Business and Science Cooperation in

Information Technology

The CERN Case

15 November 1994

Distribution of CERN WWW software

Francois Fluckiger (*fluckiger@vscrna.cern.ch*)
Tue, 15 Nov 1994 17:37:15 --100

Group: WWW-Talk

Dear Colleagues,
Some of you asked about the conditions for the distribution of
new versions of the CERN WWW Library of Common Code (libwww), the
CERN Line Mode Browser (www) and the WWW HTTP Daemon (httpd).

The new versions will remain freely available, for general use, and at
no cost.

The only change is that the material distributed will remain
copyrighted by CERN. As a consequence, a copyright notice will have to
appear in copies, but also, the rights of the users will be protected,
in particular by preventing third parties to turn free software into
proprietary software, and deny the users the rights to freely use the
material`.

Distribution of CERN WWW software

Francois Fluckiger (*fluckiger@vscrna.cern.ch*)
Tue, 15 Nov 1994 17:37:15 --100

Group: WWW-Talk

The proper copyright notice is being ratified and will be available in
a few days.

We hope all those who have trusted CERN WWW software will continue to
do so, and will appreciate that these conditions not only maintain the
free distribution but better protect it.

Francois Fluckiger
Leader, WWW development, CERN

June

1994

Tim Berners-Lee

Leaving CERN to the W3C, MIT

May

1993

Public Domain

930430

ORGANISATION EUROPEENNE POUR LA RECHERCHE NUCLEAIRE
CERN EUROPEAN ORGANIZATION FOR NUCLEAR RESEARCH

STATEMENT CONCERNING CERN W3 SOFTWARE RELEASE INTO PUBLIC DOMAIN

TO WHOM IT MAY CONCERN

Introduction

The World Wide Web, hereafter referred to as W3, is a global computer networked information system.

The W3 project provides a collaborative information system independent of hardware and software platform, and physical location. The project spans technical design notes, documentation, news, discussion, educational material, personal notes, publicity, bulletin boards, live status information and numerical data as a uniform continuum, seamlessly intergated with similar information in

STATEMENT CONCERNING CERN W3 SOFTWARE RELEASE INTO PUBLIC DOMAIN

TO WHOM IT MAY CONCERN

local, regional or worldwide. The documents available on a web may reside on any computer supported by that web.

...

2.

Declaration

The following CERN software is hereby put into the public domain:

- W 3 basic ("line-mode") client
- W 3 basic server
- W 3 library of common code.

CERN's intention in this is to further compatibility, common practices,

CERN relinquishes all intellectual property rights to this code, both source and binary form and permission is granted for anyone to use, duplicate, modify and redistribute it.

to this software. The entire risk as to the quality and performance of this software is with the user. IN NO EVENT WILL CERN BE LIABLE TO ANYONE FOR ANY DAMAGES ARISING OUT THE USE OF THIS SOFTWARE, INCLUDING, WITHOUT LIMITATION, DAMAGES RESULTING FROM LOST DATA OR LOST PROFITS, OR FOR ANY SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES.

