25 years of WIDE Project

Jun Murai

Founder of WIDE Project

History of the Internet

- 1969
- 1982
- 1990
- 1993
- 1995
- 1997
- 2000
- 2001
- 2005
- 2011
- 2012

History of the Internet

- 1969 ARPAnet and UNIX were born
- 1982 4.2BSD (source code TCP/IP deployed)
- 1990 WWW started
- 1993 ISP commercial service launched
- 1995 Windows ’95, 1.17 (Hanshin Awaji Earthquake)
- 1997 Rakuten Ichiba launched
- 2000 Y2K
- 2001 9.11
- 2005 Internet Neutrality
- 2011 3.11
- 2012 Accessing right to the Internet is ‘Human Right’

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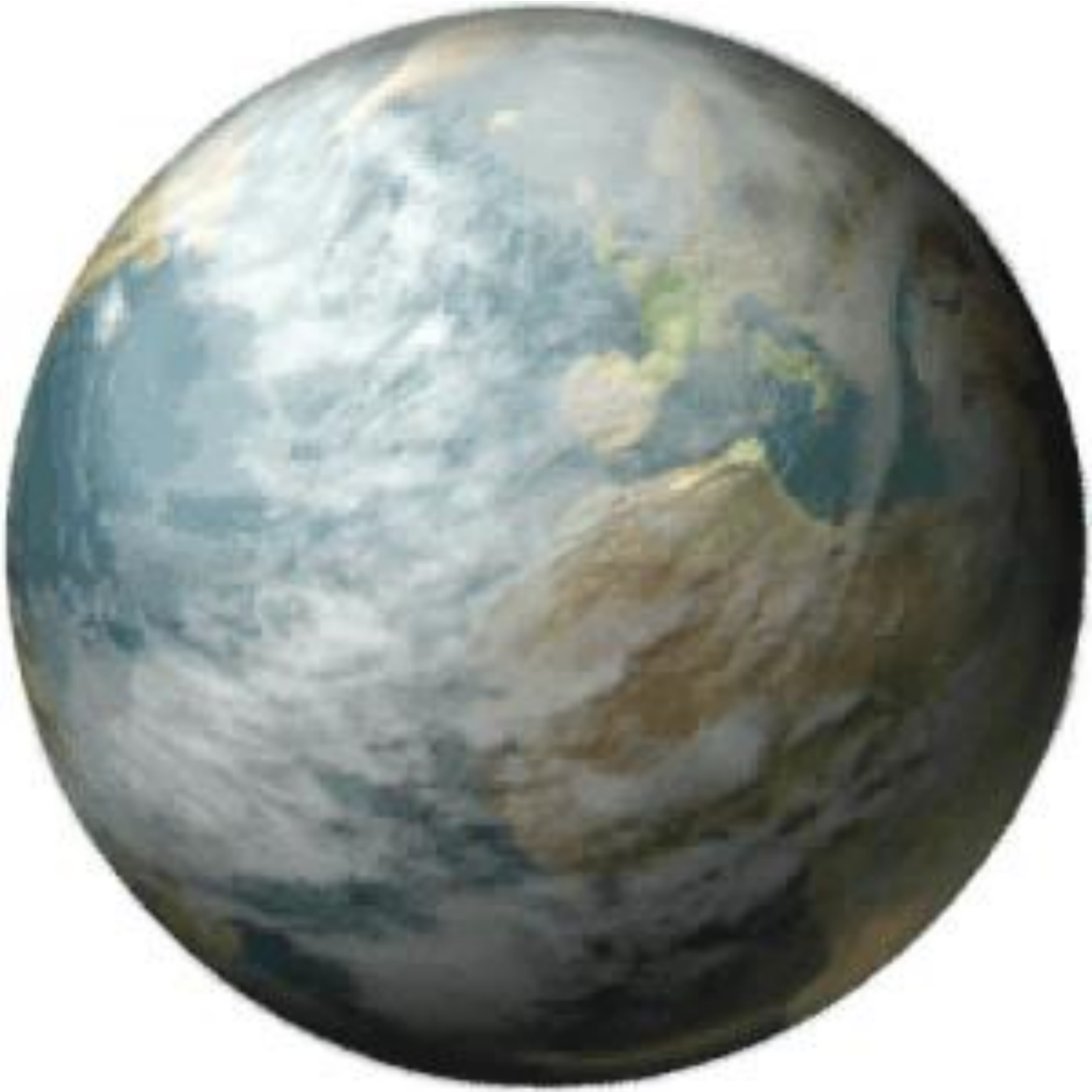
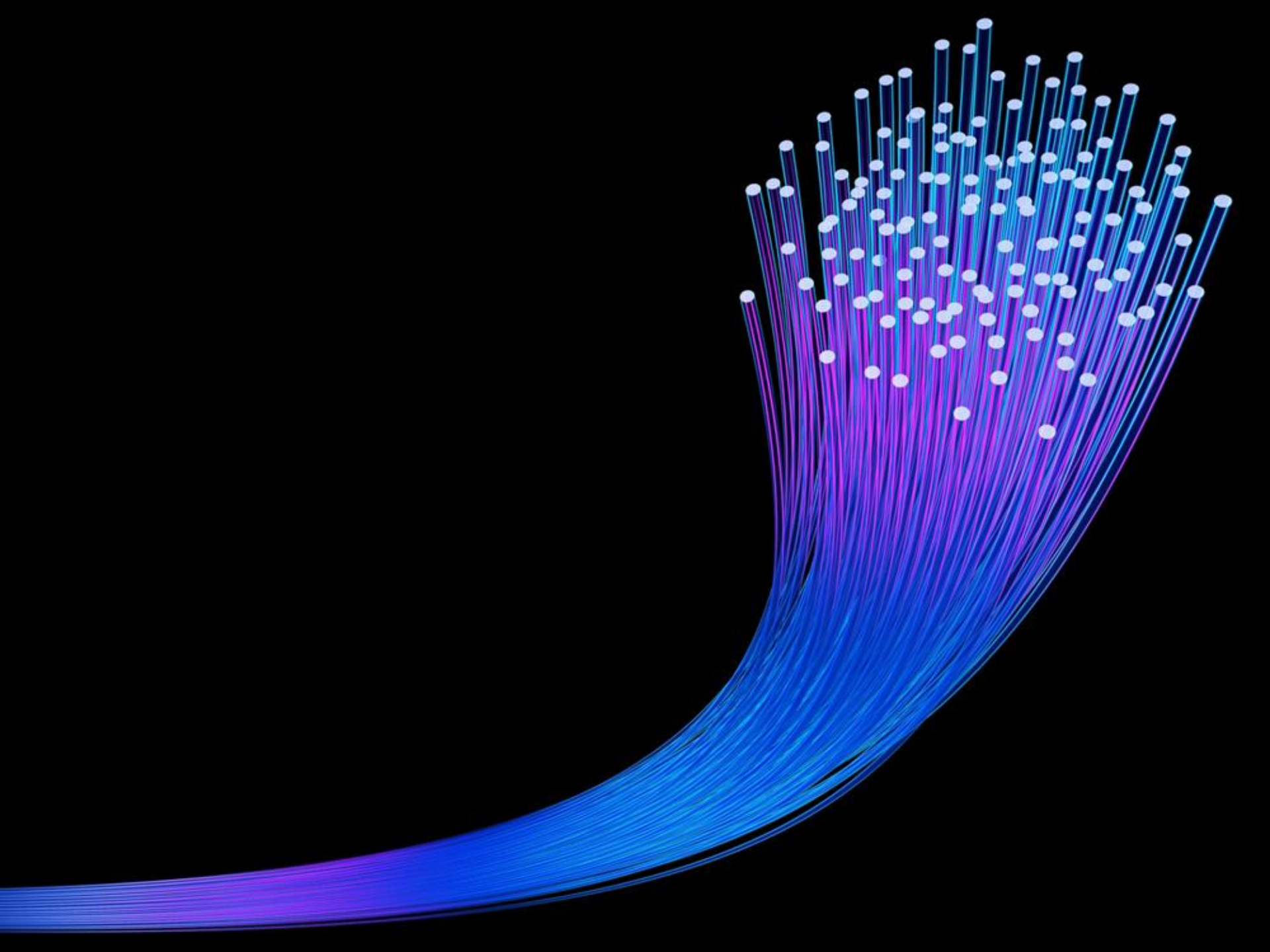
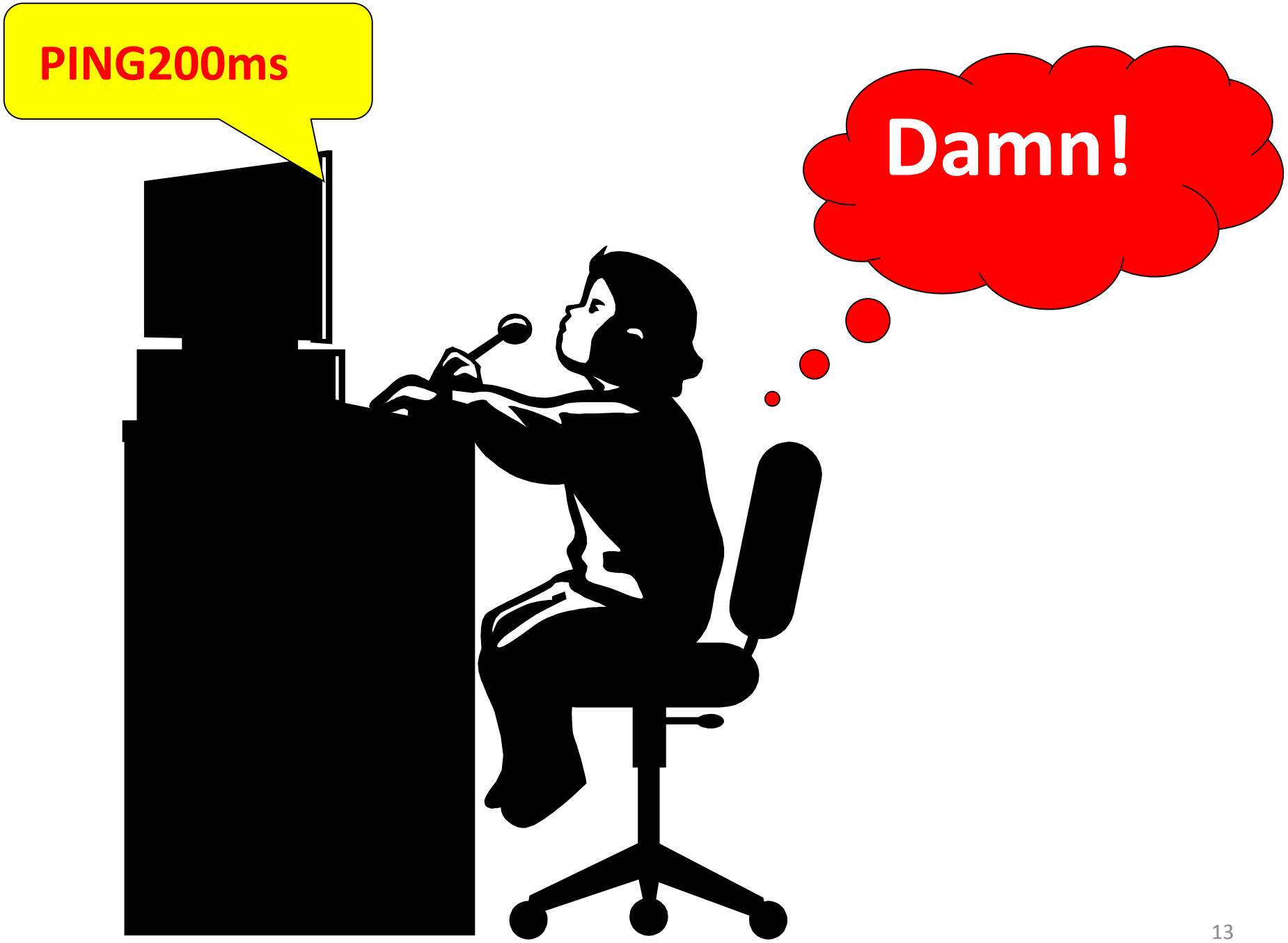
Trust People





133ms

With Nature
For Nature
Against Nature


PING200ms
Damn!

```
#include <stdio.h>

int main(void)
{
    char s[]="Hello World!¥n";
    printf ("%s",s);
    return 0;
}
```

```c
#include <stdio.h>

int main(void)
{
    char s[]="Hello World!¥n";
    printf ("%s",s);
    return 0;
}
```

char ?

