# The Future of the Internet

Supercomputing'94
Washington DC USA
18 Nov1994
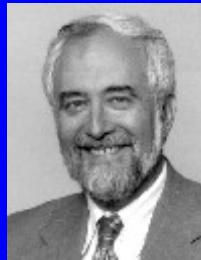
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Vision of the Internet

- It is not possible to predict anything in the year 2020

- 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
  - Be a seamless, intrinsic part of every communicative and collaborative aspect of our lives
  - Dramatically alter institutional, business, financial and political boundaries

Internet Host Counts 1990-2000

187 Million Internet Hosts

hosts

NOW

Projected Values

Historical Values

1,000,000,000

100,000,000

10,000,000

1,000,000

100,000

Jan.90 Jan.91 Jan.92 Jan.93 Jan.94 Jan.95 Jan.96 Jan.97 Jan.98 Jan.99 Jan.00 Jan.01
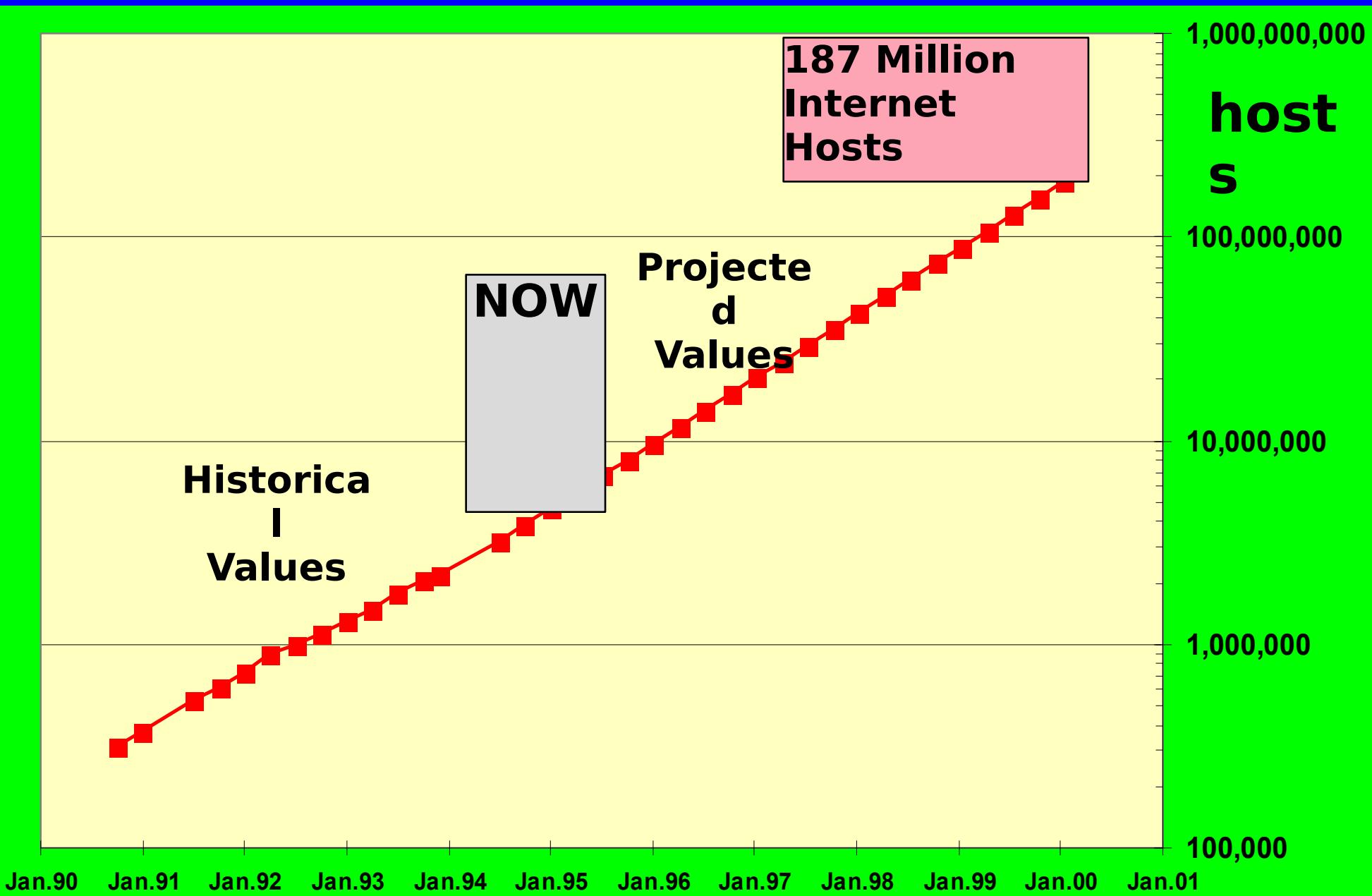
Internet Connected Networks 1990-2000

