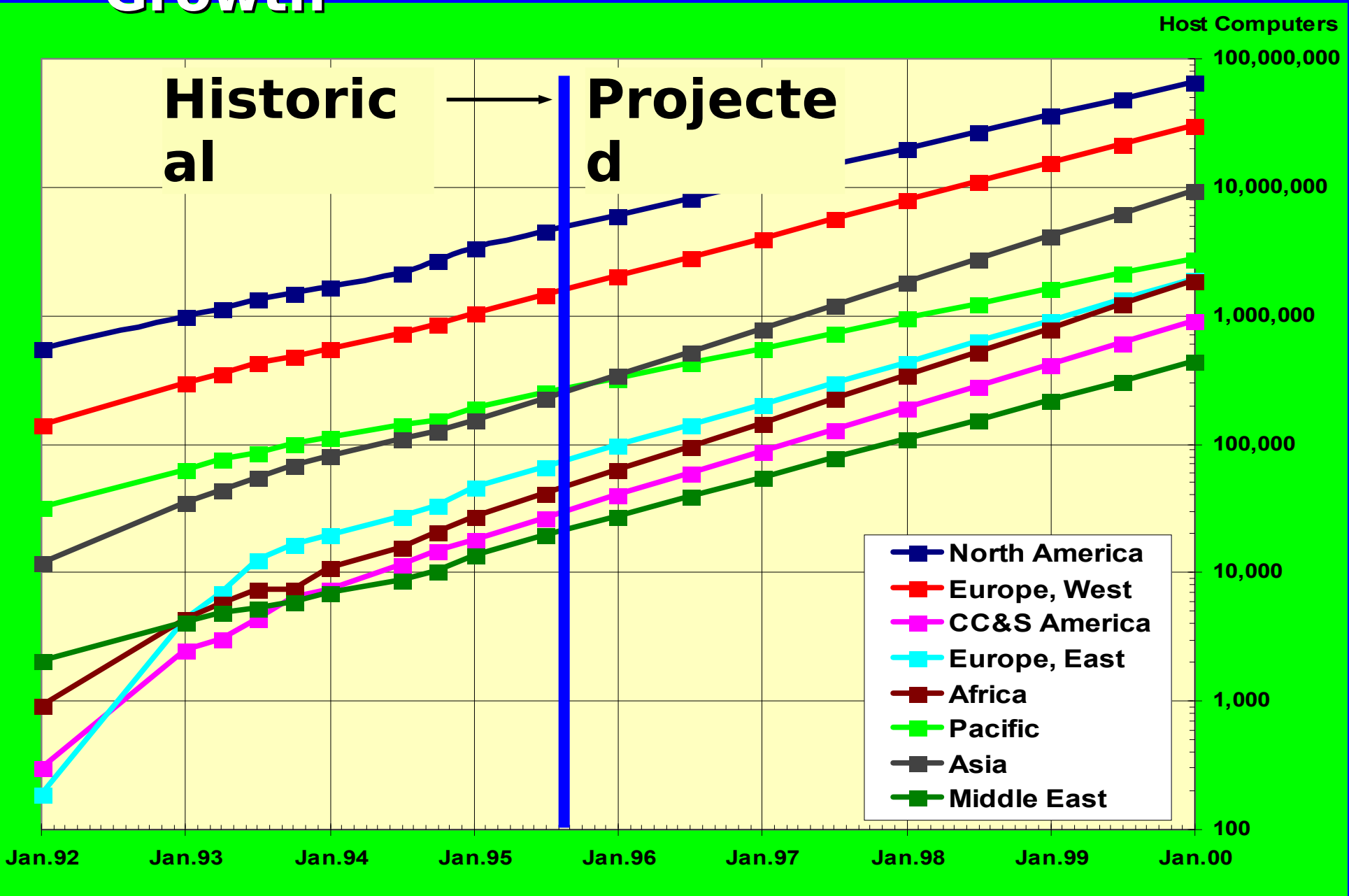
Jan.95

Source: M.Lottor <ftp://ftp.nw.com/zone>

Internet Host Counts 1989-2000