char ≠ 7bits

of characters > 26

46802号（B刊）

カオスの深淵

「もっと速く」市場の欲望

た1千分の5秒短縮するために、約
円を投じたプロジェクトがある。そ
を聞いて、1月26日早朝、千葉県の
島に行った。
に大型船が停泊し、シンガポールと
最短ルートで結ぶ光通信ケーブルを
り出す作業を始めていた。6千キロを
家で結ぶ。6月にサービスが始まる
後は両国間を1千分の60秒で行き来

程度というまばたきよりずっと小
短縮への巨額の投資に、どんな意
るのか。事業主のNTTコミュニケ
ンズの担当者に聞くと、「使うのは
資系の金融機関。いまは1千分の1
秒遅れで、数百万ドル損することもあ
秒でも速める意味は大きい」。

の金融・証券市場では「より速く、
い」取引が急増している。難しい
ったプログラムに従って、コンピ
ーが1千分の1秒単位で自動的に発
り返す。値動きの変化を瞬時に見抜
さなサヤを確実に抜く。取引1回あ
うけは少ないが、細かく大量に発
きな利益にしていく。高頻度取引
Frequency Trading=HFT）と
る。
の世界は速いもの勝ち」。投資会社

インフィニウム・キャピタル・マネジメントの最高執行責任者グレゴリー・アイクブッシュさん（44）はそう言い切った。高頻度取引発祥の地といわれる米国・シカゴのオフィスには無数のモニター画面が並んでいた。ただ、取引するのはコンピューター。社員は主にトラブルが起きていないか監視する。最も忙しさとは無縁だ。

しかも発注するコンピューターの大部分は、オフィスにはない。そこから離れて、取引所がシステムを置く建物の中にある。取引所はシステムにアクセスしてきた順に注文を処理する。競争相手を出し抜かなければならない。オフィスから発注したのでは、取引所までの距離の分だけ情報通信網を通ることになる。その時間が惜しい。わずかな遅れで損をする場合があるのだ。

インフィニウムは今、世界の取引所など約30カ所に自分のコンピューターを置いている。「コロケーション（Co-Location）」と呼ばれるこのやり方を使って、日本でも年内に先物取引を始める考えだ。

アイクブッシュさんはかつて、リーマン・ブラザーズの債券部門トップを務めたが、その金融後、将来性に不安を感じてウォール街に見切りをつけた。そしてこの会社に移った。従業員230人。オプション取引や商品先物などを1日約30万件売買する。運用資産に対する利回りは30％という。驚くほどの高水準だ。「お金がもうかるプログラムがすべて。人間の判断は極力、織り込まない」

グローバル市場での取引は、人間の思考や感覚を置き去りにしながら加速している。

（横田正城）▶2面に続く

❶取引をモニターする画面が並ぶインフィニウム・キャピタル・マネジメントのオフィス＝米シカゴ、横田正城撮影
❷シンガポールと日本を結ぶ光通信ケーブルが敷設されている＝1月26日、那覇半島沖、本社ヘリから、塩塚利宗撮影

「もうけたい」という欲望を社会にとって建設的エネルギーに替える。市場の重要な役割だ。しかし、AIJ投資顧問事件でも、オリンパス事件でも、巨額のカネは社会の役に立たないまま消えた。市場はグローバル化しても肝心な機能を果たせるか。

AIJ運用形

監視委 資産流用

AIJ投資顧問（東京都中央区）が企業年金約120億円から運用を任された年金資産約2100億円のほとんどを消失させた問題で、少なくとも近年は、AIJが実際に株式などで運用していた形跡を確認できないことが証券取引等監視委員会の検査でわかった。ほかの使い道に流用していた疑いもあるとみて詳しく調べる方針だ。

AIJが金融商品取引法に基づき2011年6月に関東財務局に提出した業務報告書では「デリバティブ（金融派生商品）」などで運用していると記載されている。監視委はAIJの報告書にうそを書いた虚偽記載（虚偽記載）の疑いもあるとみて調べている。

監視委は情報提供を受けて、1月31日からAIJの特別検査に入った。検査によると、AIJは年金資産のほとんどを「私募投資

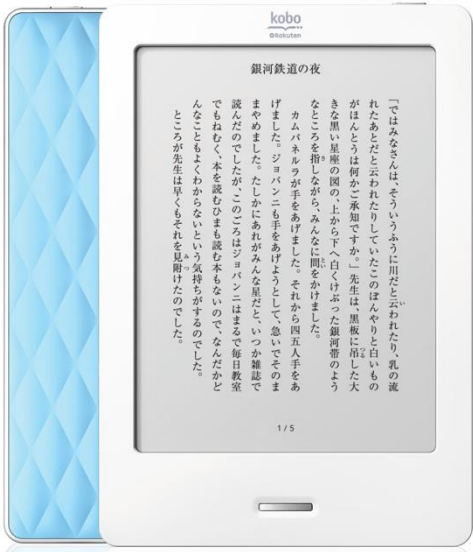
行禁止域縮小

発から3キロに

東京電力福島第一原発の周辺地域が31日、半径20キロから3キロに縮小された。この日午後、ヘリコプターで3キロ少しまで迫った。原発からの距離が4.5キロほどになると、放射線測定器の針が最大の毎時1・4ミリシーベルトを指した。第一原発では、屋根や壁が吹き飛んだ原子炉建屋にも傷がかかっ

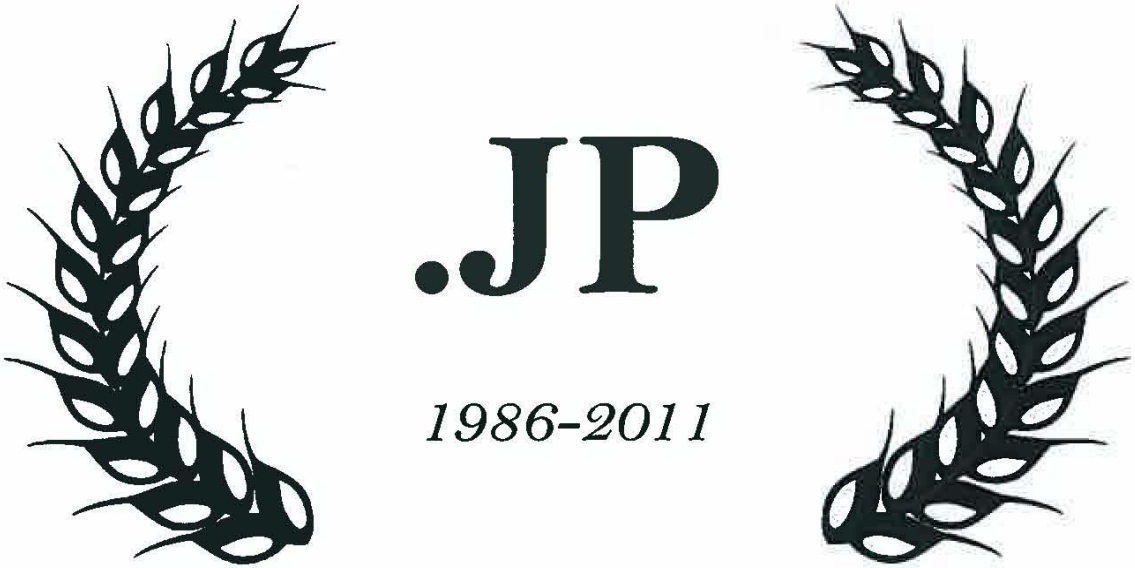
2012年（平成24年）
2月26日
日曜日
朝日新聞
朝日新聞名古屋本社


スクエヤーダンス講習會
とび入り かんげい
スミマせん
出炭


kobo
銀河鉄道の夜
「ではみなさんは、そういうふうに川だと云われたり、乳の流れたあとだと云われたりしていたこのぼんやりと白いものがほんとうは何かご承知ですか」先生は黒板に吊した大きな黒い星座の図の、上から下へ白くけぶった銀河帯のようなところを指しながら、みんなに問をかけました。
カムパネルラが手をあげました。それから四五人手をあげました。ジョバンニも手をあげようとして、急いでそのままやめました。たしかにあれがみんな星だと、いつか雑誌で読んだのでしたが、このころはジョバンニはまるで毎日教室でもねむく、本を読むひまも読む本もないので、なんだかどんなこともよくわからないという気持ちがするのでした。
ところが先生は早くもそれを見附けたのでした。
1 / 5