Geneva, 30 April 1993

W. Hoogland
Director of Research

H. Weber
Director of Administration

opie certifiée conforme

ait à Genève le 03-05-93

Free Software Movement in its infancy

93 ← WEB is Public Domaine

Free Software Foundation

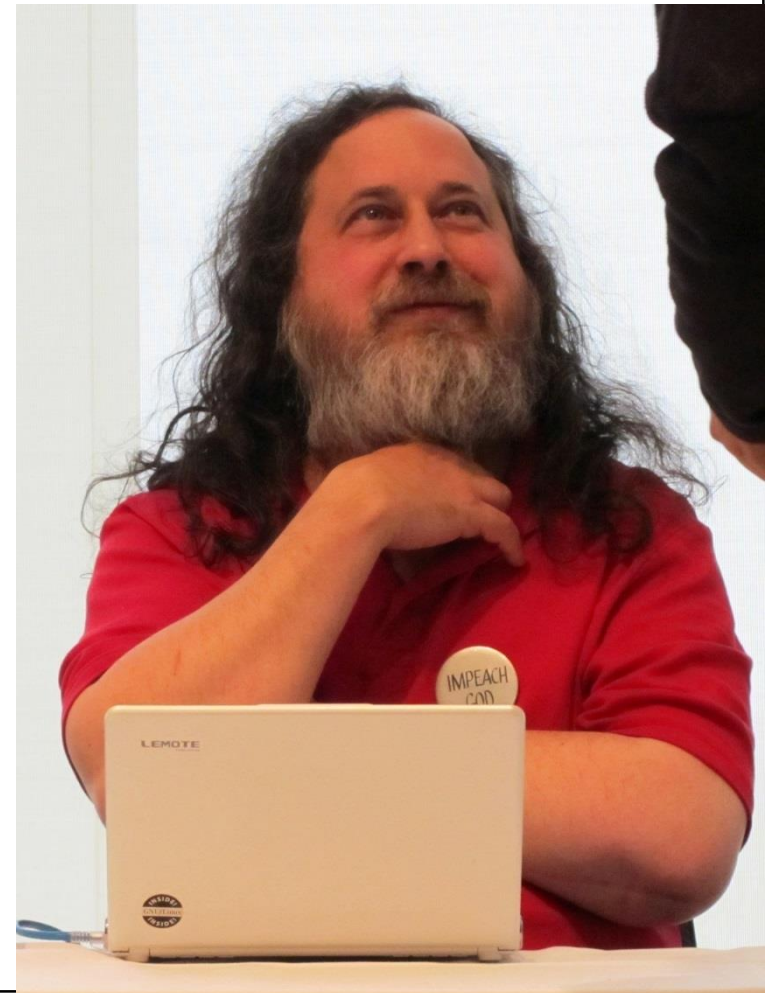**Richard Stallman**

Internet Hall of Fame Award

Berlin, 3rd August 2013

Free Software Principle

- Protect freedom by keeping ownership

- Grant **anyone** the
  - perpetual
  - irrevocable

right to use, copy, distribute, **modify**

The 1st CERN Open Source Licence

COPYRIGHT STATEMENT
(c) COPYRIGHT CERN 1994

_____
The copyright and all other rights relating to this computer software, in whatever form, including but not limited to the source code, the object code and user documentation, are vested in CERN.

CERN, on a royalty-free and non-exclusive basis, hereby grants permission to use, copy, change, modify, translate, display, distribute and make available this computer software, subject to the following conditions:

   this computer software is provided on an as-is basis and CERN provides no express or implied warranties of any kind, including but not limited to those of merchantability, fitness for a particular purpose and non-infringement of the proprietary rights, such as copyrights, patents and trade secrets, of third parties. CERN accepts no liability whatsoever for or in connection with the use of this computer software;

   all copies made of this computer software or of parts thereof shall include this copyright statement in full;

   however, if this computer software or parts thereof are made available in any other form than their original form, or are included in any other computer software, the following short acknowledgement only must be mentioned in the copyright statement and in the user documentation (or, in the absence thereof, in any other appropriate place) concerning the computer software thus made available or created:

   "This product includes computer software created and made available by CERN. This acknowledgement shall be mentioned in full in any product which includes the CERN computer software included herein or parts thereof."

Lessons ?

Open source vs. Exclusive Partnership

- CERN Technology Transfer Policy
  - Favor **Dissemination** ahead **of Revenues**