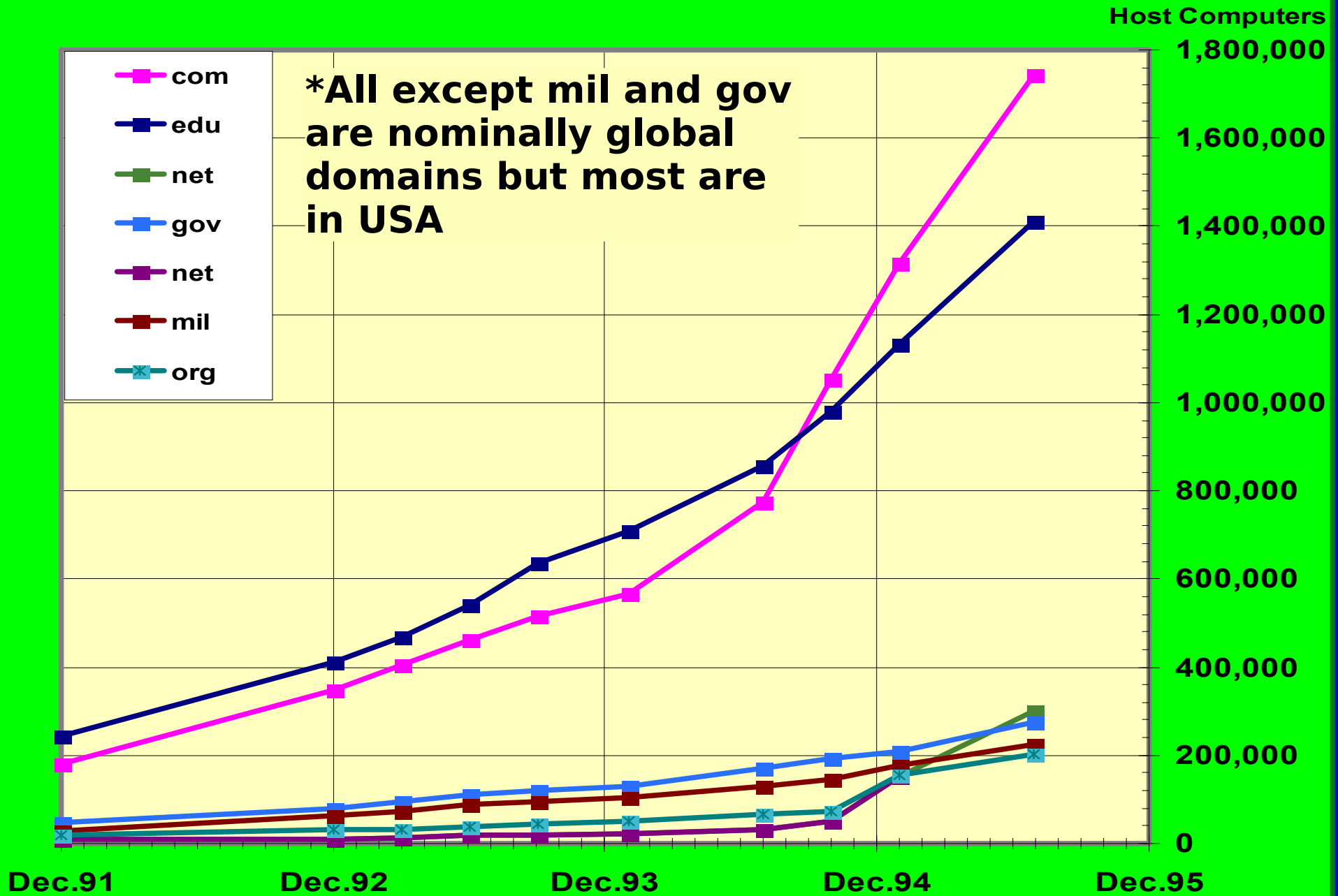


Internet Host Computers - Regional Growth

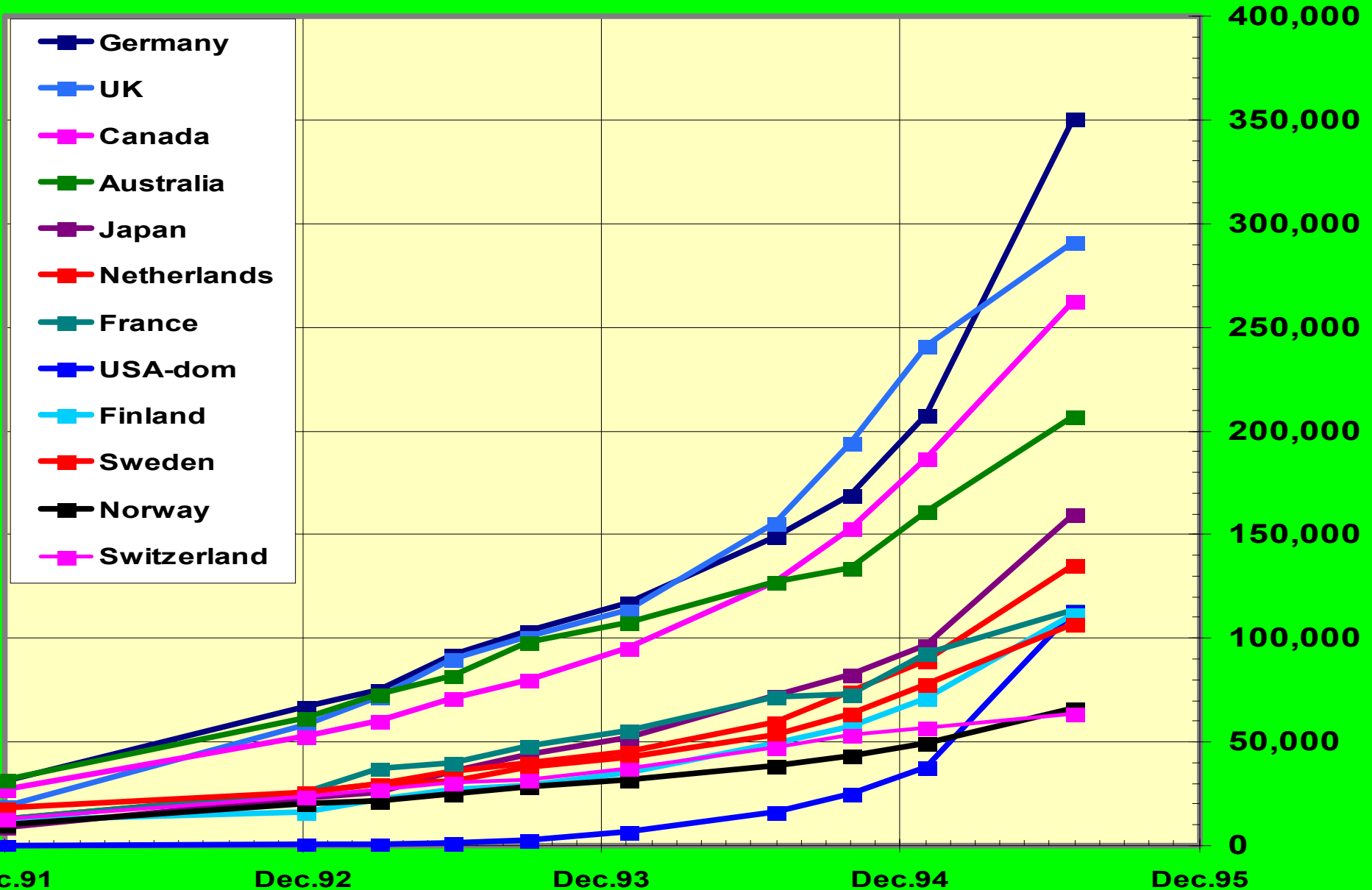


Internet Host 3-Letter Domain Growth*