私が具体を知ったのは
ミッシェル・タピエを通してです
Rodolphe Stadler
Galerie Stadler, Paris

Celebrating 25 Years



.JP

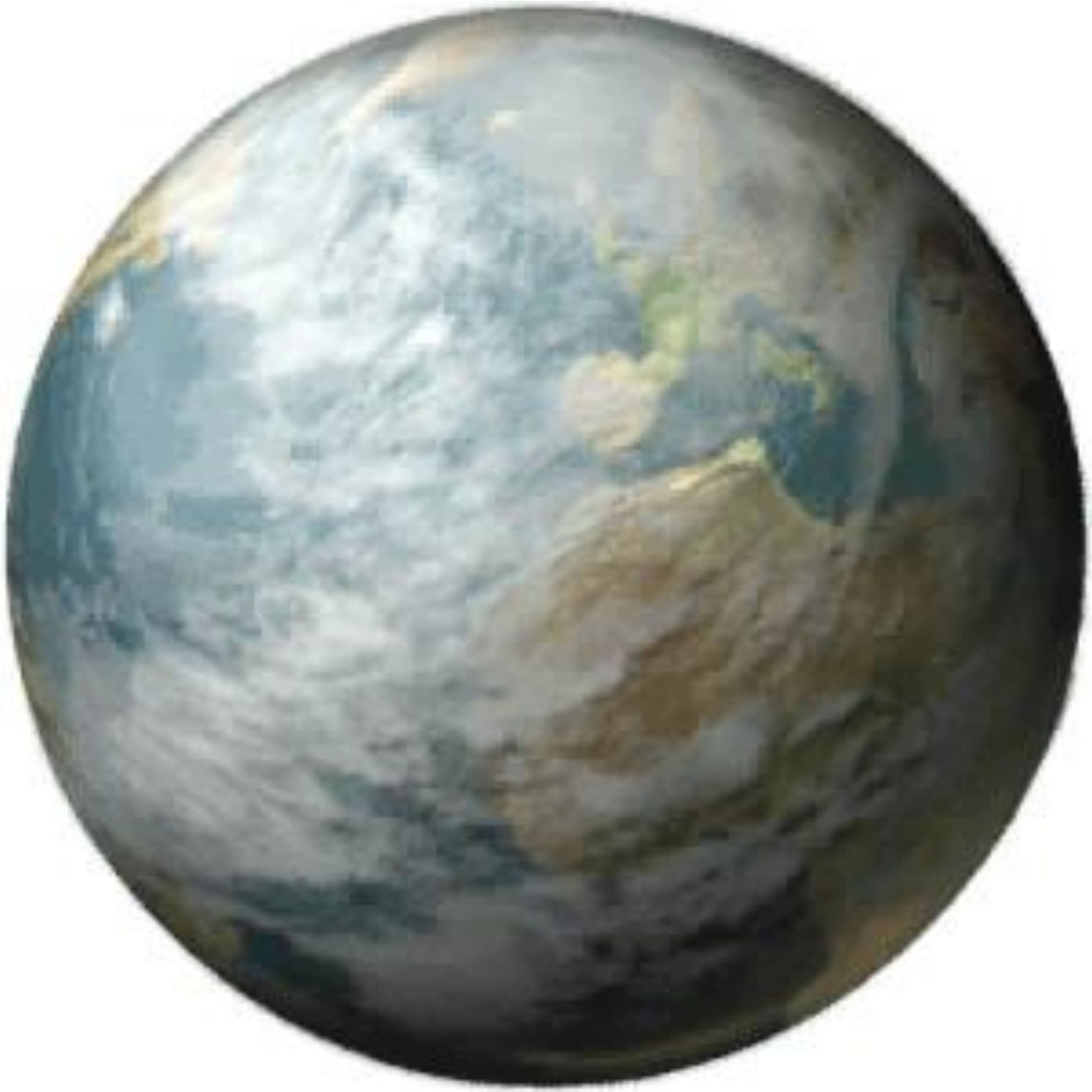
1986-2011

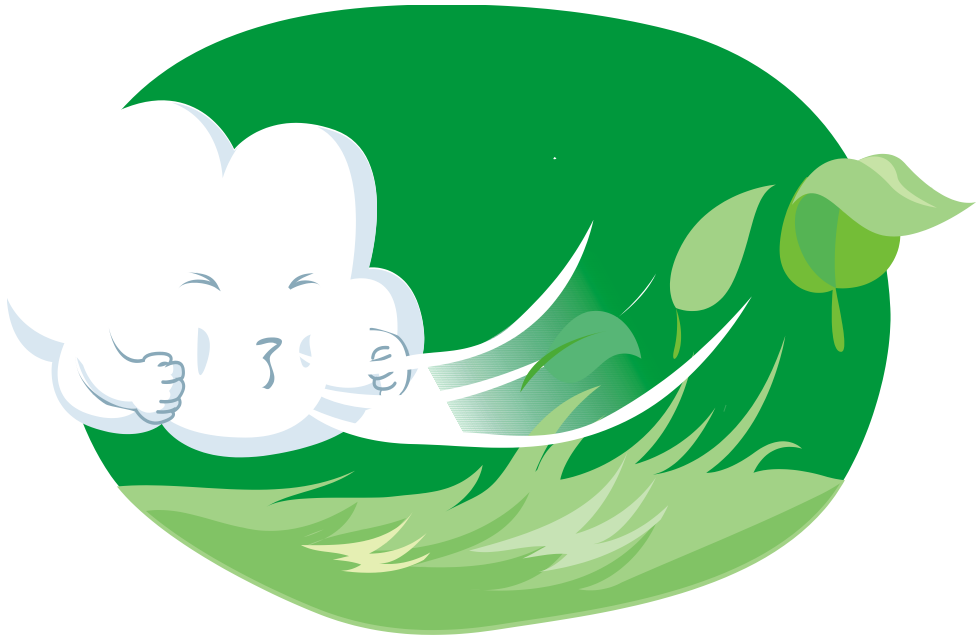
Presented in October 2011 to Japan Registry Services Co., Ltd. by

ICANN

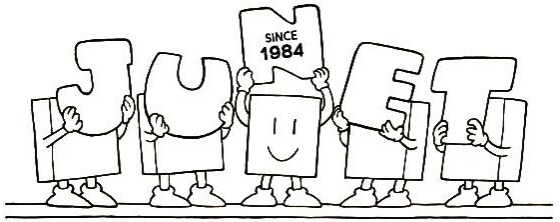
Rod Beckstrom
CEO and President
Internet Corporation for Assigned Names and Numbers

Steve Crocker
Chair, Board of Directors
Internet Corporation for Assigned Names and Numbers





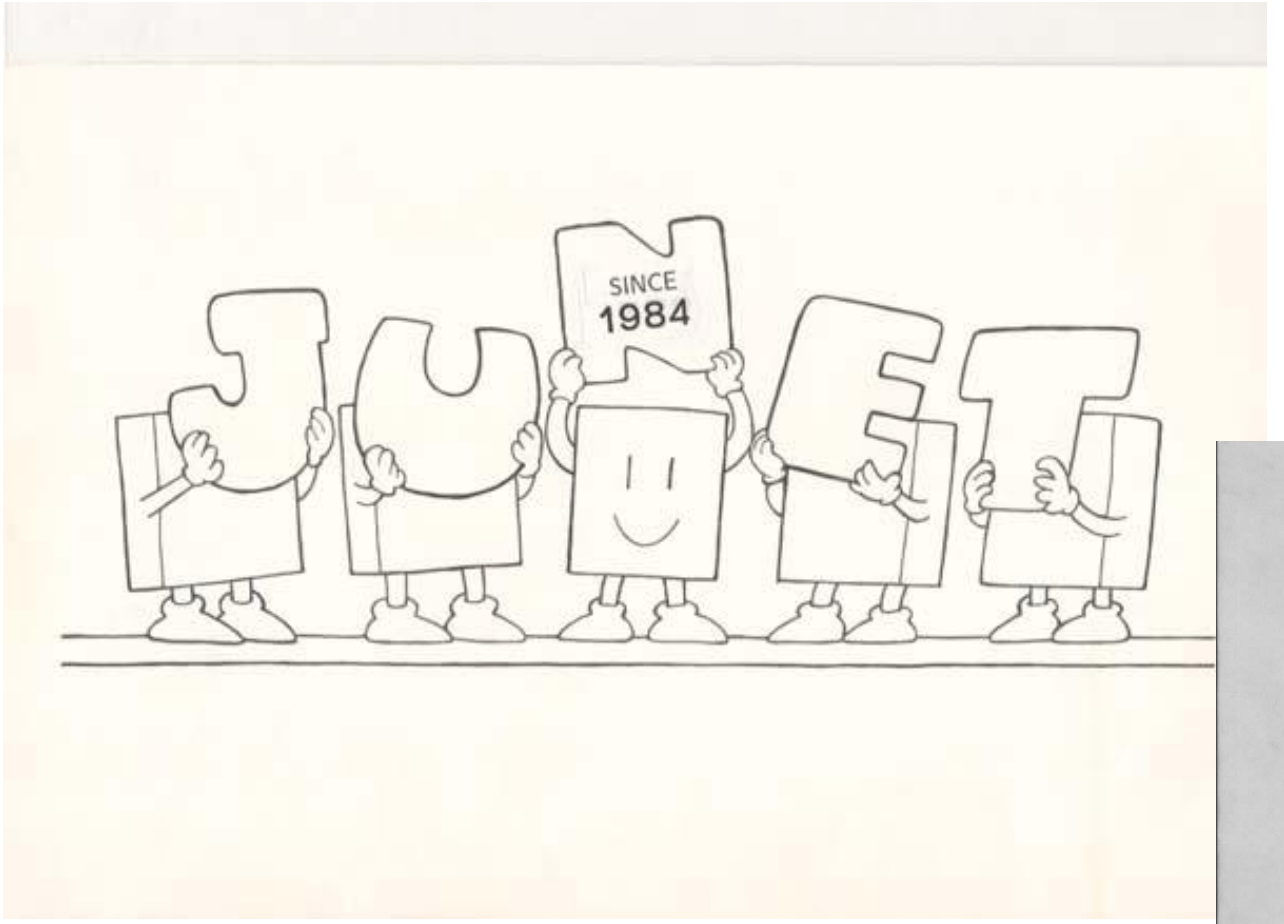
Pre WIDE



- JUNET
  - Oct. 1984 ～ Oct. 1994
  - UUCP Based
  - E-Mail
    - Domain Based Routing
    - jun@titcca.titech.junet
  - Kanji Characters
    - for X window system
    - Free Kanji Font: k14
    - Input Method
    - Tools

Most Popular UUCP Modem for JUNET
Telebit TrailBlazer T2500

k14 kanji font and
kterm (Terminal Emulator with Kanji Characters)



JUNET利用の手引

（第１版）

1988年２月

JUNET利用の手引作成委員会

Researches in network development of JUNET

Authors:
J. Murai Univ. of Tokyo, Tokyo, Japan
A. Kato Tokyo Institute of Technology, Tokyo, Japan

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Proceedings of the ACM workshop on Frontiers in computer communications technology ACM New York, NY, USA ©1988

NATIONAL SCIENCE FOUNDATION
1800 G Street, NW
Washington, DC 20550

Division of Networking
and Communications
Research and Infrastructure

June 28, 1989

Dr. Jun Murai
University of Tokyo

Dear Dr. Murai:

In light of our discussions this afternoon, on behalf of NSF it is a pleasure to grant Internet access to the Japanese IP community.

Sincerely,

Stephen S. Wolff
Division Director

cc: Dr. Steven Goldstein

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Sincerely.
Stephen S. Wolff
Division Director

16-25 August 1996: The 2nd Rally Raid MONGOL
Succeeded in broadcasting the rally
from Mongol over the Internet.

2002/1/25: WIDE Workshop at Stanford University
The first overseas WIDE Workshop at Stanford University with the cooperation of Cisco Systems Inc.

July 14-19 2002: 54th IETF Meeting, Yokohama
Hosted IETF meeting in Asia for the first time.

September 25 2002: WIDE Project
Sponsor Meeting held at the Nihon Kaiun Club
Conferences are held twice a year to report
the results of joint research to sponsors of
the WIDE Project.

December 18-19 2002: Global IPv6 Summit in Japan
We actively invite international summits.

WIDE: 25Years of History

September 18 2003: The 15th anniversary of the WIDE Project at Akasaka Prince Hotel
Had a party to express our appreciation to our sponsors for supporting
15 years, with approximately 350 attendees.

March 3-6 2003: WIDE Spring Camp 2003;
Nagahama Royal Hotel (Shiga Pref.)
We hold intensive 4-day camp twice a year.

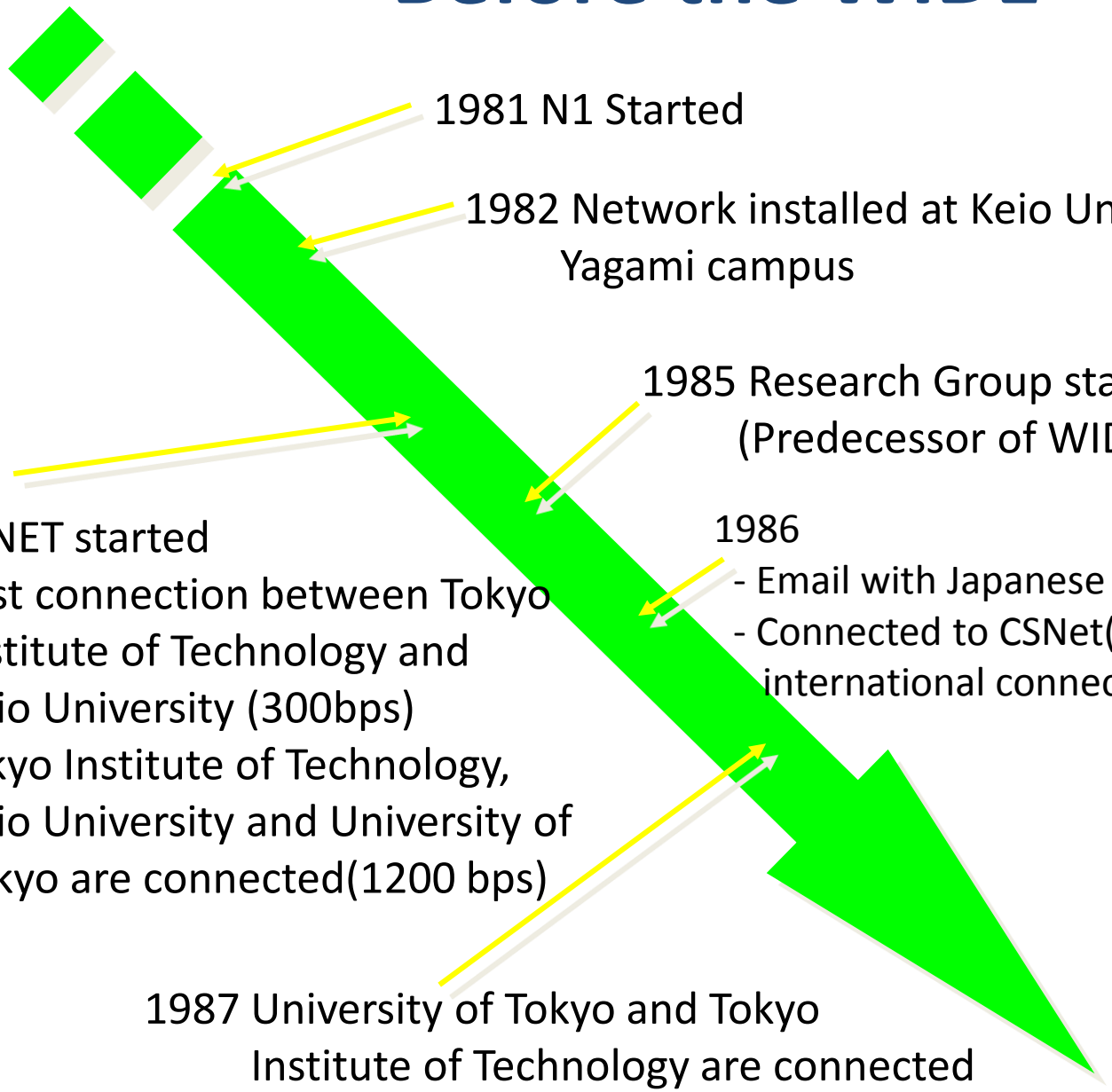
June 1992:
Hosted INET'92 (Kobe)

June 30-July 02 2004:
NETWORLD+INTEROP 2004 TOKYO
held at Makuhari Messe
Providing technical support since the 1st exhibition in 1994.