- Open source may be **Collaborative**

  - **Critical mass** of **developers**
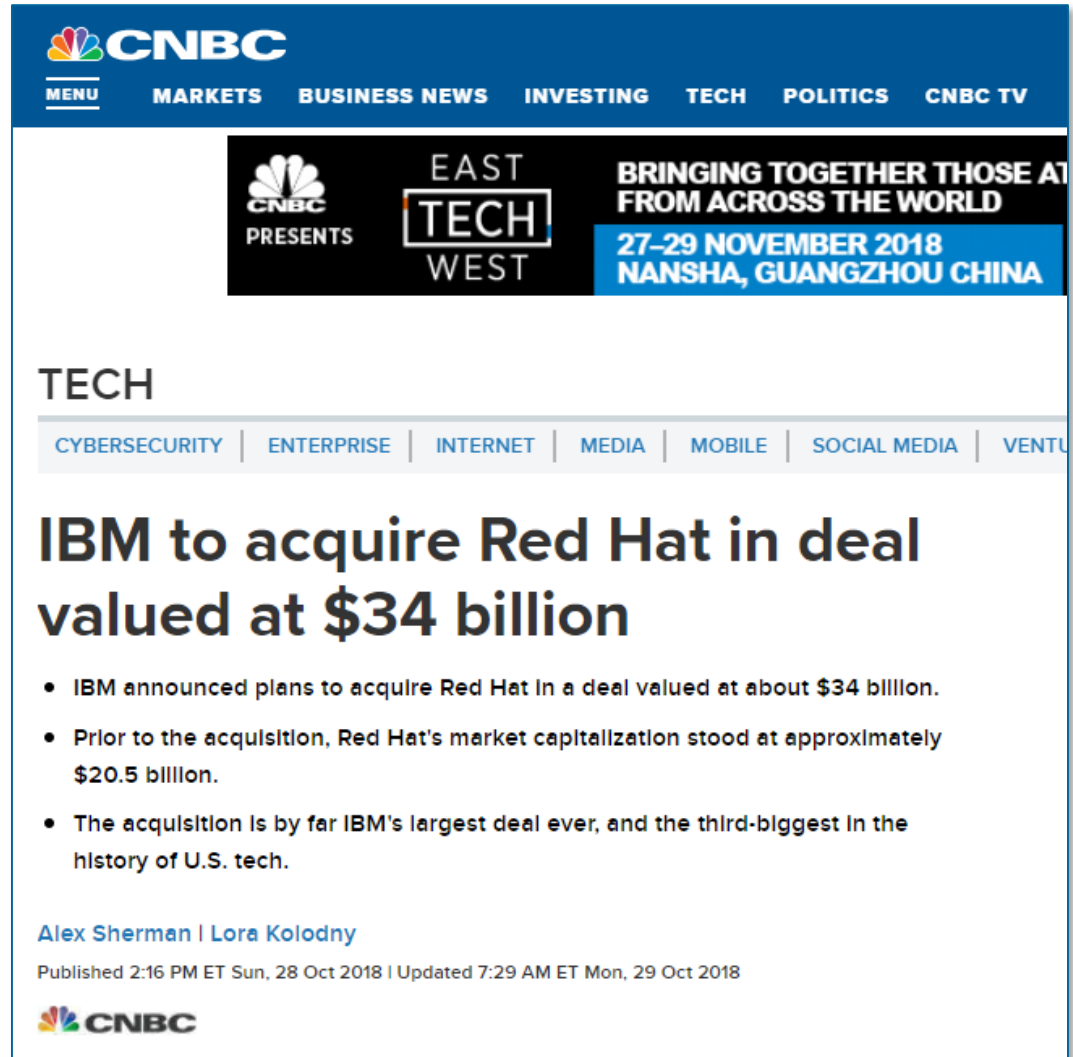 - **Critical mass** of **users**