2.0 Million Networks Outside USA

NOV Projected Values

1.6 Million Networks In USA

Historical Values

Connected Networks

10,000,000

1,000,000

100,000

10,000

1,000

100

Jan.90 Jan.91 Jan.92 Jan.93 Jan.94 Jan.95 Jan.96 Jan.97 Jan.98 Jan.99 Jan.00
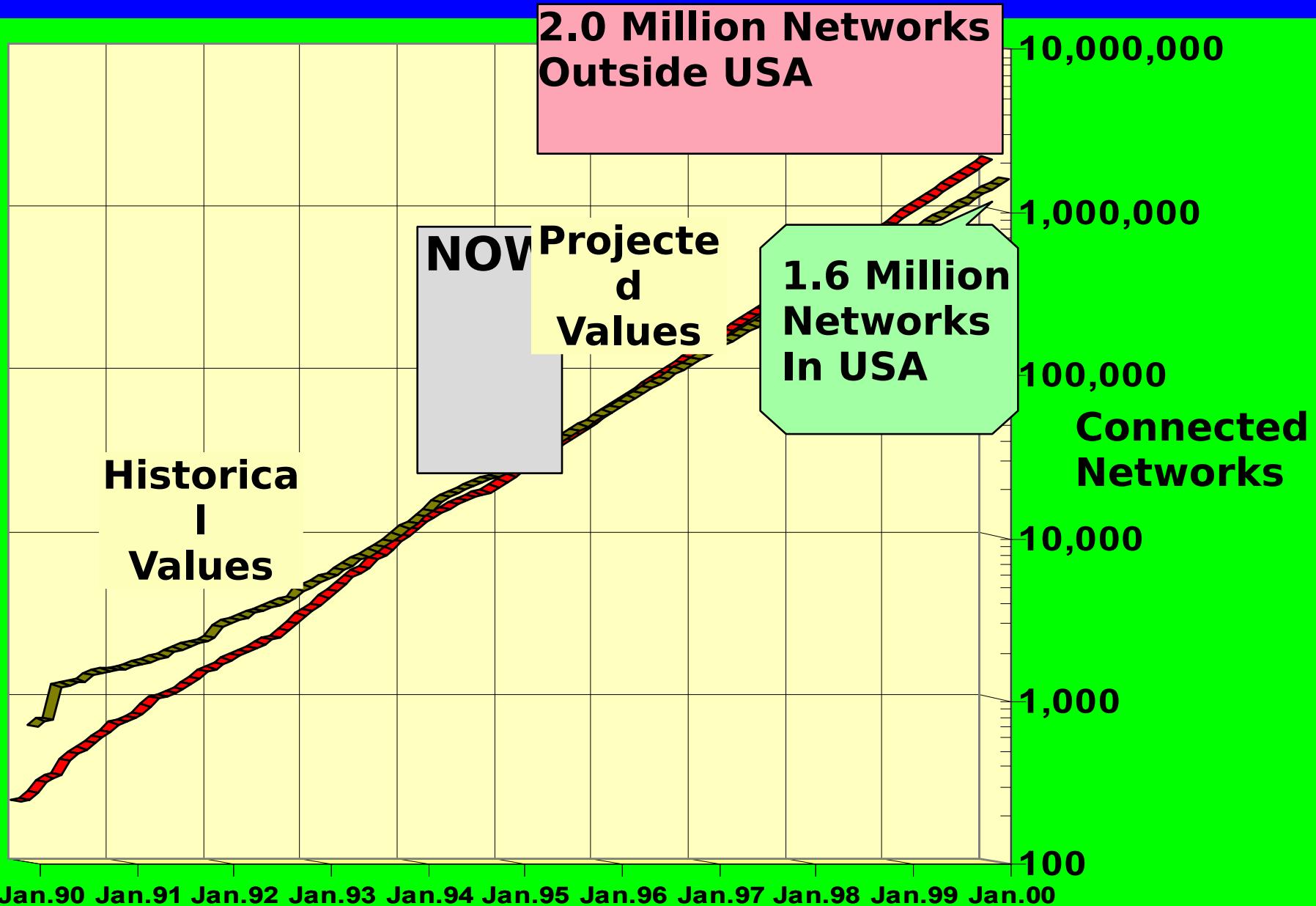
World Wide Web Traffic 1993-2000

