The Future of WWW

in High Energy Physics

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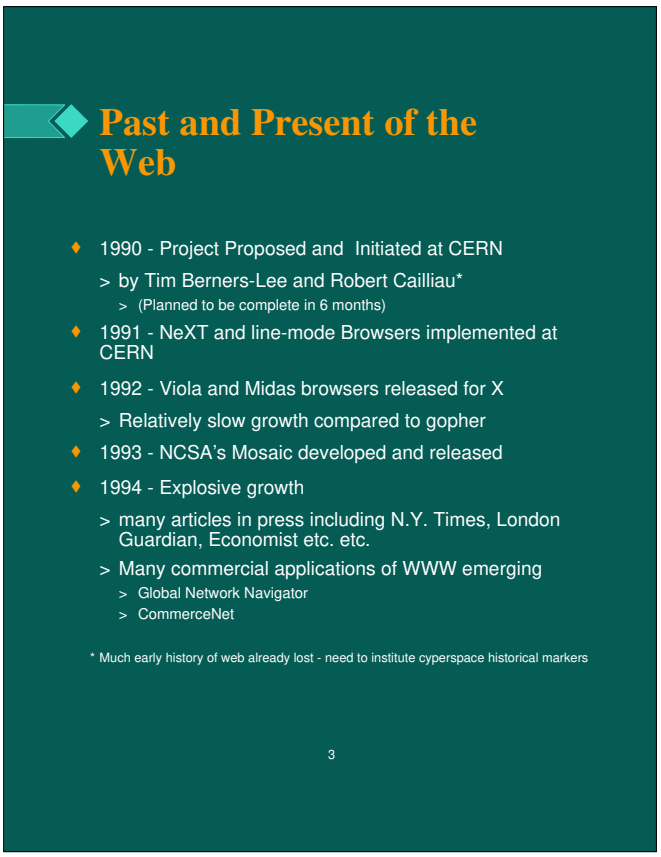
The Future of WWW

Topics to be discussed

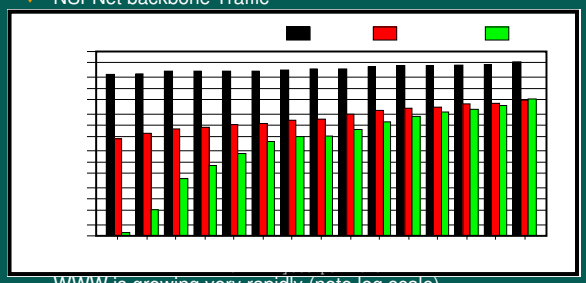
- The Past and Present of the Web
- A Real-World application -- CommerceNet
- Forthcoming Technical Enhancements
  - > Their impact on HEP use of the web
- Lessons for HEP
  - > from WWW usage outside HEP
  - > from WWW collaboration



Show also Computer Currents Cover.....can't be long before we see WWW on the cover of the rolling stone

How big is the Web?

- NSFNet backbone Traffic



  WWW is growing very rapidly (note log scale)
  - > Does not dominate network (ftp, telnet, mail, news all larger)
- A Typical (??) Server - WWW meets the Olympics
  - > Connections after first week of Olympics: 1,320,000
  - > Number of distinct hosts: (18,000 + 13,000)
  - > Number of distinct countries: 42 (out of 64)
- Tony's Wild Guesstimates
  - > 200 people worldwide working on web related software
  - > 2000 HTTP servers
  - > 20000 information providers
  - > 200,000 - 2,000,000 web users