Show me the business

Business with opensource

Value added
services

Distributions
and versioning

Opensource is the transfer mechanism of choice between academia and industry

1980s

The emergence of A&R Networks Europe

78 Norway: UNINETT

81 UK: JANet

83 FI: FUNET

83 SE: SUNET

84 DE: DFN

89 NORDUnet
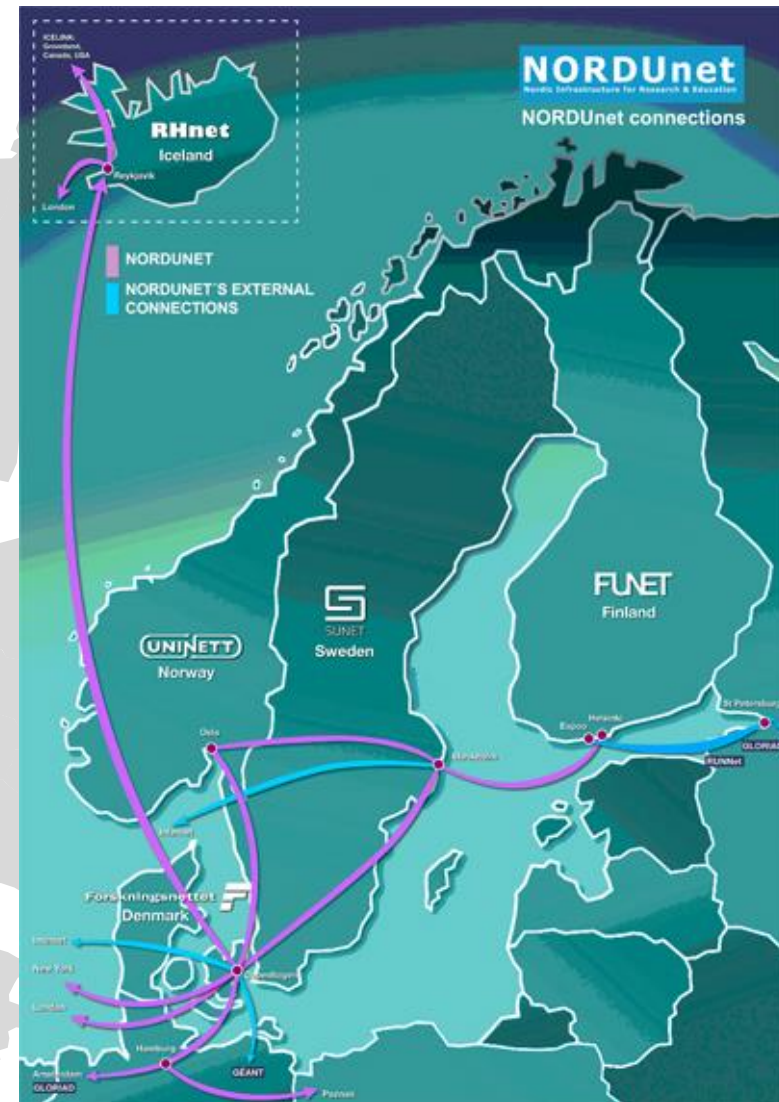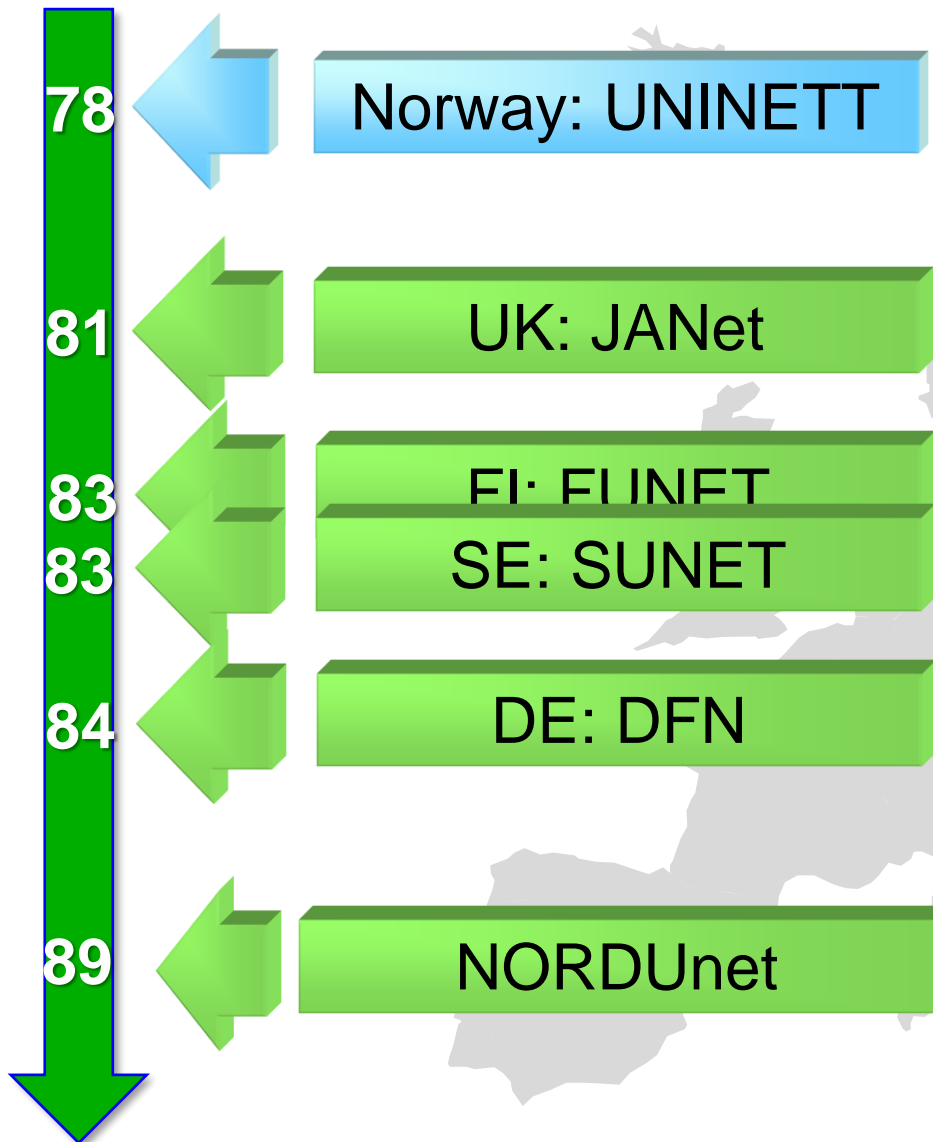
World-wide structures

88 ← Creation of **CCIRN***
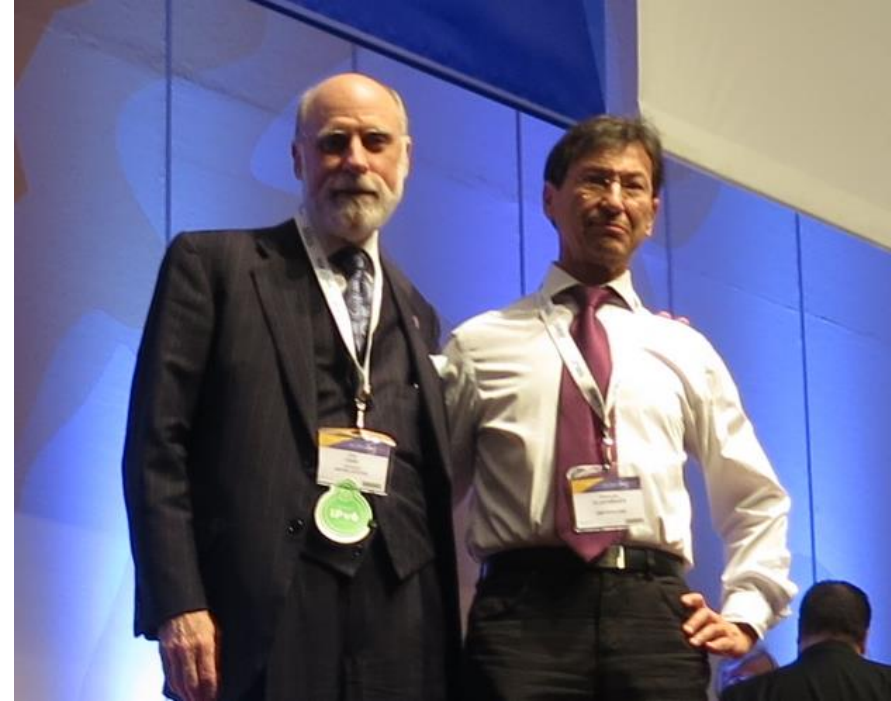
May 88
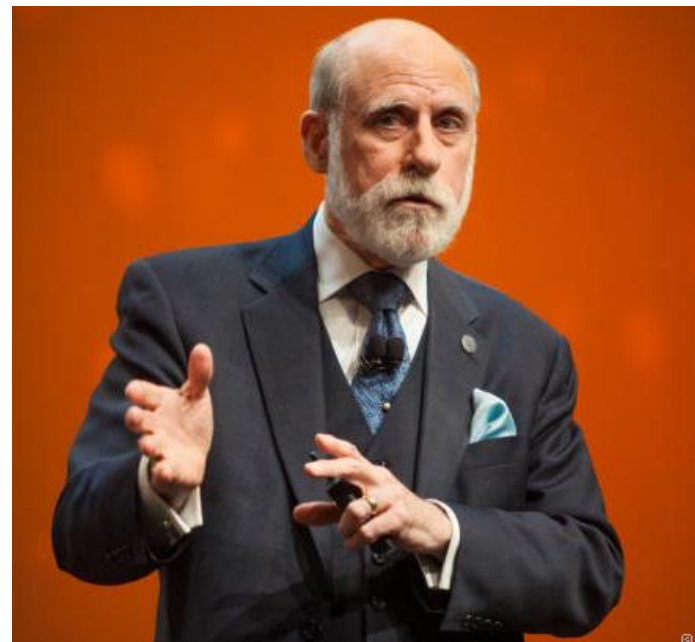I convene the 1st meeting in Geneva