Bytes per Month

10,000 PetaBytes/Month

Capacity of 1.2 Gbit/s pipe

Projected Values

NOW

Historical Values

1.E+20
1.E+19
1.E+18
1.E+17
1.E+16
1.E+15
1.E+14
1.E+13
1.E+12
1.E+11
1.E+10
1.E+09
1.E+08

Jan.93 Jan.94 Jan.95 Jan.96 Jan.97 Jan.98 Jan.99 Jan.00
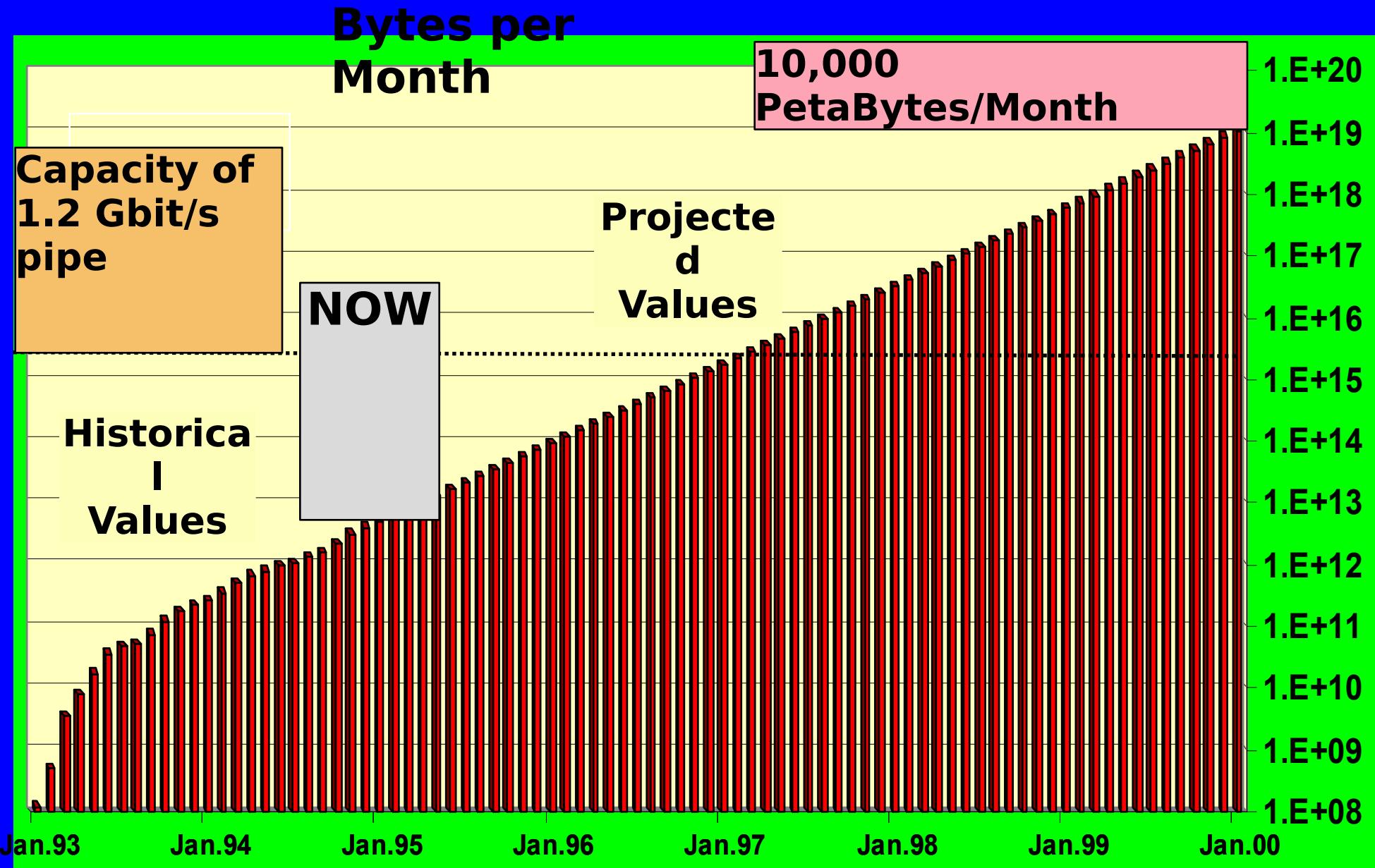
Reaching the Visions - Problems

- Ineffective telecom competition
- Non-cost-oriented transport
- Government regulation
- Impediments to bottom-up information infrastructure
- Changing institutions
- Changing and educating people

Killer Applications
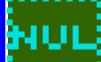
- WWW and clients (they're here)
- Automatic hyperlinking
- Advanced Knowbots and other distributed information discovery tools
- Object oriented collaborative tools