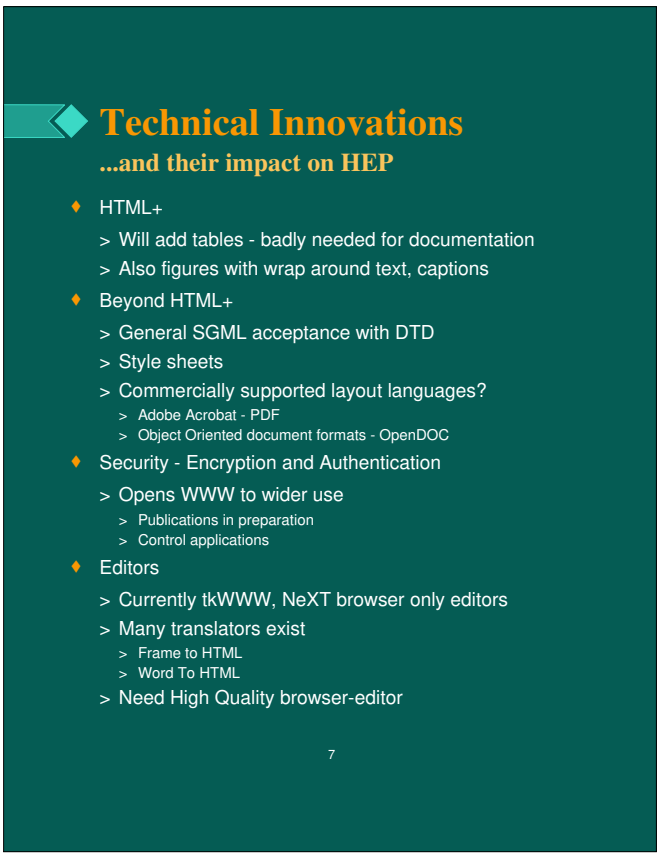
CommerceNet

Commerce on the Internet

- CommerceNet is managed by EIT in Palo Alto
  - > Initial announcement April 12
  - > $12 million of initial funding
    - > 50% from government
    - > 50% from founding members
- CommerceNet will use WWW to allow its members to
  - > Consult directories and referral services
    - > Open Access to directories for new members
    - > Possibilities for other directory providers
  - > View multimedia catalogs and product demos
  - > Solicit bids, place orders
  - > Collaborate
- CommerceNet has added public-private key encryption to WWW, using technology licensed from RSA
  - > NCSA will distribute *Privacy Enhanced Mosaic*
  - > RSA client side library will be made available for other WWW browsers
  - > EIT will create *Reference Implementation* of server including server side encryption
  - > EIT will sell *supported* server

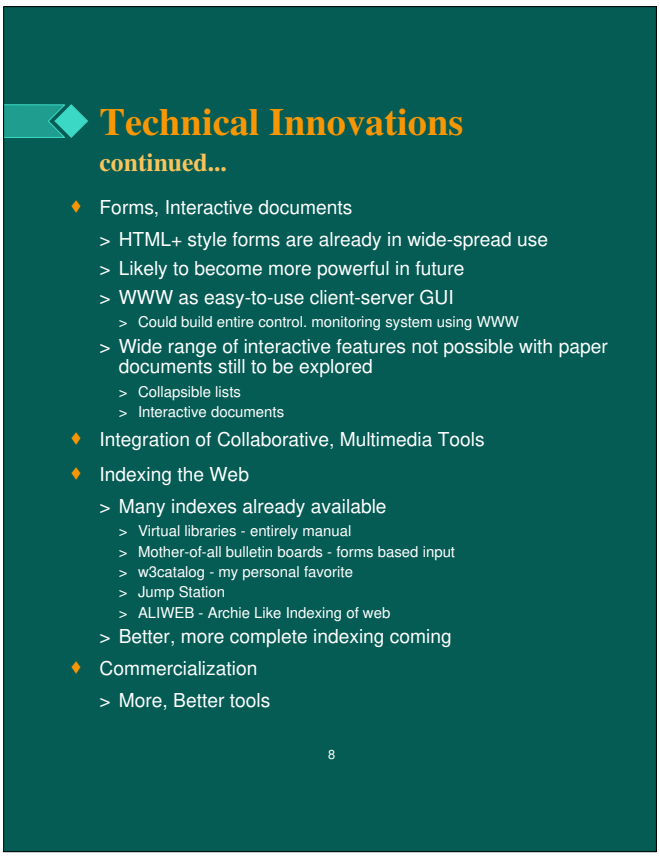
CommerceNet

- Goals
  - 1000 members by the end of this year
    - initially mainly in Silicon Valley
  - Millions of members worldwide in five years
- Expect to revolutionize way business is performed
  - Small businesses able to compete on equal-terms
  - Global competition
  - Elimination of vertically structured companies?



HTML+ is being developed by Dave Raggett atHP labs in Bristol

Will be a slow evolution rather than a sudden change, already many HTML+ features such as forms, in common use.