2005
Aichi World Expo.

History of the WIDE

Before the WIDE



1981 N1 Started

1982 Network installed at Keio University Yagami campus

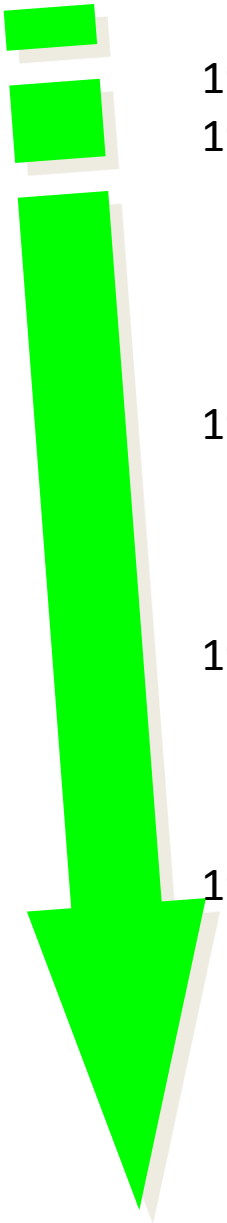
1985 Research Group started (Predecessor of WIDE Project)

1984
- JUNET started
- First connection between Tokyo Institute of Technology and Keio University (300bps)
- Tokyo Institute of Technology, Keio University and University of Tokyo are connected(1200 bps)

1986
- Email with Japanese characters at JUNET
- Connected to CSNet(US), the first international connection for JUNET

1987 University of Tokyo and Tokyo Institute of Technology are connected

History of the WIDE Project (1)



1988 WIDE project started (August)

1989

- NSFnet and Univ.Tokyo connected by cooperation of NACSIS (9.6kbps)
- WIDE connected to US by dedicated line via Hawaii (64kbps)
- WNOC-Tokyo started (Iwanami-shoten, Publishers)
- WNOC-Kyoto started (ASTERM)

1990

- WNOC-Osaka started (Senri International Information Institute)
- WNOC-SFC started (Keio Shonan Fujisawa Campus)
- WNOC-Fukuoka started (System Soft Corporations)

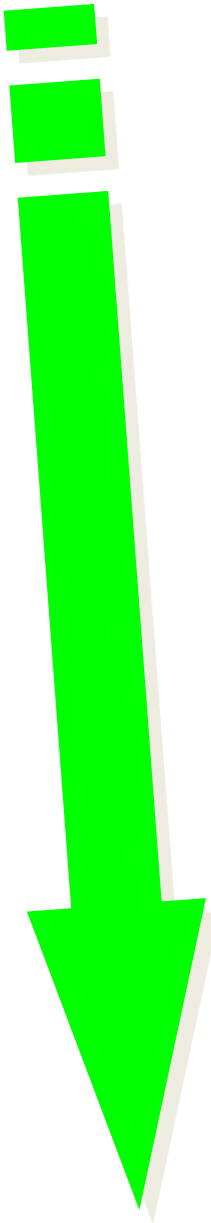
1991

- WNOC-Sendai started (AIC)
- Increased bandwidth between SFC and Univ of Hawaii (192kbps)
- Network introduced to WIDE camp (64kbps)

1992

- INET92 at Kobe
- WNOC-Hiroshima started (Hiroshima University)

History of the WIDE Project (2)

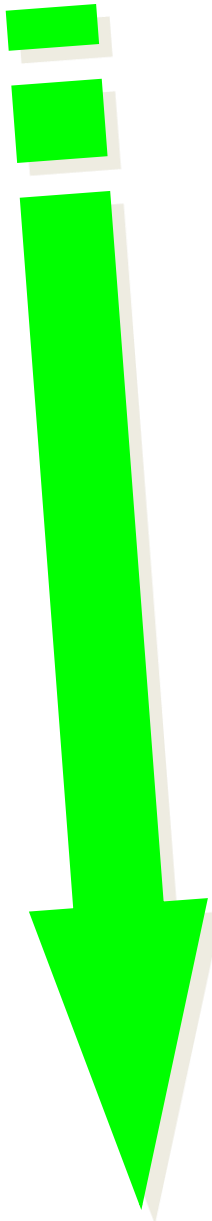


1993
- Connected to IIJ
- WNOC-Nara started (NAIST)
- WNOC-Sapporo started (Sapporo Electronic Center)
- Change international connection from Univ of Hwaii to NASA (FIX-W)

1994
- WNOC-Hamamatsu started (Shizuoka University)
- WNOC-Hachioji started (Tokyo University of Technology)
- VSAT introduced to WIDE camp (2Mbps Satellite link)
- WNOC-SFO started (Hayward, San Francisco)
- Increased international bandwidth (1.5Mbps)
- NSPIXP-1 started

1995
- WNOC-Gifu started (Softpia Japan Corp.)
- WNOC-Komatsu started (JAIST)
- Ryuichi Sakamoto internet concert

History of the WIDE Project (3)

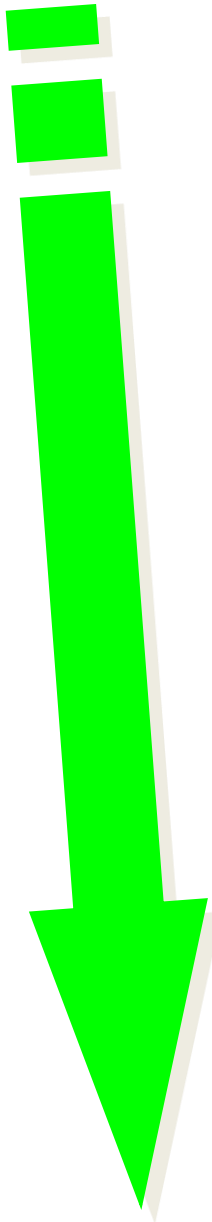


1996
- Internet 1996 WORLD EXPOSITION
- The first Internet disaster drill (IAA)
- IPv6 operation started between Tokyo and Osaka
- Collaborate to operate Atlanta Olympic Website
- NSPIXP-2 started
- Mobile computing joint test with Stanford University started

1997
- The second Internet disaster drill
- M Root DNS Server operation started
- SOI (School on the Internet) project started
- NSPIXP-3 started

1998
- The third Internet disaster drill
- Collaborate to operate Nagano Olympic/Paralympic game
- KAME project and TAHI project started
- WIDE project 10th Anniversary symposium

History of the WIDE Project (4)



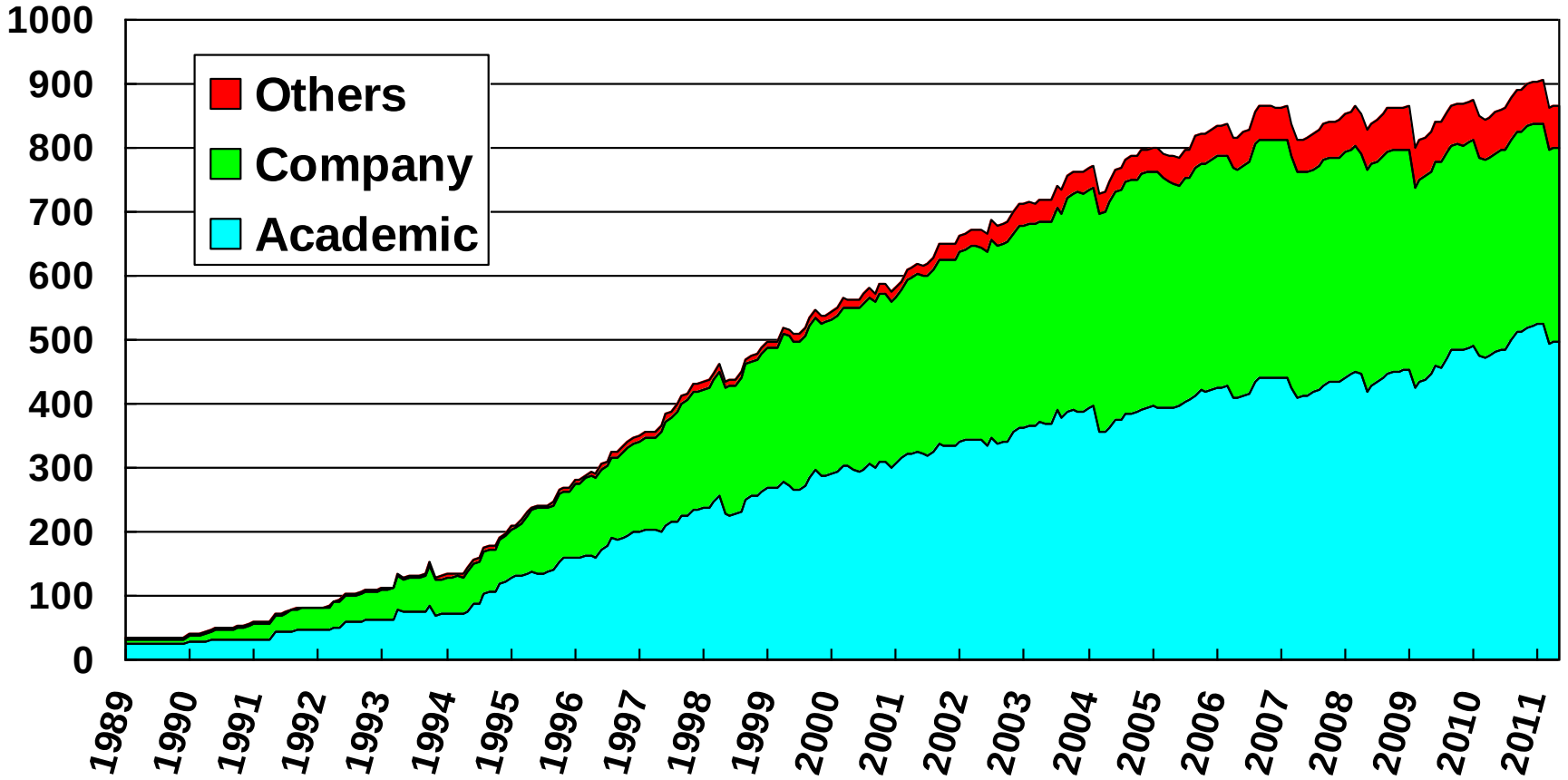
1999

- The fourth Internet disaster drill
- WNOC-SFO closed
- WNOC-LA started (Los Angels)
- NSPIXP-6 operation started
- First IPv6 address assignment by APNIC
- C-band parabola antenna (7.6 meter at SFC and NAIST)
- Technical support to “LIFE Ryuichi Sakamoto Opera 1999”
- Hosted IETF IPng WG Interim meeting
- Distant learning using DV over IPv6 started at Keio University, Univ of Wisconsin and NAIST