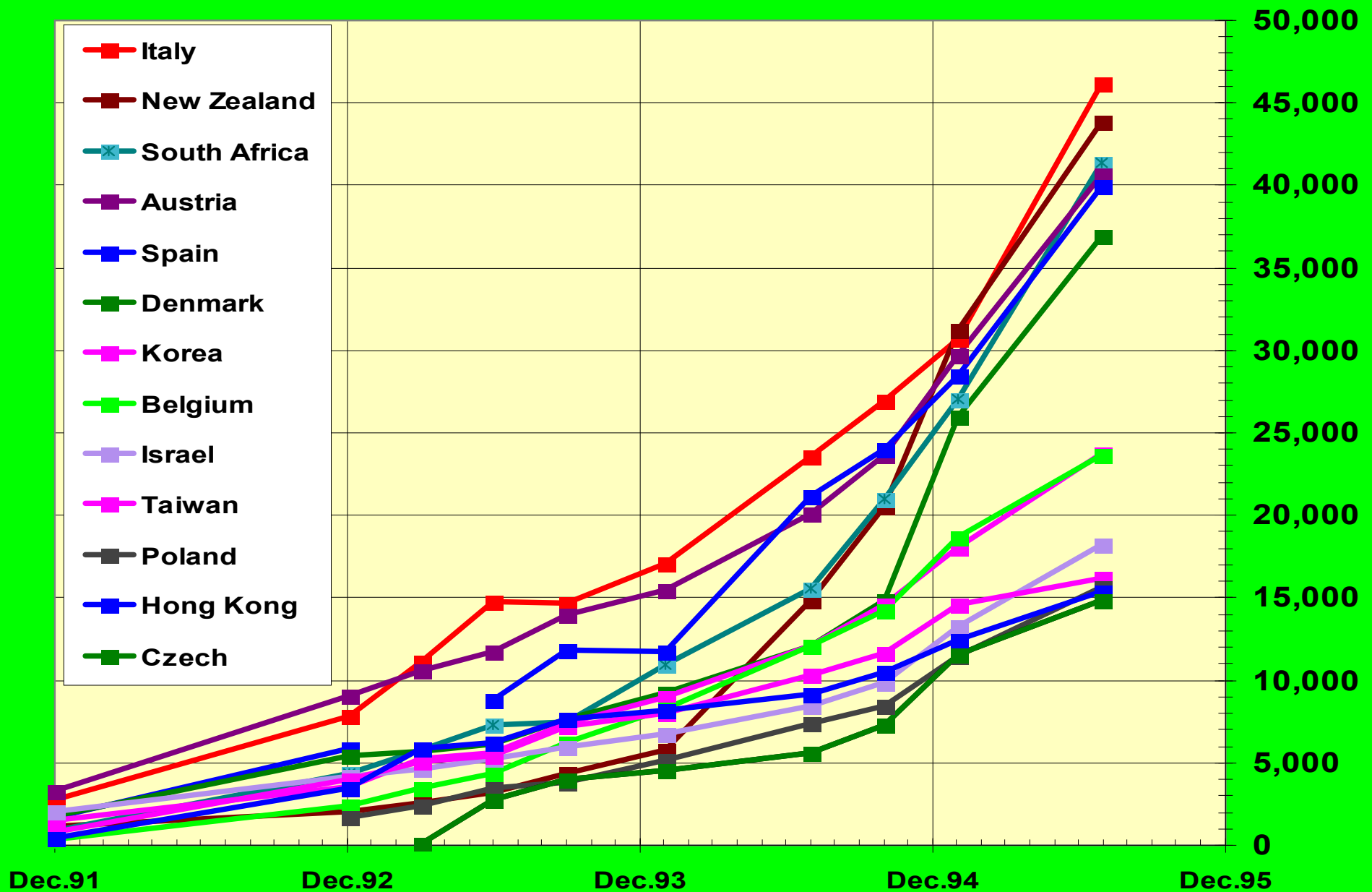
***All except mil and gov are nominally global domains but most are in USA**



