Prof. Dr.- Ing. Werner Zorn
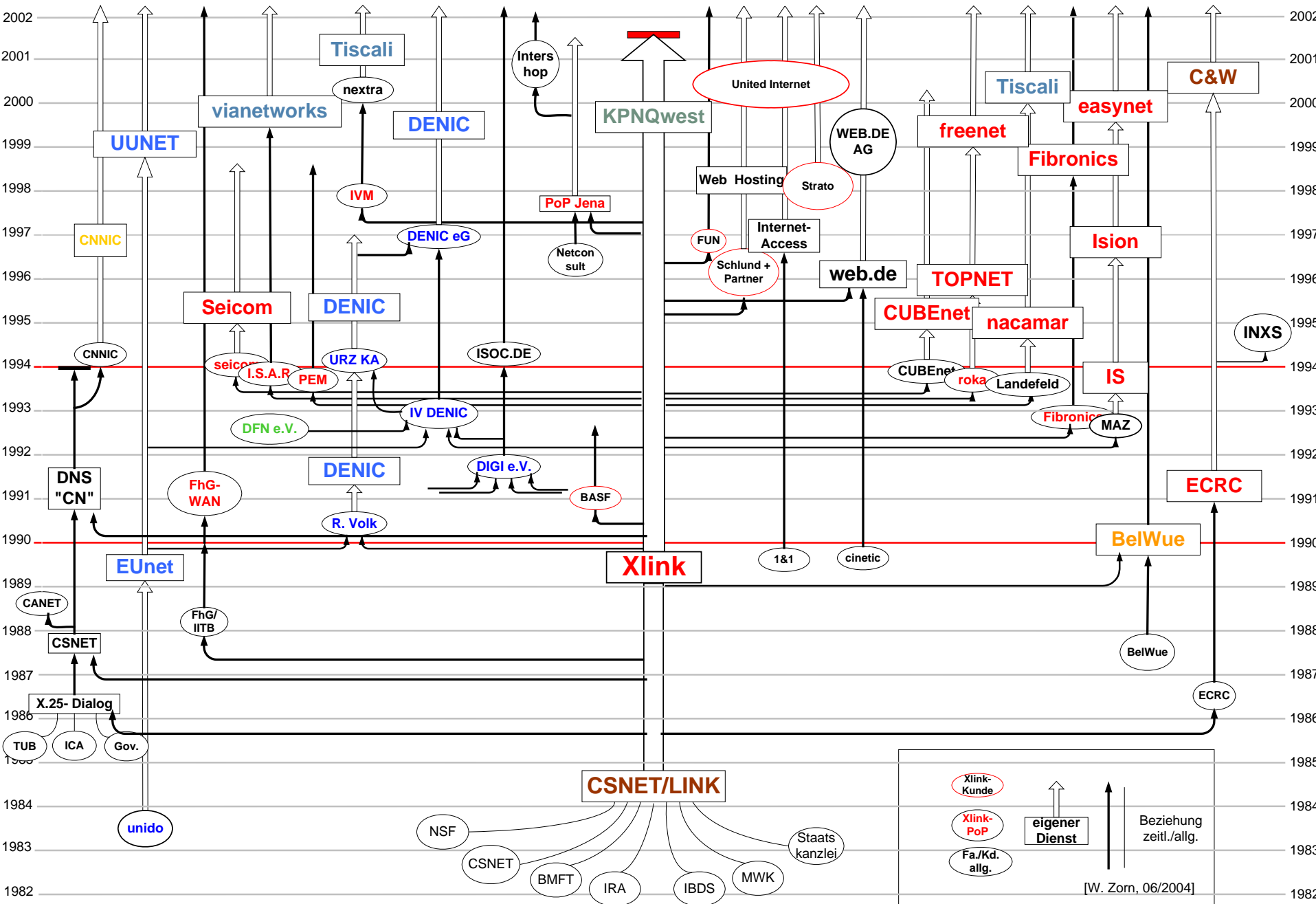**Chair of Communication Systems**

HPI

Connecting China
to the
International Computer Networks

„Germany and China – an Innovative Partnership in IT"
Hasso- Plattner Institute, Potsdam
September 19, 2007