2000

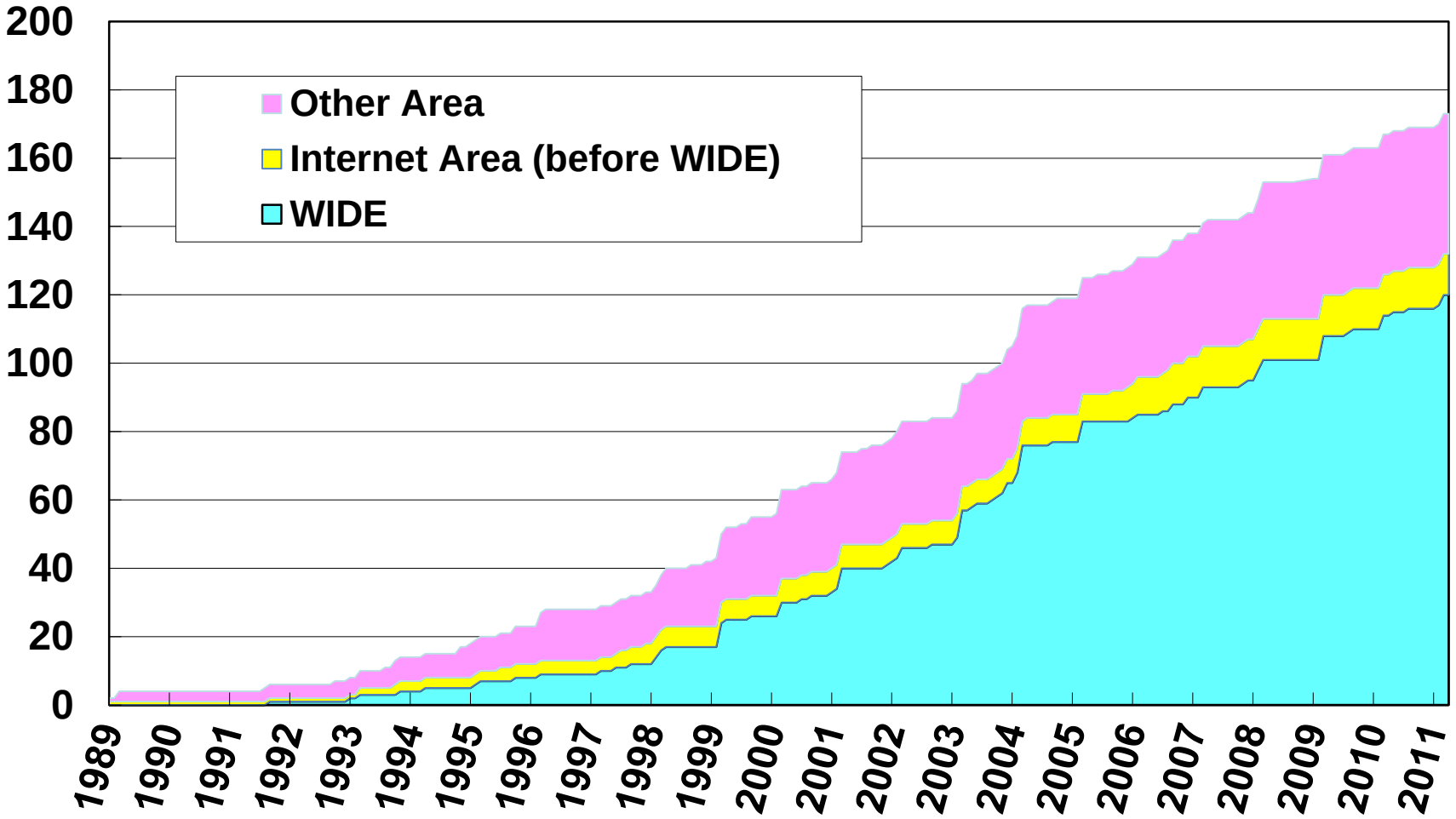
- INET2000 (Yokohama)

WIDEmembers



現在866名

Ph.D


200
180
160
140
120
100
80
60
40
20
0
Other Area
Internet Area (before WIDE)
WIDE
1989
1990
1991
1992
1993
1994
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1998
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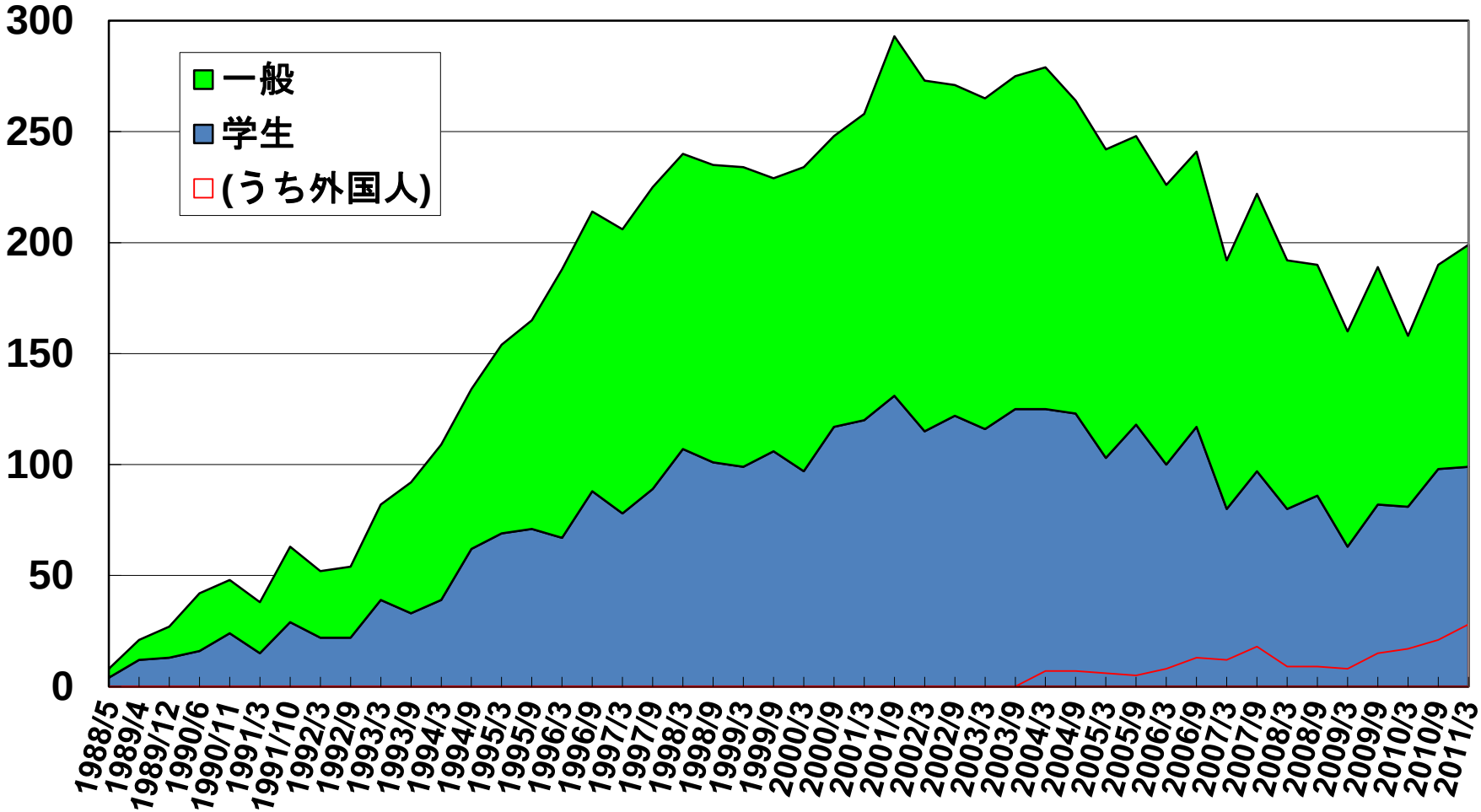
2004
2005
2006
2007
2008
2009
2010
2011

WIDEcamp


300
250
200
150
100
50
0
一般
学生
(うち外国人)
1988/5
1989/4
1989/12
1990/6
1990/11
1991/3
1991/10
1992/3
1992/9
1993/3
1993/9
1994/3
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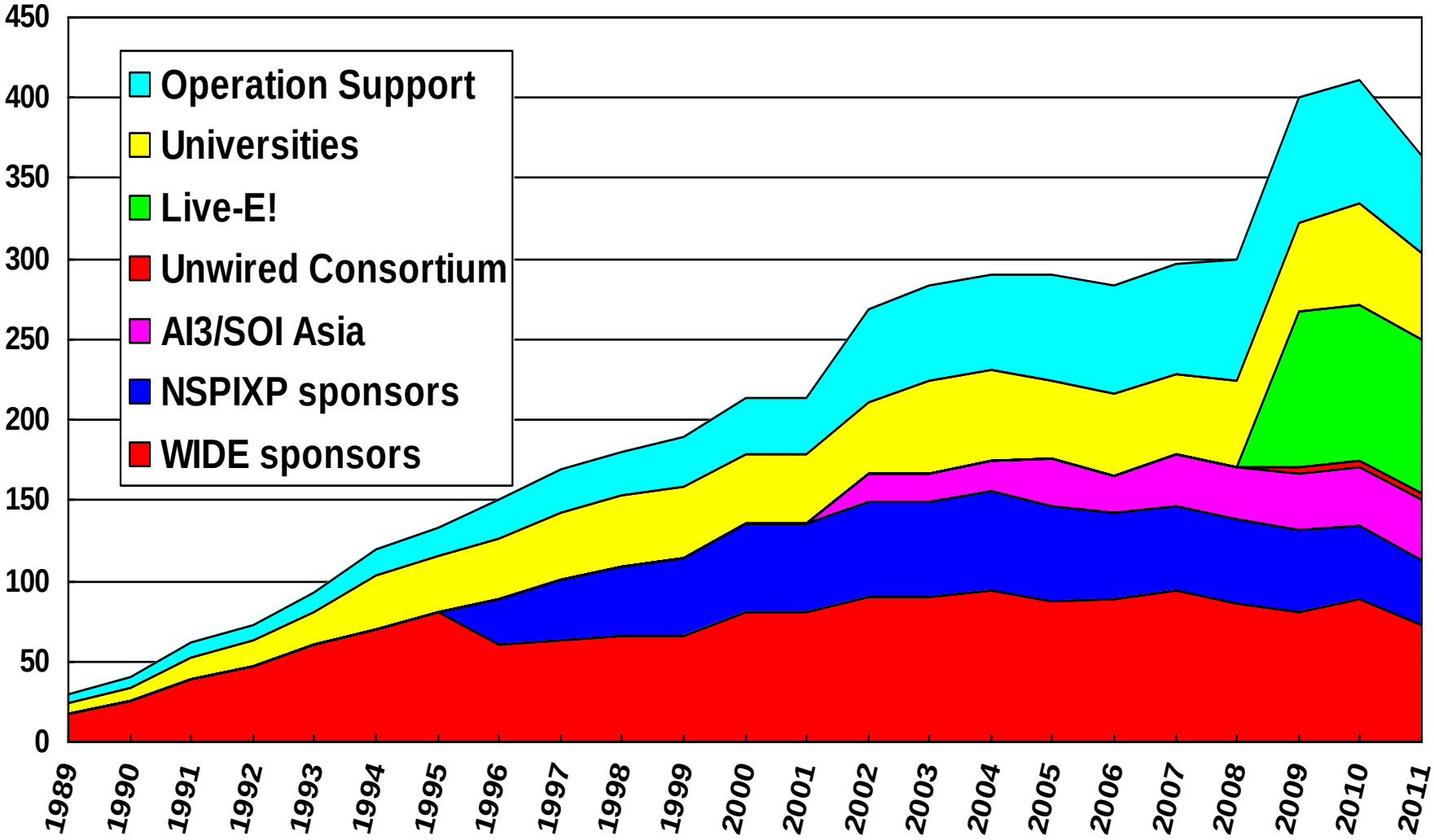
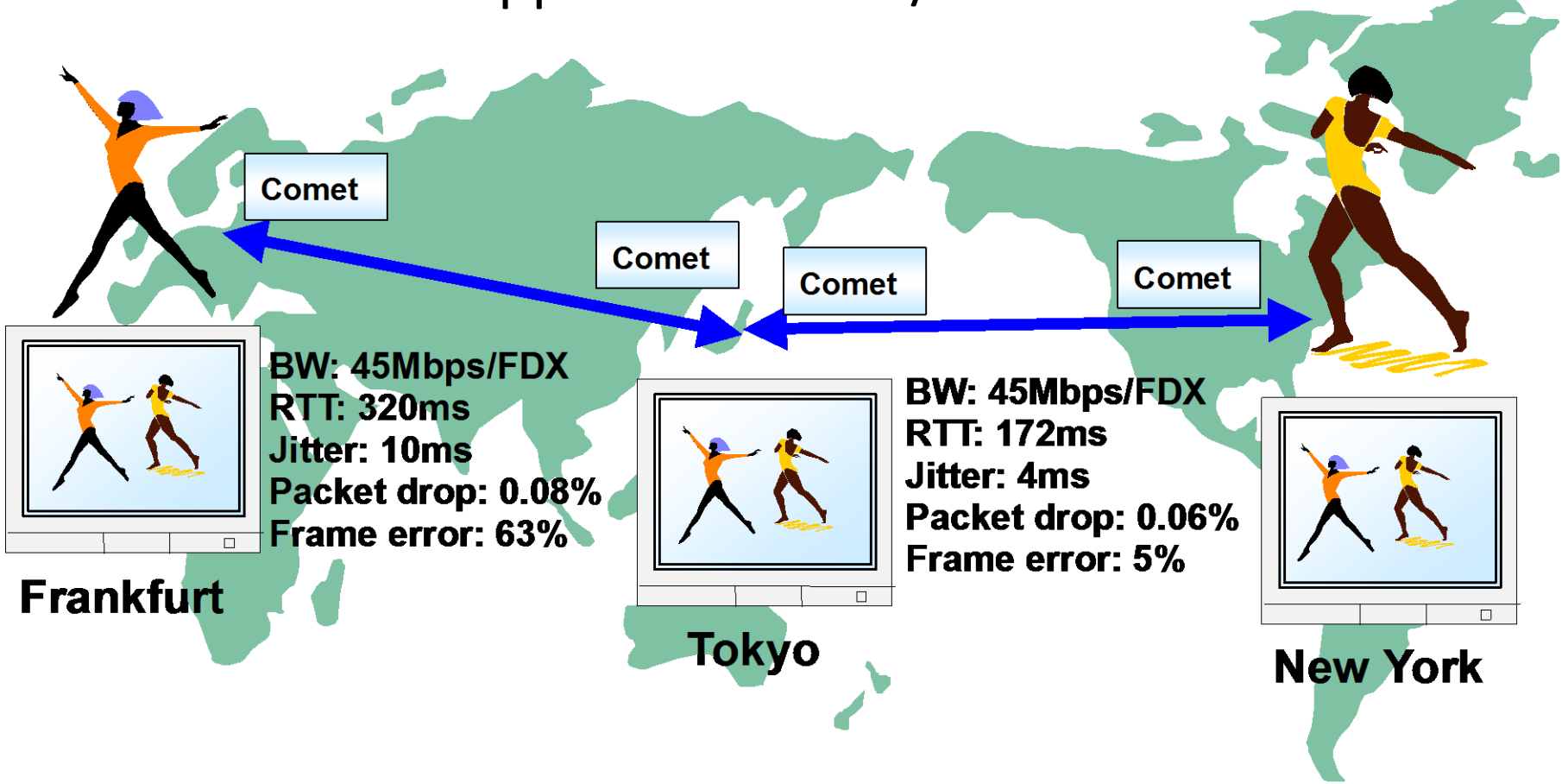
2011/3