* Coordinating Committee for Intercontinental Research Networks

Abandon of power

88

Oct 88
Second **CCIRN** Meeting,
West Virginia, USA

Vint Cerf

"*You, the Europeans, should set up a structure to allocate IP addresses in Europe. It is not good we keep doing it for you.*"

Abandon of power

88

Oct 88
Second CCIRN* Meeting,
West Virginia

- My two European colleagues:
"*Sorry, we do not foresee any future for IP in Europe.*"

- I reassured our American colleagues:
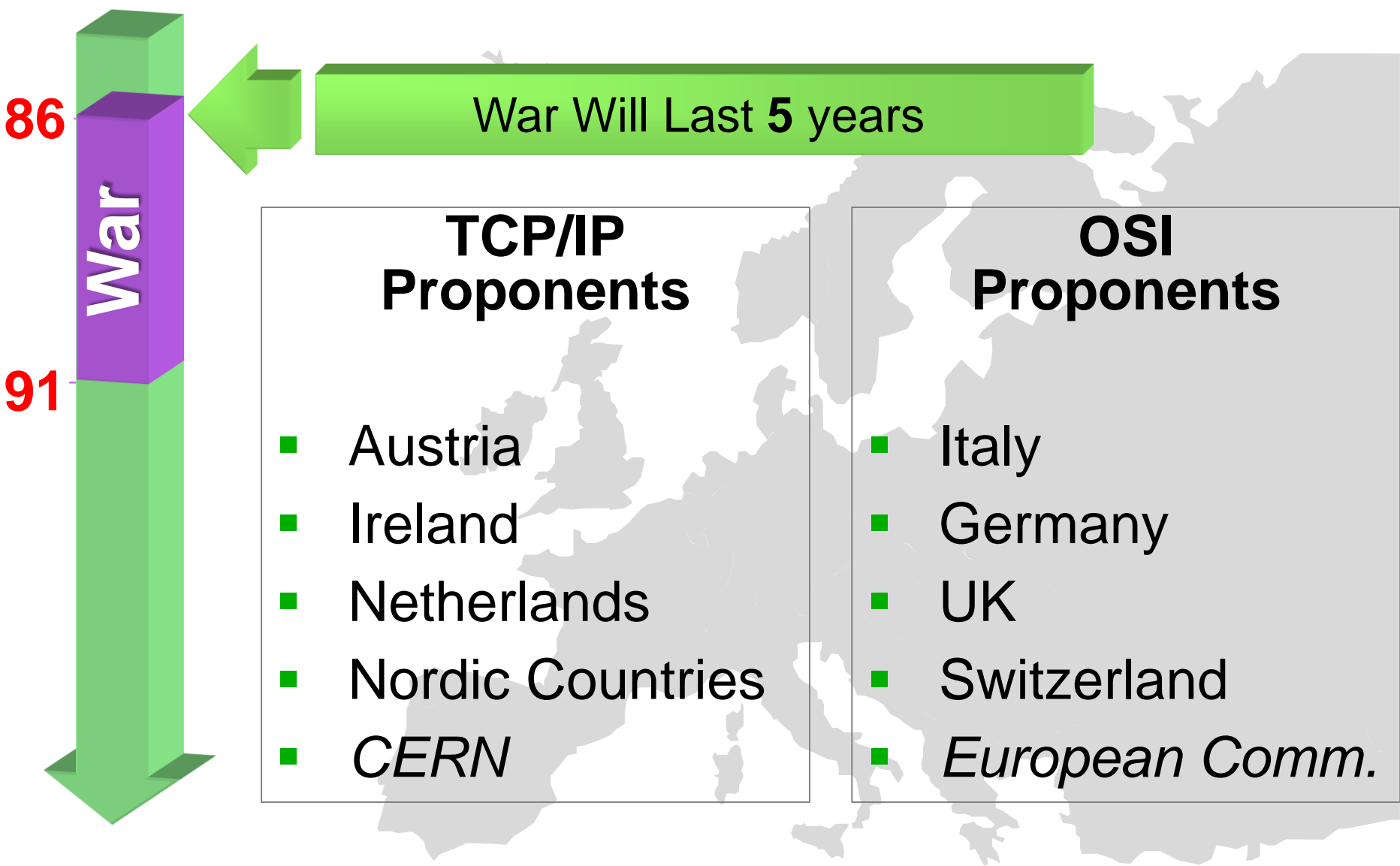"*CERN will look after it* "

Europe: the Protocol War rages

86

TCP/IP
Proponents and opponents fight each other

- European Commission, most countries strongly opposed to **TCP/IP**

- They support the **OSI** technology

- Why?