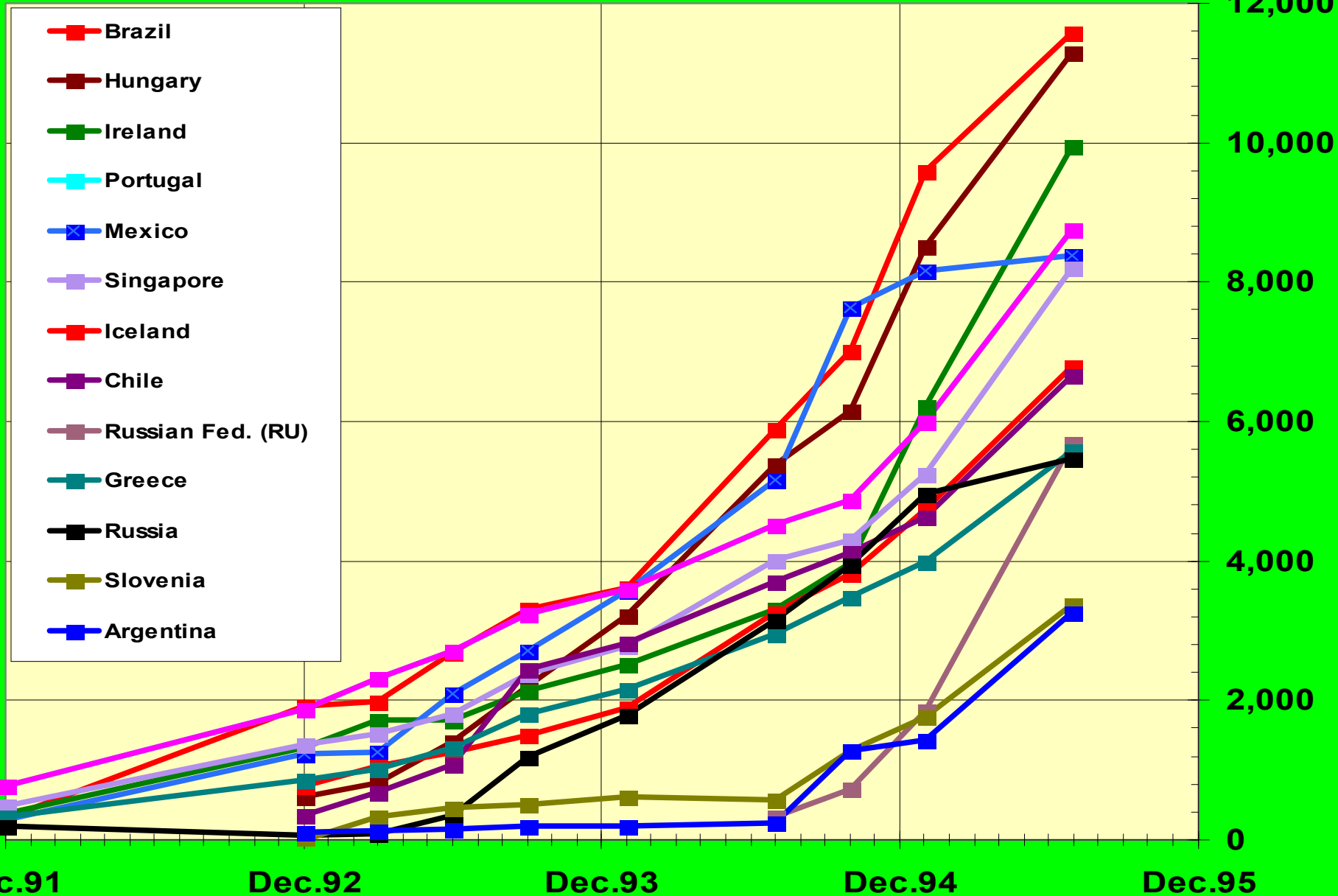
Host Count Growth - Top 16



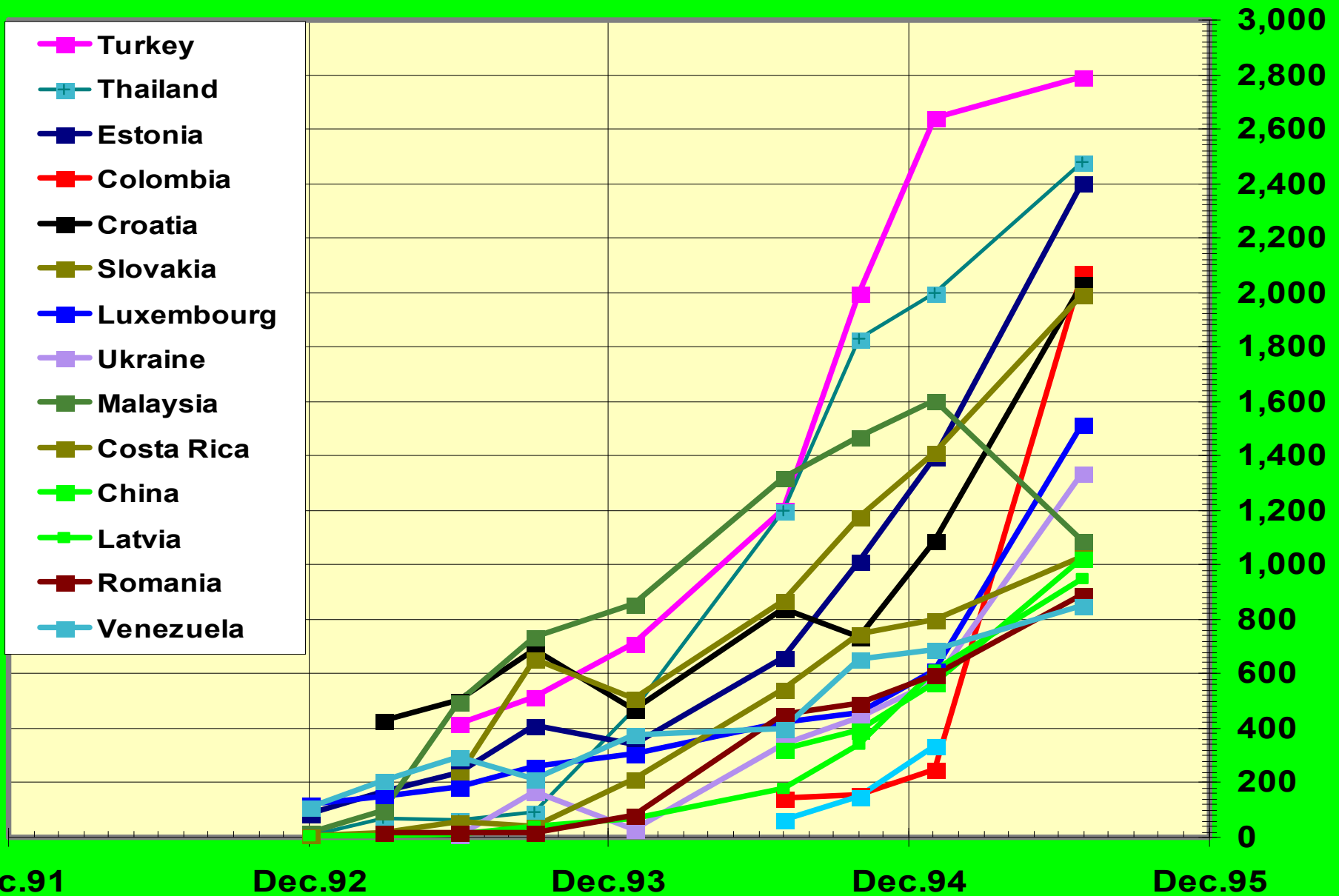
Host Count Growth - 2nd



Host Count Growth - 3rd

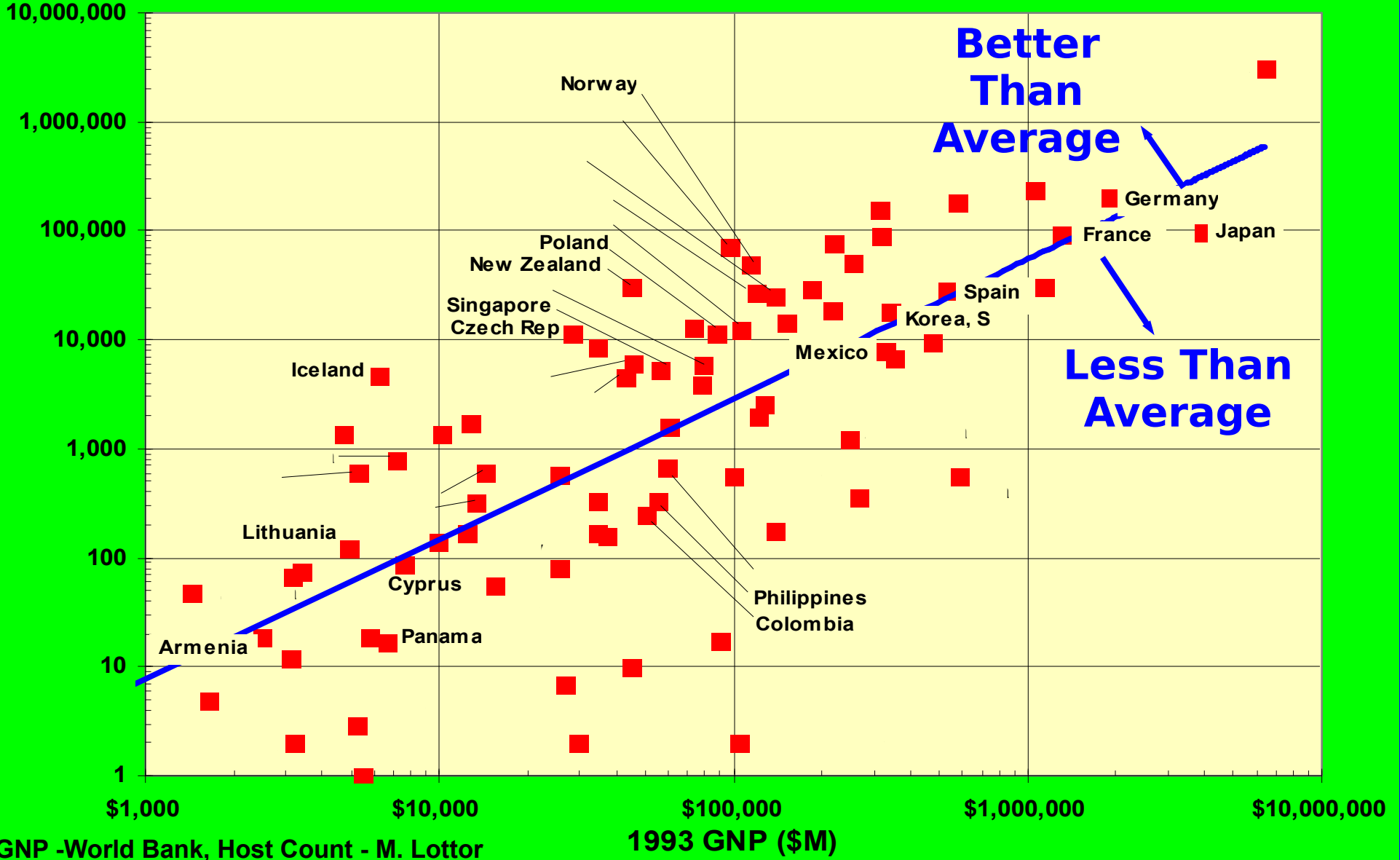


Host Count Growth - 4th



Internet Global Infrastructure Diffusion

Internet Host Computers - Jan 1995



GNP - World Bank, Host Count - M. Lottor