WIDE organizations



DV/IP in the sakamoto opera LIFE

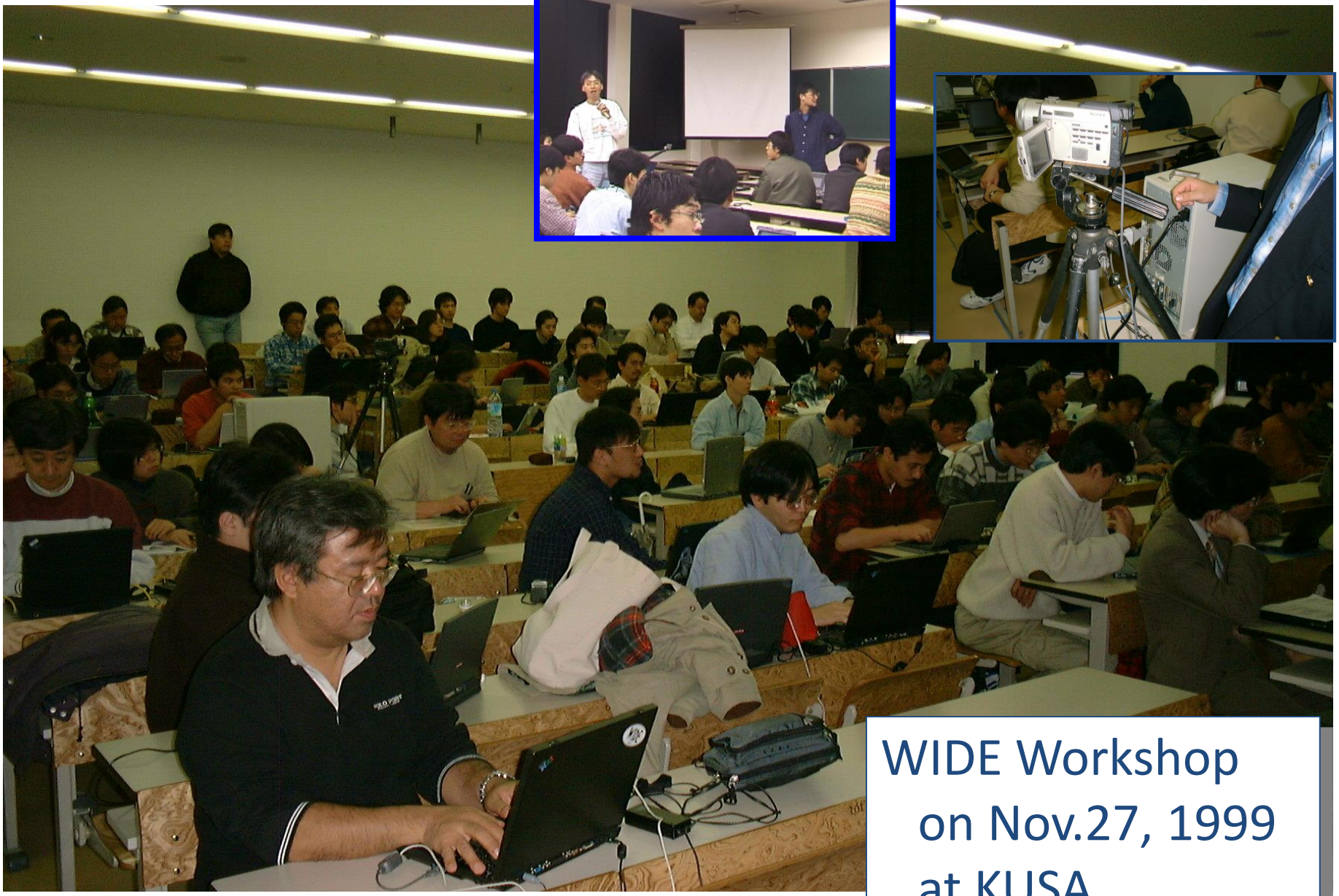
- A collaboration of music at Tokyo and dancers at NYC and FRA
- World's first application of DV/IP in a commercial event



What JB Achieved Now (2)

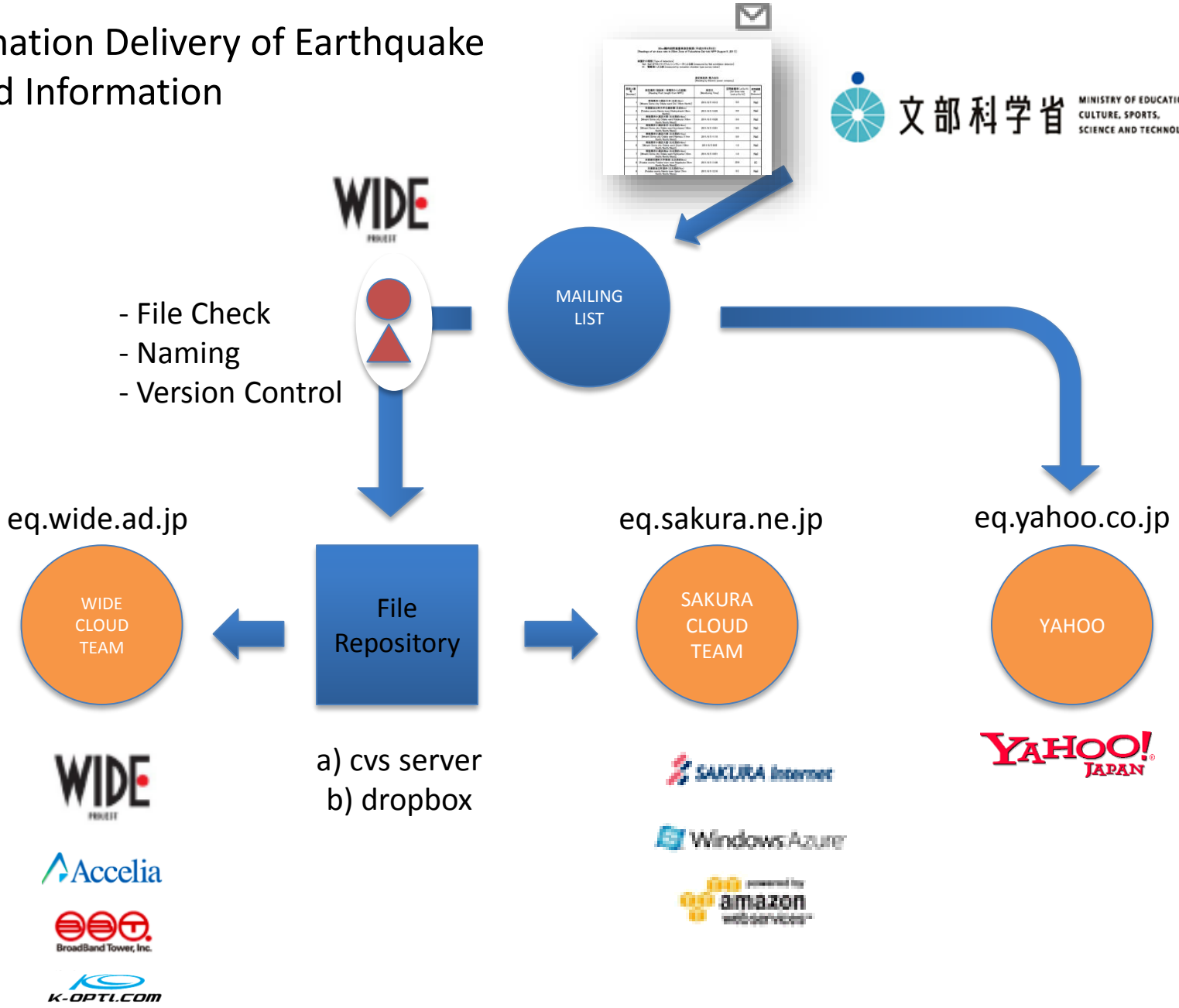
- NSPIXP6 (IX for IPv6 in Japan)
  - Operation from Middle of September 1999
  - IIJ, NTT-C, DTI, WIDE
- s-TLA Transition from p-TLA (on-going)
- Routing Protocol
  - Multicast : PIM-SM & PIM-DM
  - Unicast : OPSF for IPv6
- QoS/CoS Control
  - Diff-Serv Integration with ALTQ(Sony-CSL)
  - BB(Bandwidth Broker) with COPS

    Osaka Univ., Keio Univ., Fujitsu/UCLA, Hitachi, Toshiba,
- Label Switch (MPLS)
  - Integrate IPv6, PIM, Diff-Serve and BB



WIDE Workshop
on Nov.27, 1999
at KUSA

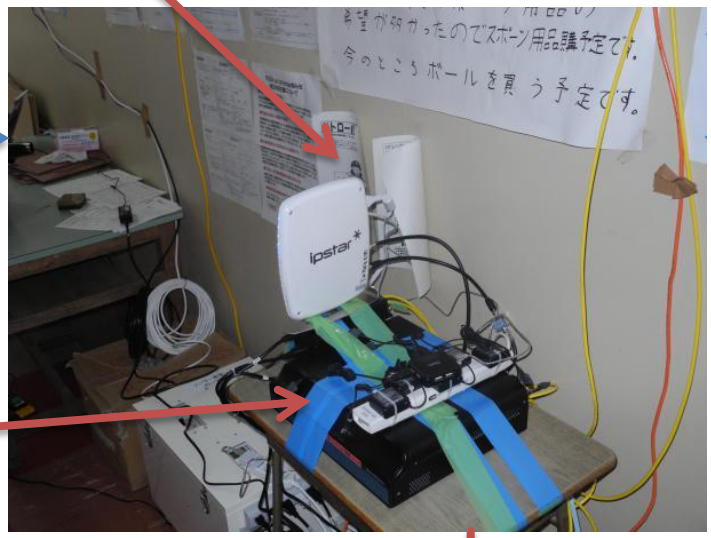
EQ:
Information Delivery of Earthquake related Information