w3catalog run by CUI at University of Geneva

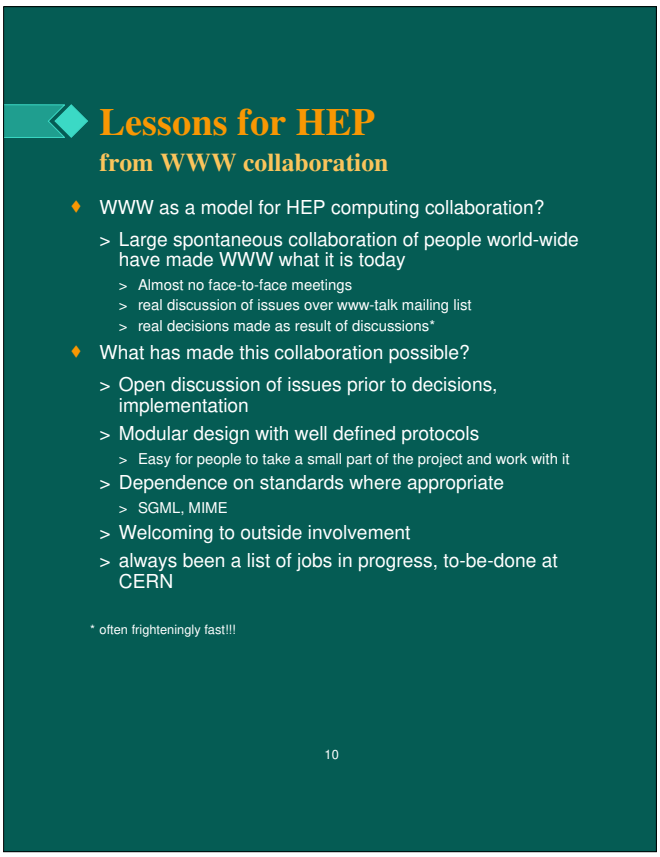
ALIWEB uses IAFA (internet anonymous FTP archives) TEMPLATES

Users must provide templates

Lessons for HEP

from WWW usage

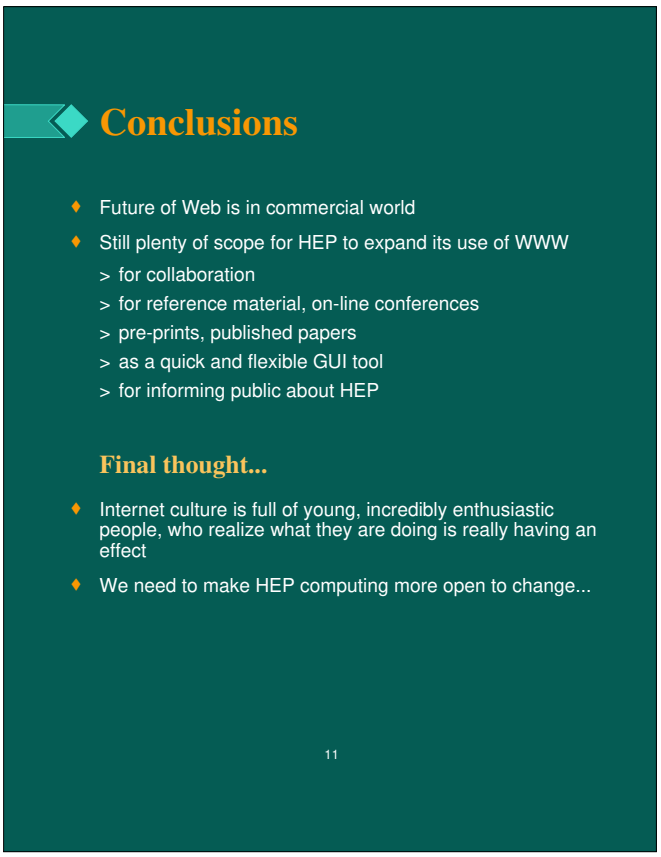
- HEP is missing great opportunity to advertise its goals and achievements to a large audience (including high school students, undergraduates etc.)
  - > Should organize non-technical (semi-technical?) descriptions of
    - > HEP as a whole
    - > Individual experiments, including purpose and summary of results
    - > major facilities, laboratories, plans for future
  - > Although we originated WWW we have been overtaken in this area by many others (c.f. NIST)
- Need some HEP-wide organization of directories covering
  - > Experiments
  - > Publications
  - > Laboratories and Universities
  - > Better to have one to two well done directories than many incomplete directories
  - > Directories no good unless they are correct, maintained, easy to identify those responsible (c.f. NASA)
  - > No shortage of work to be done - need some way to distribute load around labs.



Much discussion at this conference on how to collaborate more effectively. I hope that WWW will not only be a tool that can be used to aid collaboration, but I think it also can act as a model of very effective global collaboration

List of jobs not always up-to-date, but at least makes people feel welcome.

Design documents also always available from CERN



High Energy physics and HEP computing should be just as exciting, but somehow it is not.

We need to make HEP computing more open to change, more excepting of new ideas, otherwise we may find that WWW 's main use is by graaduate students and post-docs looking to find jobs outside of HEP.