Factors Promoting Internet Diffusion

- Minimal or no regulatory constraints on value added and shared user networks
- Availability of cost-based private leased lines
- Availability of cost-based local access lines
- Availability of reasonably priced computers
- Facilities-based competition
- Individuals and institutions skilled in designing and operating tcp/ip computer networks
- Individuals and institutions capable of effectively using computer networking
- Time of entry into Internet community

Vision of the Internet

In the year 2000, Internet will :

Have more than 100 million connected hosts

Have more than one million connected networks

Have traffic which exceeds voice telephony

Be ubiquitously available worldwide

Be ubiquitously available by all transport media

Support thousands of different applications

Support a trillion dollars a year of transactions

Be a seamless part of every communicative and collaborative aspect of our lives

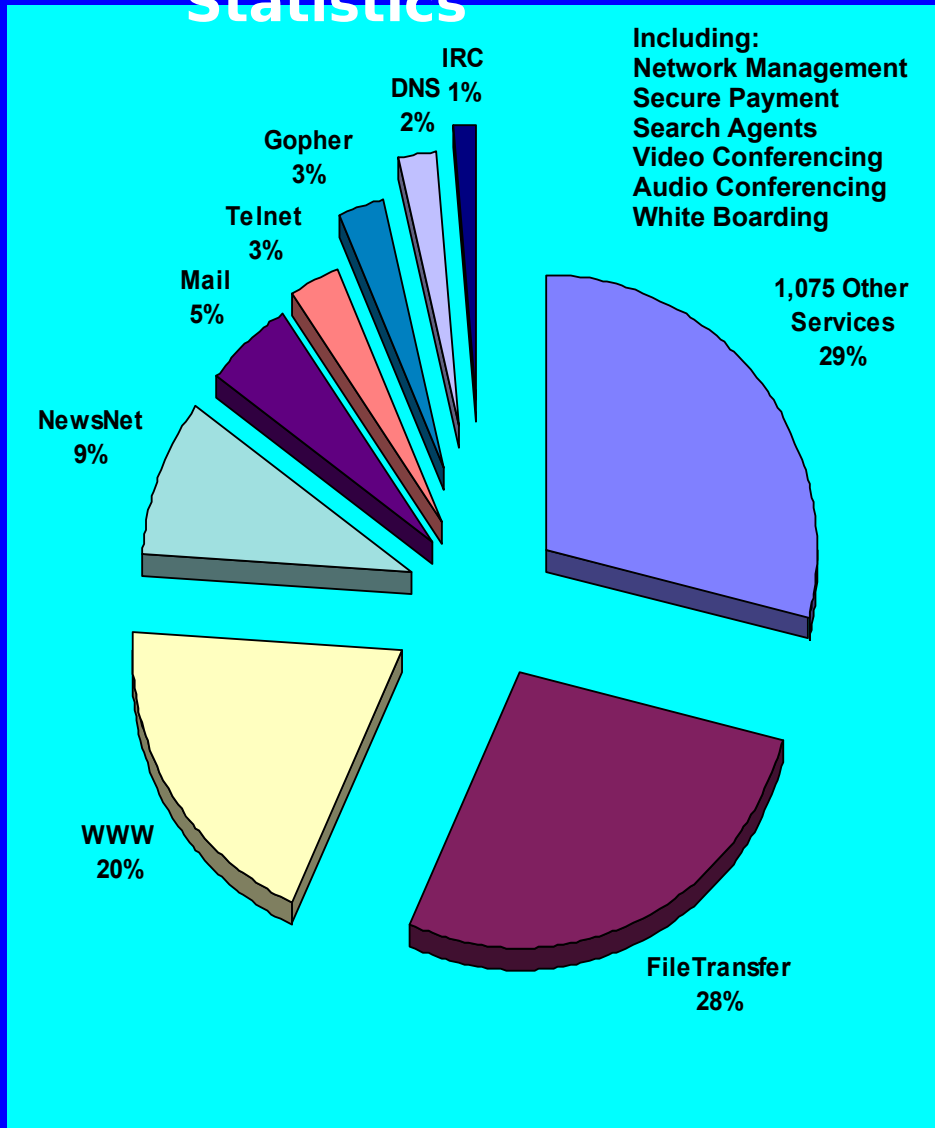
Reshape institutional, business, financial and political boundaries