Deutschland
Land der Ideen

Xlink- Stammbaum

Years (left and right axis): 2002, 2001, 2000, 1999, 1998, 1997, 1996, 1995, 1994, 1993, 1992, 1991, 1990, 1989, 1988, 1987, 1986, 1985, 1984, 1983, 1982

Tiscali

Intershop

nextra

vianetworks

DENIC

United Internet

KPNQwest

C&W

Tiscali

easynet

UUNET

freenet

Fibronics

WEB.DE AG

IVM

CNNIC

Web Hosting

Strato

DENIC eG

PoP Jena

Ision

Netconsult

FUN

Internet-Access

web.de

TOPNET

Seicom

DENIC

CUBEnet

nacamar

seicom

I.S.A.R

PEM

URZ KA

ISOC.DE

CUBEnet

roka

Landefeld

IS

INXS

CNNIC

IV DENIC

DFN e.V.

Fibronics

MAZ

DENIC

DIGI e.V.

DNS "CN"

FhG-WAN

BASF

ECRC

R. Volk

EUnet

Xlink

1&1

cinetic

BelWue

CANET

FhG/IITB

CSNET

BelWue

X.25- Dialog

ECRC

TUB

ICA

Gov.

CSNET/LINK

unido

NSF

Staatskanzlei

CSNET

BMFT

IRA

IBDS

MWK

Legend box:
Xlink-Kunde
Xlink-PoP
Fa./Kd. allg.
eigener Dienst
Beziehung zeitl./allg.

[W. Zorn, 06/2004]

4

西德WASCO协会计算机学术交流

DFN = Deutsches Forschungs-netz
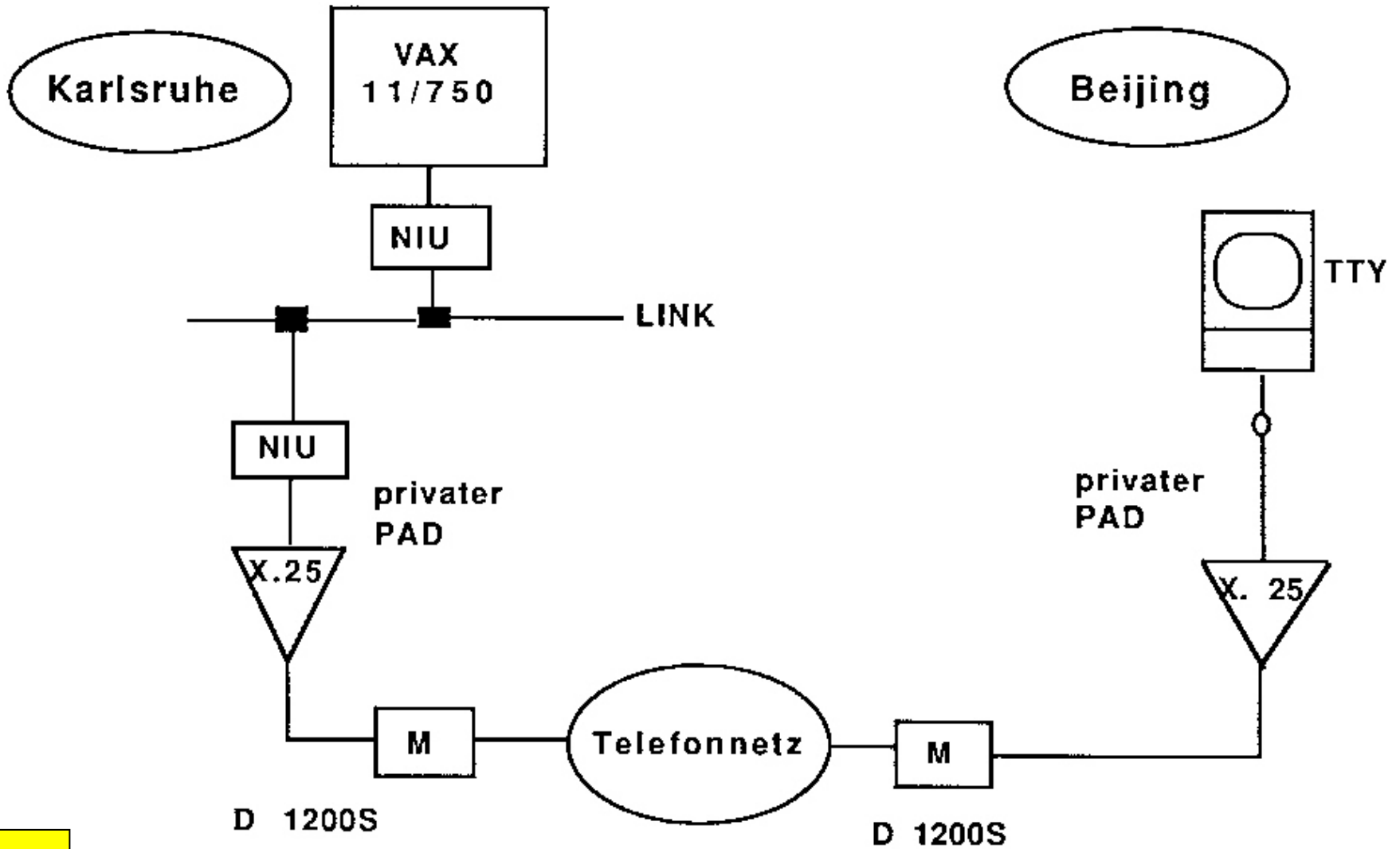
National Computer - Network for the
Research - Area