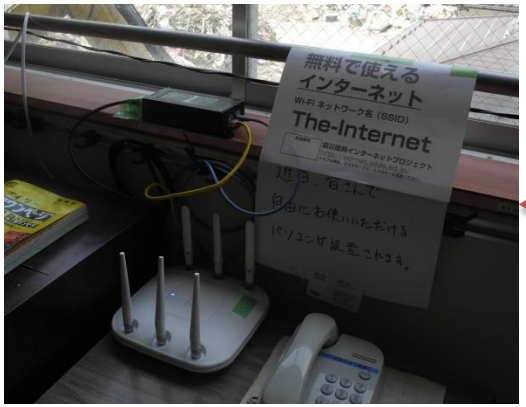
Satellite Patch

Anntena

Satellite Modem



Router

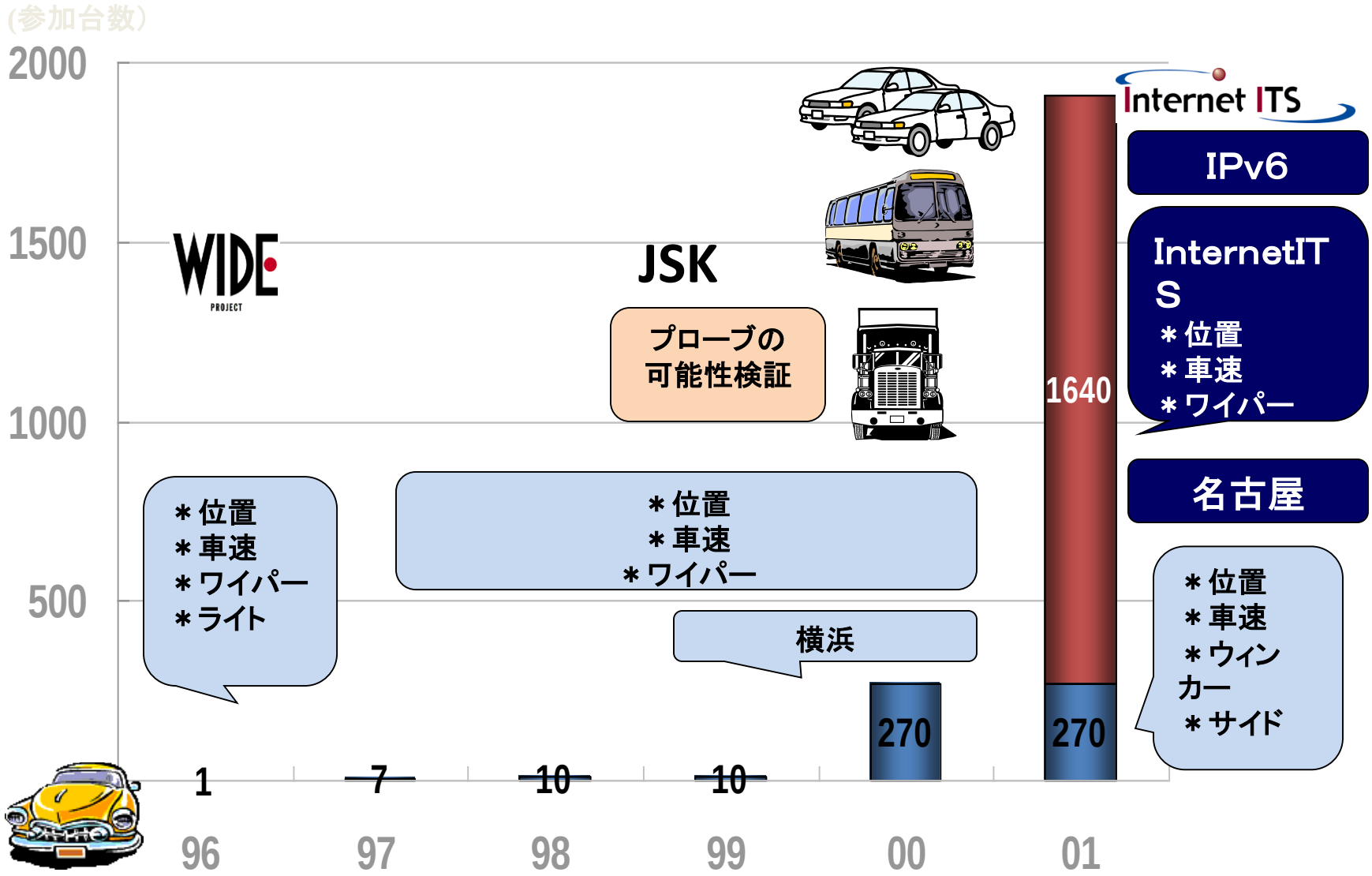


WiFi Access Point
(PoE)

SSID: The-Internet

2011.3 Kesen’numa

InternetCar: Automobile on the Internet



JSK：(財)自動車走行電子技術協

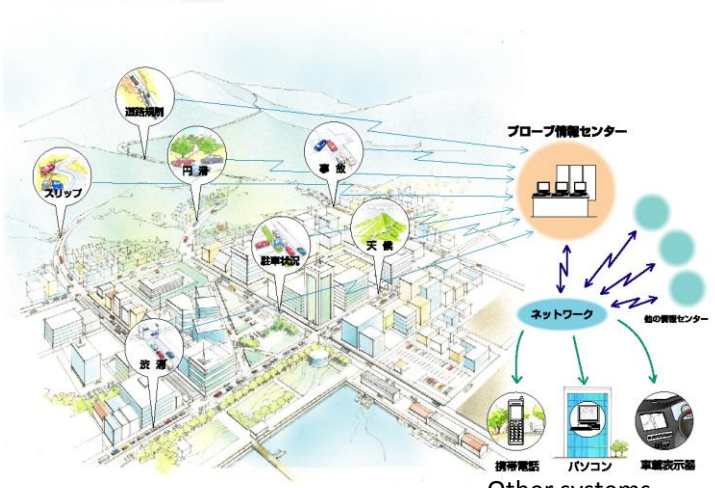
What is Probe Vehicle Systems？

- Probe Vehicle Systems
  - Collects drivers' behavior and electronics signals which is normally used for vehicle control.

- The characteristic of Probe Information Syste[illegible] two-way communication between center[illegible]
- Vehicles not only gains the inf[illegible] also provides the information fro[illegible]

Probe vehicle system by Auto industries

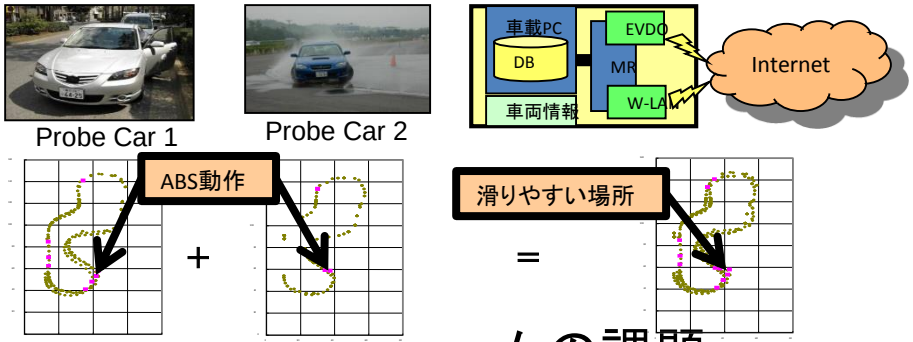
- 移動体からの情報収集
  - 1台の自動車に120台程度のコンピュータが搭載されている
  -