Why Is It Happening

- Computers diffusing faster than any previous communication technology
- Internet plug-and-play being built into all computers
- Internet built into local, home, and enterprise networks
- Global trade and telecom liberalization
- Internet access by hundreds of providers via every possible medium
- Simple user interfaces
- Constant neat new tools
- High performance at low cost
- Ultimate global engine for collaboration, education, research, development, information sharing, marketing, sales, and correspondance
- People enjoy networking with others

How is it used?

Feb 1995 Traffic Statistics



- Information Sharing
- Global Collaboration
- Distance Education
- Software Distribution
- Scientific Research
- Product Development
- Public Services
- Marketing
- Sales
- Customer Support
- Professional Development
- Correspondance
- Entertainment

Major Marketplace Players

**Telcom
Carriers**

**Private
Network
Operators**

**Internet
Systems
Vendors**

**Software
Vendors**

**Mass Media
Providers**

**Publisher
s**

**On-line
Providers**

**Entertainment
Industry**

Commercial Enablers

- Simple, attractive interfaces for ordinary people, especially the World Wide Web
- Simple, low overhead monetary transaction mechanisms
- Widespread availability of software
- Widespread availability of access
- Size and growth of the public Internet
- Low cost and high performance
- Explosion of use and innovation
- Bottom-up infrastructure

Virtuosity Big Ticket Items

- Open, competitive, fair market opportunities**
- Growing the global economy**
- Building a network-based economy**
- Enhanced international collaboration on international activities**
- Improved international human rights and quality of life**
- National open societies, allowing diversity**
- Good open intelligence acquisition and analysis**
- Criminal prevention, discovery, and apprehension**

Manifestations of Virtuosity: Forums

Multilateral Activities

WTO GATS and the committment process

G7: GII

ITU: Cooperation re: standards, information

Major initiatives: UNCTAD Trade Efficiency Net, World Bank

Users: All UN, Specialized Agencies, NGOs and others

Bilateral Activities and National

Liberalization

“Competitive” Internet initiatives

Free Floaters in Global Cyberspace

Legal

Financial

Copyright

Human rights

Criminal

Intelligence

National Complexities: The Indian Example

- Indian Administration has maintained monopolies over telecommunications and broadcasting since independence.
- It has committed to de-monopolize telecommunications in two years
- It's Supreme Court has recently held that "broadcasting media" monopolies are unconstitutional as an abridgement of the right to receive and impart information.
- Telecommunication authorities have sought to impose a server tax of \$50,000 and maintain a monopoly on Internet services
- Indian ISPs are arguing that telecom monopolization or server taxes for the Internet - as a medium to publicly receive and impart information marketplace - are unconstitutional

Critical To Developing Countries

- Internet technologies and costs gracefully scale and are extremely robust
- Provides “leapfrog” capabilities - countries not held back by poor existing infrastructure
- Supports other infrastructure development
- Provides very low-cost, instant access to resources
 - People
 - Information
 - Institutions
- Promotes development of critical skills
- Supports business and market-oriented economy
- Multiple sources of funds and assistance
- Highly motivated people involved
- Allows very low-cost, instant entry into global market

Internetworks and their applications will become the most important of all electronic media in achieving global professional, corporate, and national goals in the 21st century

**The 4C's of the next century:
cooperation,
competition,
and constant
change**