Expected profit:
- more cooperation
- higher productivity
- better use of resources
- faster Know How - Transfer
- better competitivity
- strong impetus for
  DC - research

6

1985

Failed Tests of how to Connect ICA with IRA (16.- 19.05. 1986)

Breakthrough- X.25 Connection from Beijing to Italy (27.05.1986)

```
SIST – 10 MULTIPAD
PKTELCOMB BEIJING, CHINA

* 3

* C 2222620021 ditchi0005es
com 2222620021/

network: password:
000000000000000

Please enter your ESA-QUEST password
rbc @@@@@

if you having difficulty logging on
Please contact IRS or your national centre

clr
*
```
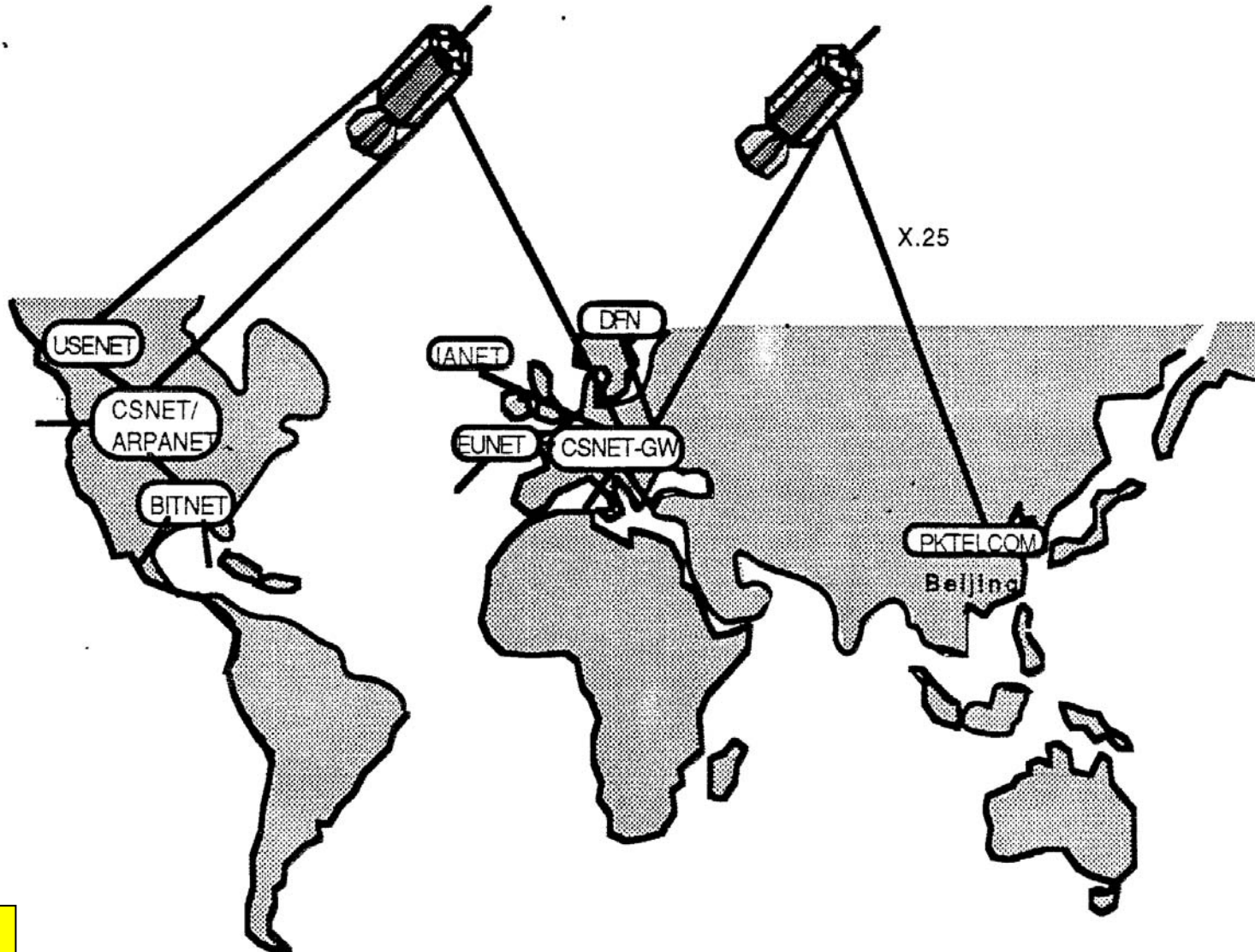
1986