  - TCP/IP considered as **US dominated** (giving undue edge to US industry)

  - Telecom operators (monopolies) want to **protect per-call charging**

Europe: the Protocol War rages

86

War

91

War Will Last **5** years

TCP/IP Proponents	OSI Proponents
▪ Austria	▪ Italy
▪ Ireland	▪ Germany
▪ Netherlands	▪ UK
▪ Nordic Countries	▪ Switzerland
▪ *CERN*	▪ *European Comm.*

Abandon of power

88

> Oct 88
> Second CCIRN* Meeting,
> West Virginia

88

> Dec 88
> I call a meeting at CERN to
> respond to American
> proposal

Six people attended

- *Mats Brunel (SE)*
- *Rob Blokzijl (NL)*
- *Daniel Karrenberg (DE)*
- *Enzo Valente (IT)*
- *Olivier Martin and myself (CERN)*

20 years later - Anniversary Celebration

Fluckiger   Karrenberg   Valente   Martin   Blokzijl

Abandon of power

92

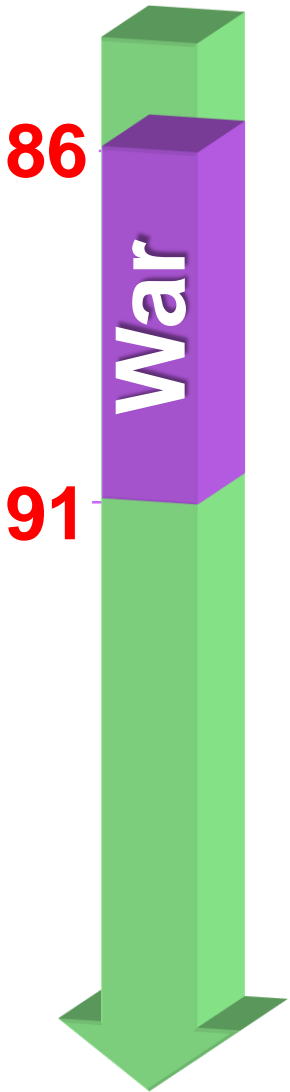May 92
Daniel formally opens the
RIPE NCC

Karrenberg

Lessons ?

A handful of civil servants not officially tasked can bring **global** solutions
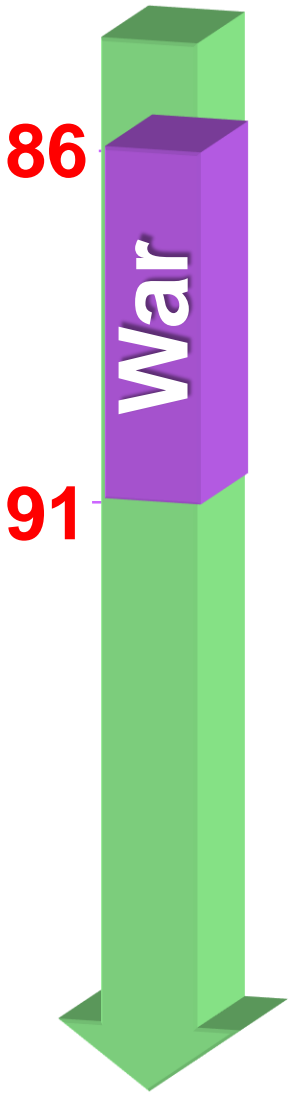
More learnt ?