Concept of Network connection between ICA and CSnet

USENET

CSNET/ARPANET

BITNET

IANET

DFN

EUNET

CSNET-GW

X.25

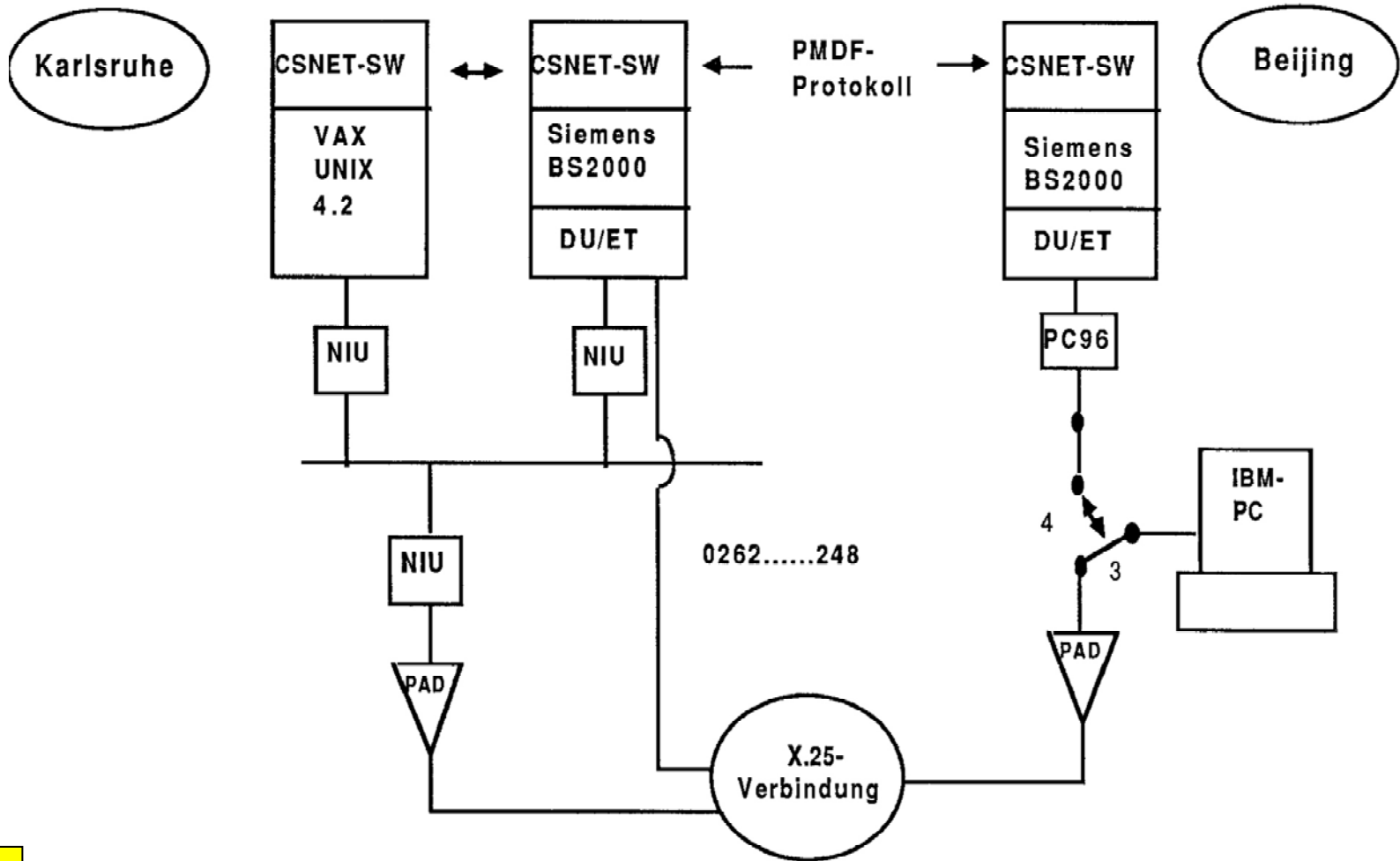PKTELCOM
Beijing

1986

1987 3rd CASCO Conference in Beijing (06.- 14.09.1987) [11]

3rd CASCO Conference in Beijing (04.- 14.09.1987) [12]

E-Mail connection between ICA and CSnet

1987

"Ueber die Grosse Mauer erreichen wie alle Ecken der Welt"
"Across the Great Wall we can reach every corner in the world"
Dies ist die erste ELECTRONIC MAIL, die von China aus ueber Rechnerkopplung
in die internationalen Wissenschaftsnetze geschickt wird.
This is the first ELECTRONIC MAIL supposed to be sent from China into the
international scientific networks via computer interconnection between
Beijing and Karlsruhe, West Germany (using CSNET/PMDF BS2000 Version).

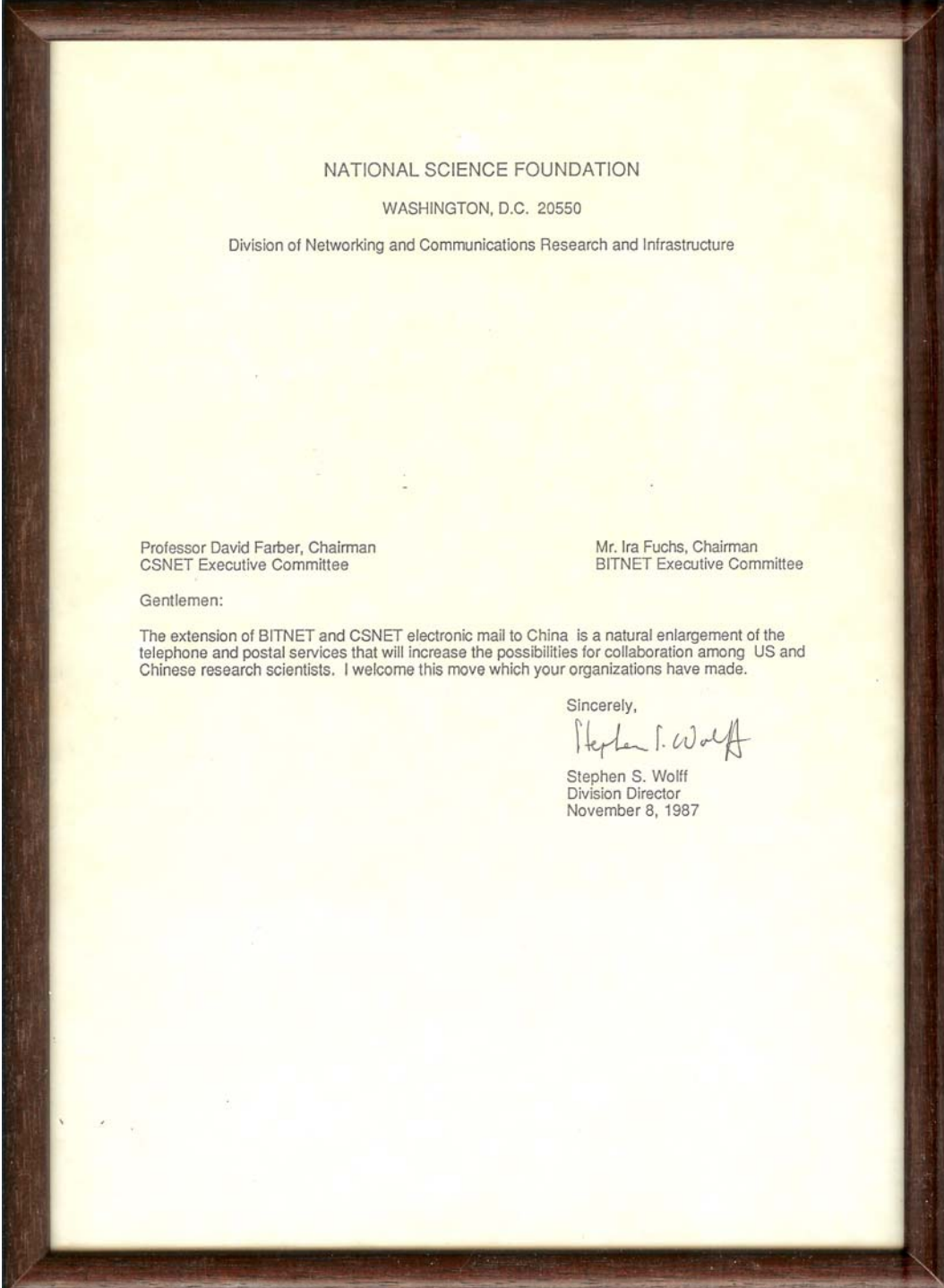| University of Karlsruhe	Institute for Computer Application of
-Informatik Rechnerabteilung-	State Commission of Machine Industry
(IRA)	(ICA)
Prof. Werner Zorn	Prof. Wang Yuen Fung
Michael Finken	Dr. Li Cheng Chiung
Stefan Paulisch	Qiu Lei Nan
Michael Rotert	Ruan Ren Cheng
Gerhard Wacker	Wei Bao Xian
Hans Lackner	Zhu Jiang
	Zhao Li Hua

„Across the Great Wall we can reach every corner in the world"

1987

Giving support for the NSF approval of the China Connection

1st row: Profs. Richard Mandelbaum, Larry Landweber, Dave Farber
[Photo taken at INET'92 in Kobe/Japan]

1987

The official NSF approval, handed over to the Chinese delegation at IANW'87 in Princetown (09.-11.11.1987)

NATIONAL SCIENCE FOUNDATION

WASHINGTON, D.C. 20550

Division of Networking and Communications Research and Infrastructure

Professor David Farber, Chairman
CSNET Executive Committee

Mr. Ira Fuchs, Chairman
BITNET Executive Committee

Gentlemen:

The extension of BITNET and CSNET electronic mail to China is a natural enlargement of the telephone and postal services that will increase the possibilities for collaboration among US and Chinese research scientists. I welcome this move which your organizations have made.

Sincerely,

Stephen S. Wolff
Division Director
November 8, 1987

Stephen S. Wolff

1987

18

CANET foundation on 28.03.1988

机械电子工业部唐仲文副部长在"计算机国际联网讨论会"上致词

Opening speech of deputy minister Tang Zhongwen

1988

International Computer Network
Symposium Program Agenda
Beijing, 28.- 30.03.1988

March 28

9:00 –10:30 The symposium will be open. It is presided over by Dr. Li Chengchun.
   1. Welcoming speech will be given by deputy minister Tang Zhongwen .
   2. A leading member from the electronic vitalization office of the state council will
       deliver a address .
   3. A speech will be given by director Yang Chuquan .
   4. Prof. Wang Yunfeng will give a speech .
   5. Prof. Zorn will speak on behalf of all the foreign experts .
   6. All the Representatives take a Group Photo .