Open vs. Proprietary

War

86

91

- **Open standards**:
  the way to overtake niche markets

- **Complexity** gives edge to Giant Companies

- **SMEs**: seek **Simplicity!**

  (like **IP**, **SMTP**)

Show me the business

Business with open standards

86

91

War

- Key advantage for **SMEs**: product **interoperability**

- Areas of competition
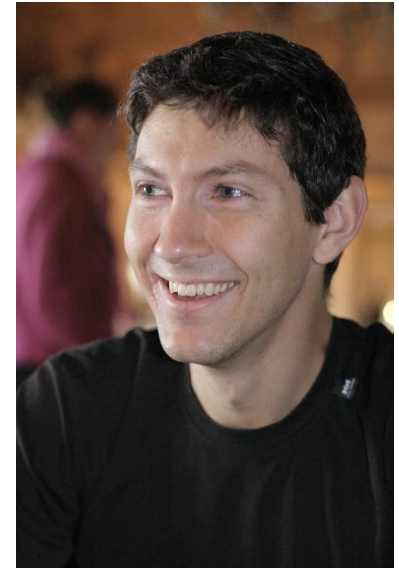
  - **Ergonomics**
  - Performance
  - Services

SMEs to favour open and simple standards

Beware of religions on standards

An open community

01

A **young student** works on an Internet Standard

Cedric Fluckiger

- Discovers a bug in the protocol

- I tell him

"Email the Director of that Protocol right away"

Lessons ?

Internet standard process?

- **Open** to anyone

- **IETF** is the body
  (Internet Engineering Task Force)

- The best place to
  - Learn **Internet Technology**
  - Meet with the key players

Send your engineers, PHD students to IETF meetings

The Dawning of the Web

90 TBL releases
First Web Server

93 **Marc Andreessen** and **Eric Bina** release **MOSAIC**

First Graphical Browser

Industrial Interest?

No interest   … Until

94 ← Netscape

Jim Clark
founder, Silicon Graphics

In common?

- H. Hollerith
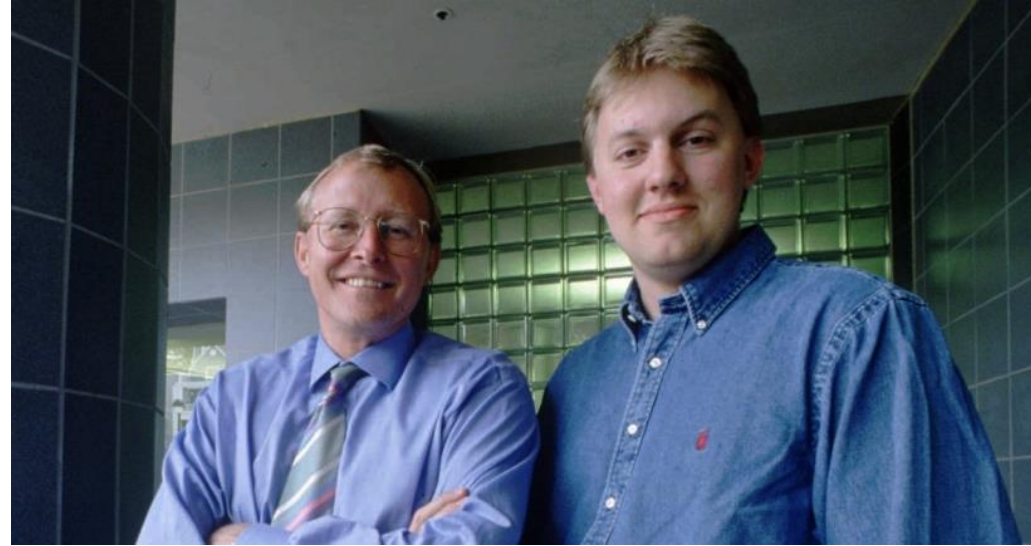- S. Jobs
- B. Gates
- L. Page
  S. Brin
- M. Zuckerberg

All outstanding Managers *and* Technicians

Industrial Interest?

94 ← Netscape

Jim Clark
founder, Silicon Graphics

A **Programmer**

Lessons ?

In IT business, Understanding Technology is key to success

Two reasons for the Web Success

1. **Think Global**

2. **Multiple Talent**

1. Think Global

- **Global** dimension from inception

- Even...

  Universal (URL = **Universal** RL)

2. Multiple Talents

Tim was a **world-class expert** in

- Document format   designed **HTML**

- Networking   designed **HTTP**

- Work perfectly together

Final Lessons ?

Try and
Think Global

Compartmentalization of individuals into specialities:
a brake on creativity

Progress often comes from those who **master more than one domain**

Thank you