13:00- 16:30 Director Yang will be the Chairman .
   1. A report about the computer network of China and W-Germany given by Dr. C.C.Li .
   2. A report about the development of the computer network at home and abroad given by
       Mr. Li Shao hong .
   3. A report about the price analysis of the international computer network given by
       Mr. Ruan Rencheng .
   4. A report will be given by foreign experts .
     - Dr. Dennis Jennings, University College Dublin, Ireland
     - Daniel Karrenberg, EUnet , CWI Amsterdam, The Netherlands

CANET foundation on 28.03.1988

全国政协委员王运丰教授在88年
"计算机国际联网讨论会"上发言

Opening speech of Prof. Wang YunFeng
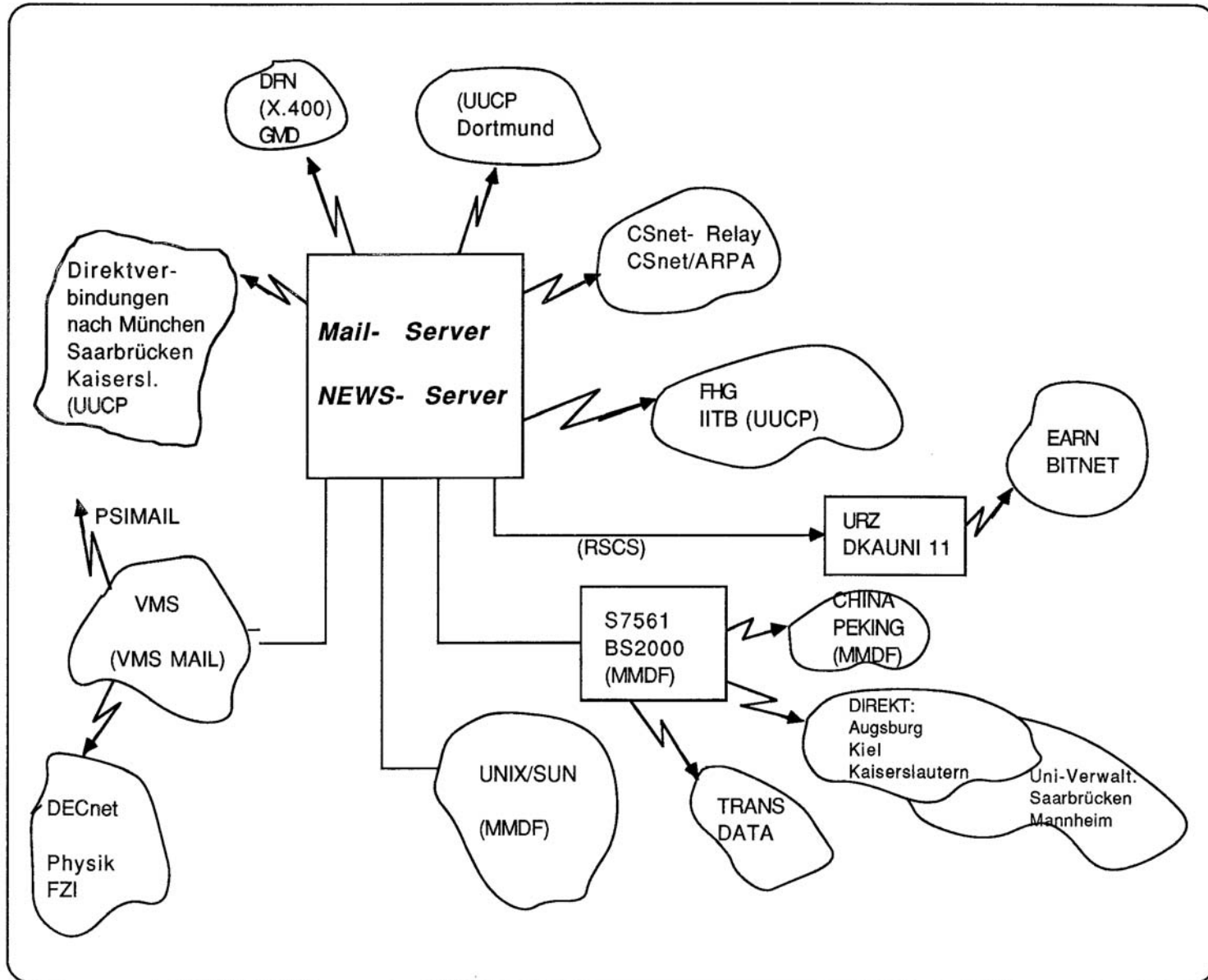
CANET foundation on 28.03.1988

88年"计算机国际联网讨论会"全体中外代表合影。

1st row (left to right): Mrs. Lin, Dr.C.C.Li, N.N. Daniel Karrenberg, Prof. YunFeng Wang, Dr. Dennis Jennings, Minister Tang, Prof. Zorn a.o.

Mailkonfiguration Informatik

1988   „Larry's Networkshop" IANW in Jerusalem[26]

27

Prof. Wang YunFeng
(15.03.1911 – 29.04.1997)
,,The Father of CANET
- the first Open Computer Network of China"
[Photo taken at 1st CASCO Conference in Beijing 09/1983]

(a detailed report on the project can be found at
http://www-fgks.hpi.uni-potsdam.de/src/pubzorn/How_China/ChinaConnection.pdf)

Why Canada inserted the marple leaf

Because China was earlier!

1988

Appendix: CN Registration 1990

```
Date:      Mon, 26 Nov 90 16:27:35 MET
From:      "Prof. Dr. W. Zorn" <zorn@ira.uka.de>
To:        hostmaster@nic.ddn.mil
cc:        xlink@ira.uka.de
Subject:   Top level domain CN

Douglas,

here is the information about toplevel domain CN. If you have further
questions, please mail to xlink@ira.uka.de. The domain will be operational as
soon as we get a registration.

Thanks for your cooperation,

Werner Zorn


---------------------------------------------------------
```

1990

```
(1) The name of the top-level domain to join
        (EDU, COM, MIL, GOV, NET, ORG).
        1. Top-level domain: ROOT
        (This is an application for a top-level domain)
(2) The name of the domain
        2. Complete Domain Name: CN (ISO code for China)
(3) The name and address of the organization establishing the domain.
        3a. Organization name:
                CANET Chinese academic net
3b. Organization address:
                c/o ICA P.O. Box 2418-26
                Che-Dao-Gou Street 10,100081
                Beijing, P.R. China
(4) The date you expect the domain to be fully operational
        4. Date operational:
                immediately
 (5) Administrative Contact
5a. NIC Handle:
5b. Name (Last, First) :  Qian, Tian Bai
5c. Organization:         ICA
5d. Mail Address:         Institute of Computer Application
                          P.O. Box 2418-26
                          Che-Dao-Gou Street 10,100081
                          Beijing, P.R. China
5e. Phone Number:         +86 1 841 3654
5f. Net Mailbox:          qian.ica.beijing.CN
```

```
(6) Technical and Zone Contact
6a. NIC Handle:                    MR78    [Remark: MR- Michael Rotert]
6b. Name (Last, First):
6c. Organization:
6d. Mail Address:                  University of Karlsruhe
                                   Computer Science Dept.
                                   Am Fasanengarten 5
                                   D-7500 Karlsruhe
                                   FEDERAL REPUBLIC OF GERMANY
6e. Phone Number:
6f. Net Mailbox:
(7)
7a. Primary Server Hostname:           iraun1.ira.uka.de
7b. Primary Server Netaddress:         129.13.10.90
7c. Primary Server Hardware:           VAX 3500
7d. Primary Server Software:           ULTRIX
 (8) The Secondary server information

8a. Secondary Server Hostname:     mcsun.eu.net
8b. Secondary Server Netaddress:   192.16.202.1
8c. Secondary Server Hardware:     SUN-4/280
8d. Secondary Server Software:     UNIX

8a. Secondary Server Hostname:     uunet.uu.net
8b. Secondary Server Netaddress:   192.48.96.2
8c. Secondary Server Hardware:     SEQUENT-S81
8d. Secondary Server Software:     UNIX
```

(10) Please describe your organization briefly.

CANET is the Chinese state research and development network, begun in 1988. It currently includes approximately 35 institutions. The gateway is through XLINK at the University of Karlsruhe in Germany. CANET uses dial-up nodes as well as X.25 in the major cities of China. Currently, 1200 bps is the typical transmission speed. CANET plans to move completely to X.25 and PAD connections. They expect to install Telebit Trailblazer modems for the dial-up lines.

Qian TianBai
1945 - 1998