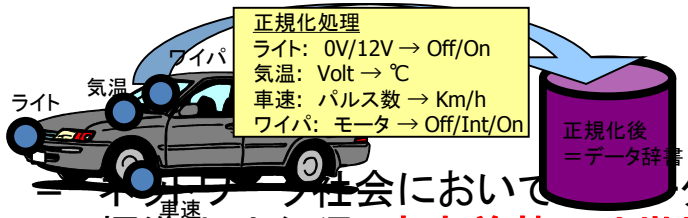
Other systems

- 環境・エネルギープローブ

- 安全・安心プローブ
  - ABSを使った低摩擦係数道路検知

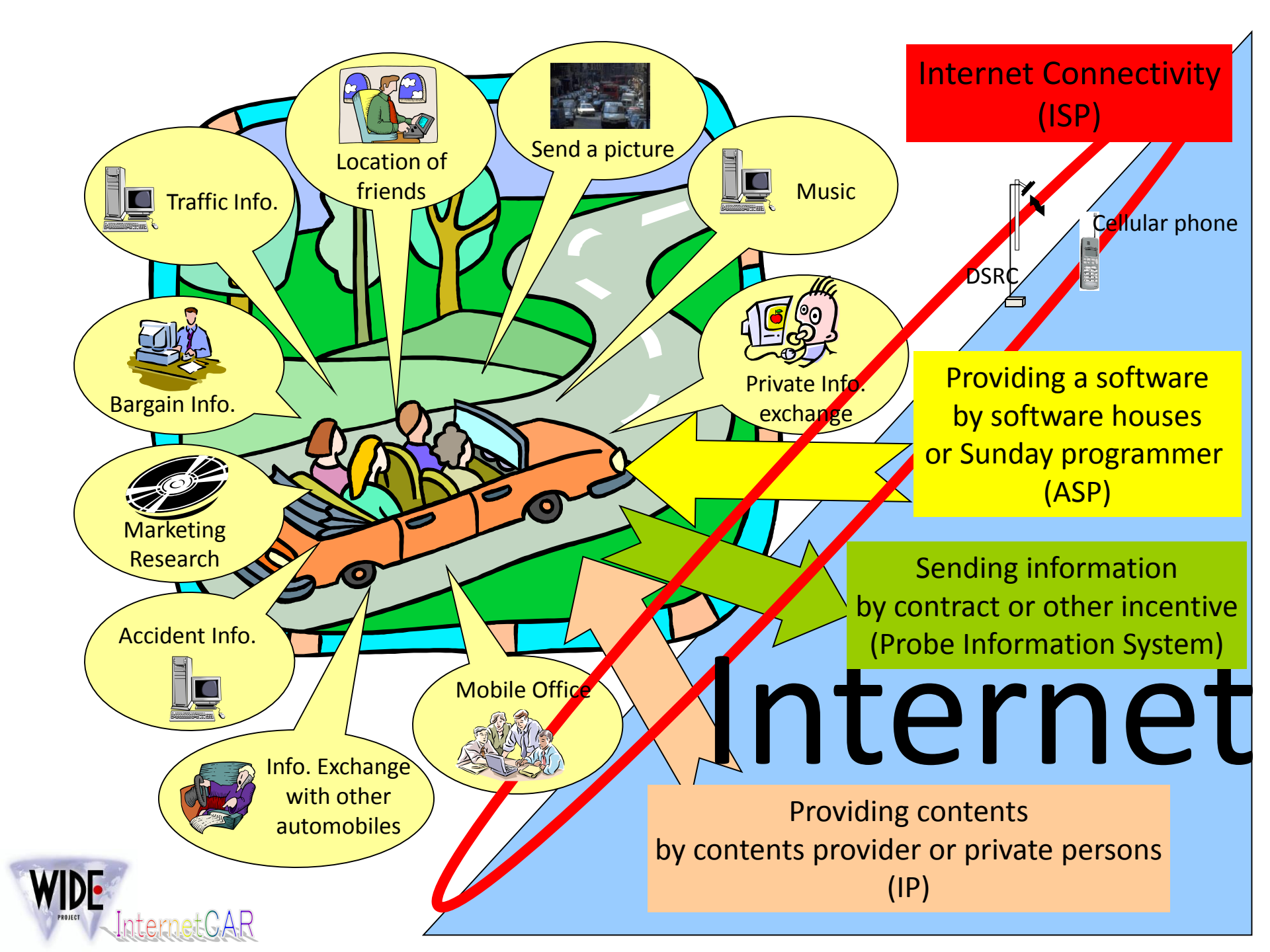


- プローブ情報システムの課題
  - これまで、閉システムで運用されてきたため、車両によってデータ表現が異なる

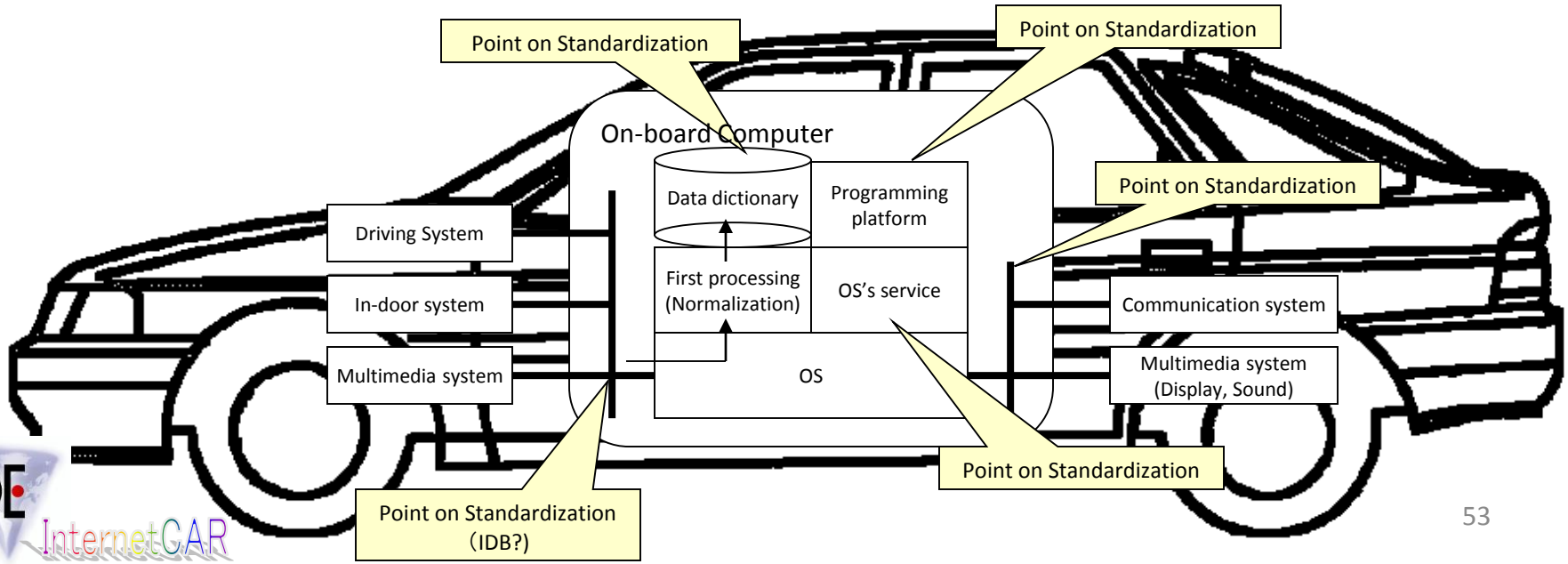


＝オープン社会においてデータ表現の標準化は必須。**慶應義塾では世界標準として手法を提案中**で、ISO/TC204/WG16で議論を重ねている。

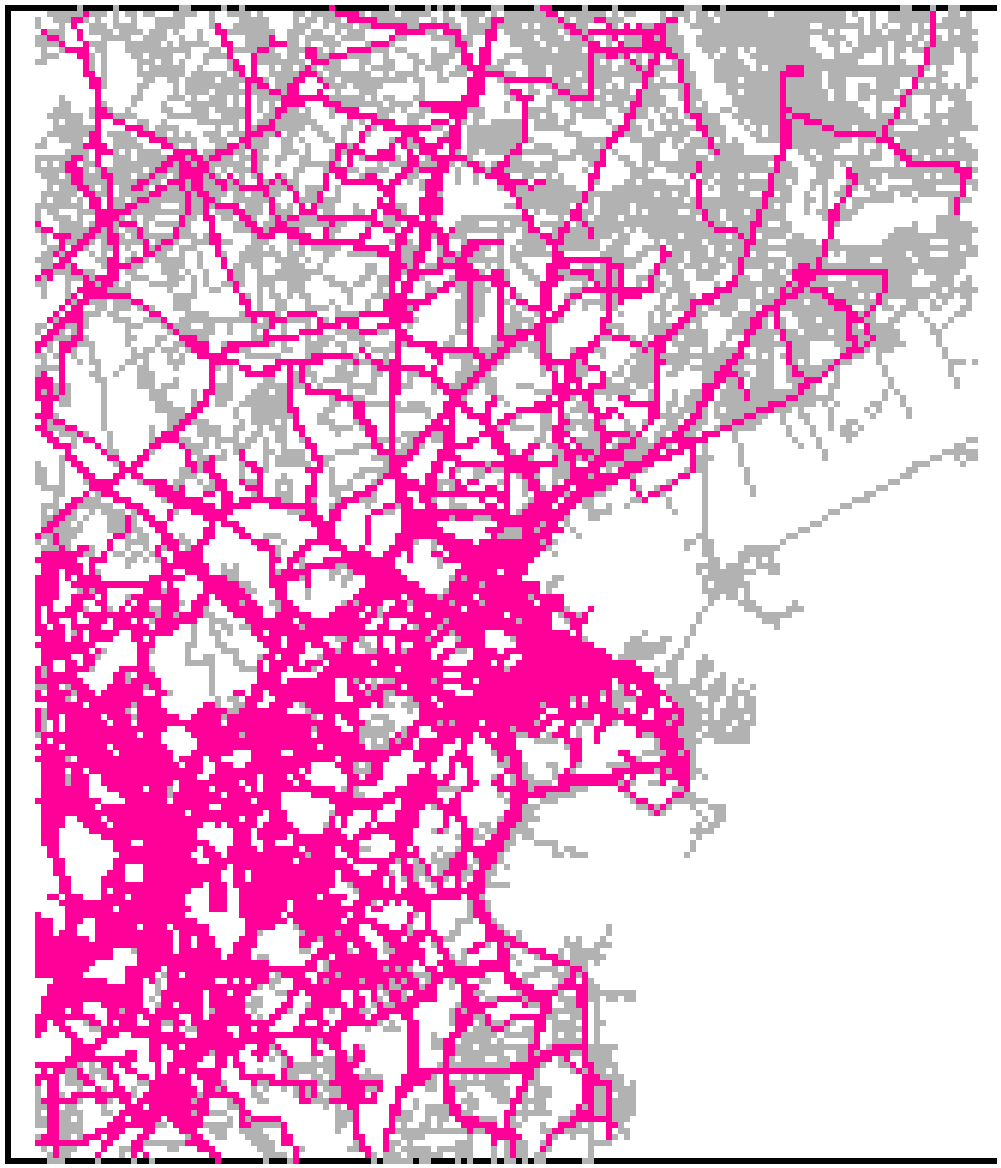
51


Internet Connectivity
(ISP)
Traffic Info.
Location of friends
Send a picture
Music
Cellular phone
DSRC
Bargain Info.
Private Info. exchange
Providing a software by software houses or Sunday programmer (ASP)
Marketing Research
Sending information by contract or other incentive (Probe Information System)
Accident Info.
Mobile Office
Internet
Info. Exchange with other automobiles
Providing contents by contents provider or private persons (IP)
WIDE PROJECT
InternetCAR

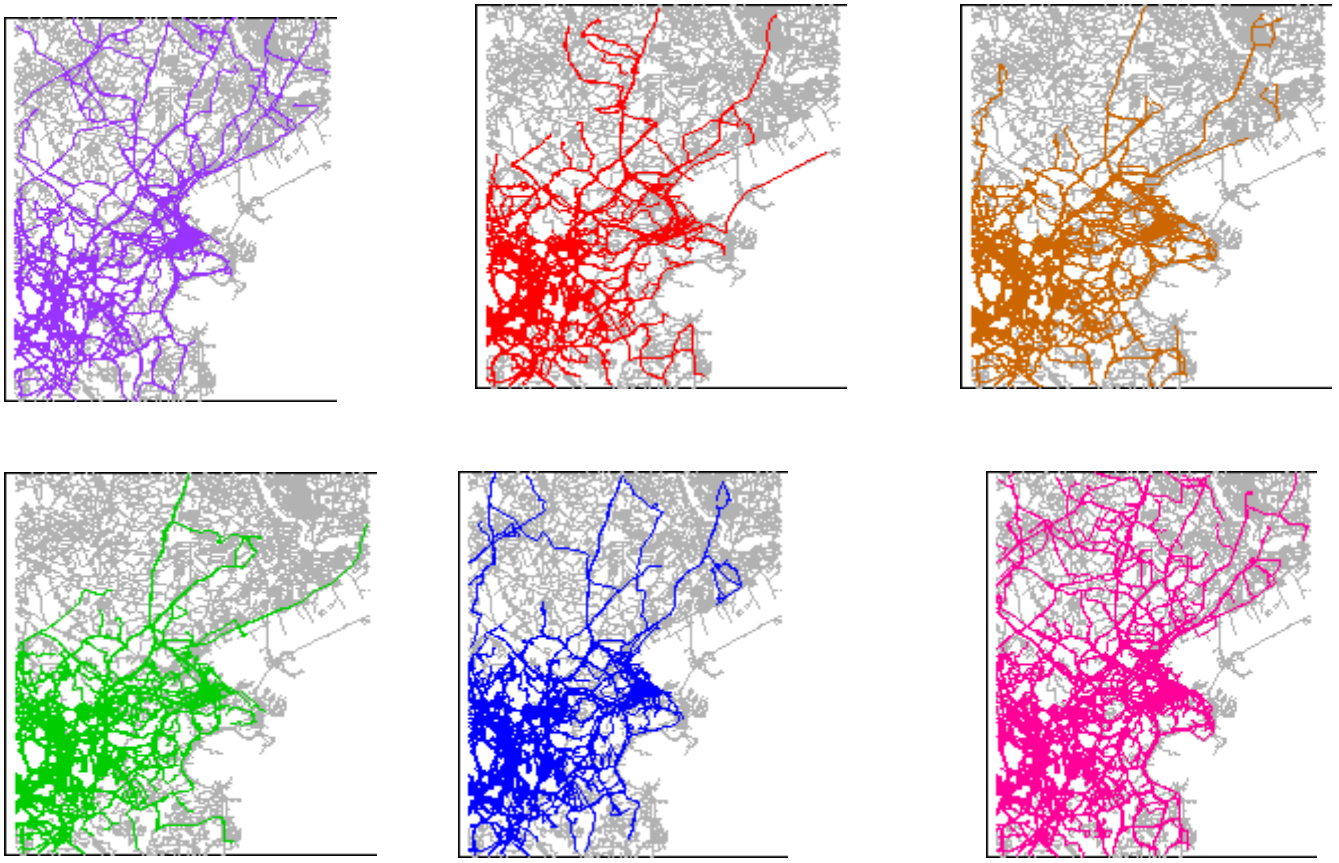
In-vehicle system:
A PC connecting to Internet collecting A/D/P information including GPS/positioning device



The TAXI tracking: Early morning to Midnight



Taxi:
Post processing of the archived data



Google Crisis Response 自動車・通行実績情報マップ

下記マップ中に青色で表示されている道路は、前日の0時～24時の間に通行実績のあった道路を、灰色は同期間に通行実績のなかった道路を表示しています。
（データ提供：本田技研工業株式会社）

GoogleによるWebサイト
http://www.google.com/intl/ja/crisisresponse/japanquake2011_traffic.html

INTERNATIONALIZATION

D:¥aaF¥gara¥m¥mon-extension-memo.html - 秀丸

ファイル(F) 編集(E) 表示(V) 検索(S) ウィンドウ(W) マクロ(M)

182
183

昨日は
前の日12時前に寝てしまって夜
中に目が覚めてこれを書いたりし
ていたので朝になって寝たのだが
目が覚めたら昼を大幅に過ぎてい
て今の時刻になると腹が食べたく

単語... 分割... 切り... コピー

日本語(Shift-JIS) CR+LF

夏目漱石 草枕

Wikipedia ニュース (253) お役立ち

Google

■Mac OS X
Webkit r75891による表示結果

画像の上寄せ
文字の回り込みにも対応

図点（横書き図点を90°回転させて表示されている。色の指定が可能）

ルビ

草枕

一

山路を登りながら、こう考えた。

智に働けば角が立つ。情に棹させば流される。意地を通せば窮屈だ。とかくに人の世は住みにくい。

住みにくさが高じると、安い所へ引き越したくなる。どこへ越しても住みにくいと悟った時、詩が生れて、画が出来る。

人の世を作ったものは神でもなければ鬼でもない。やはり向う三軒両隣りにちらちらするただの人である。ただの人が作った人の世が住みにくいからとて、越す国はあるまい。あれば人でなしの国へ行くばかりだ。人でなしの国は人の世よりもなお住みにくかろう。

夏目漱石（Natsume Sōseki）は、日本の小説家、評論家、英文学者。本名、夏目金之助。『吾輩は猫である』、『こころ』などの作品で広く知られる。江戸の牛込馬場下横町出身。俳号は漱石。

3年1月5日 - 大正5年12月9日）

和欧混植

夏目漱石

文字の下

総務省

LET's 書デジ

文字の行末揃えは不完全

縦中横（writing-mode:horizontal-tb）
※text-combine:horizontalは未実装

スクロールによる左右移動

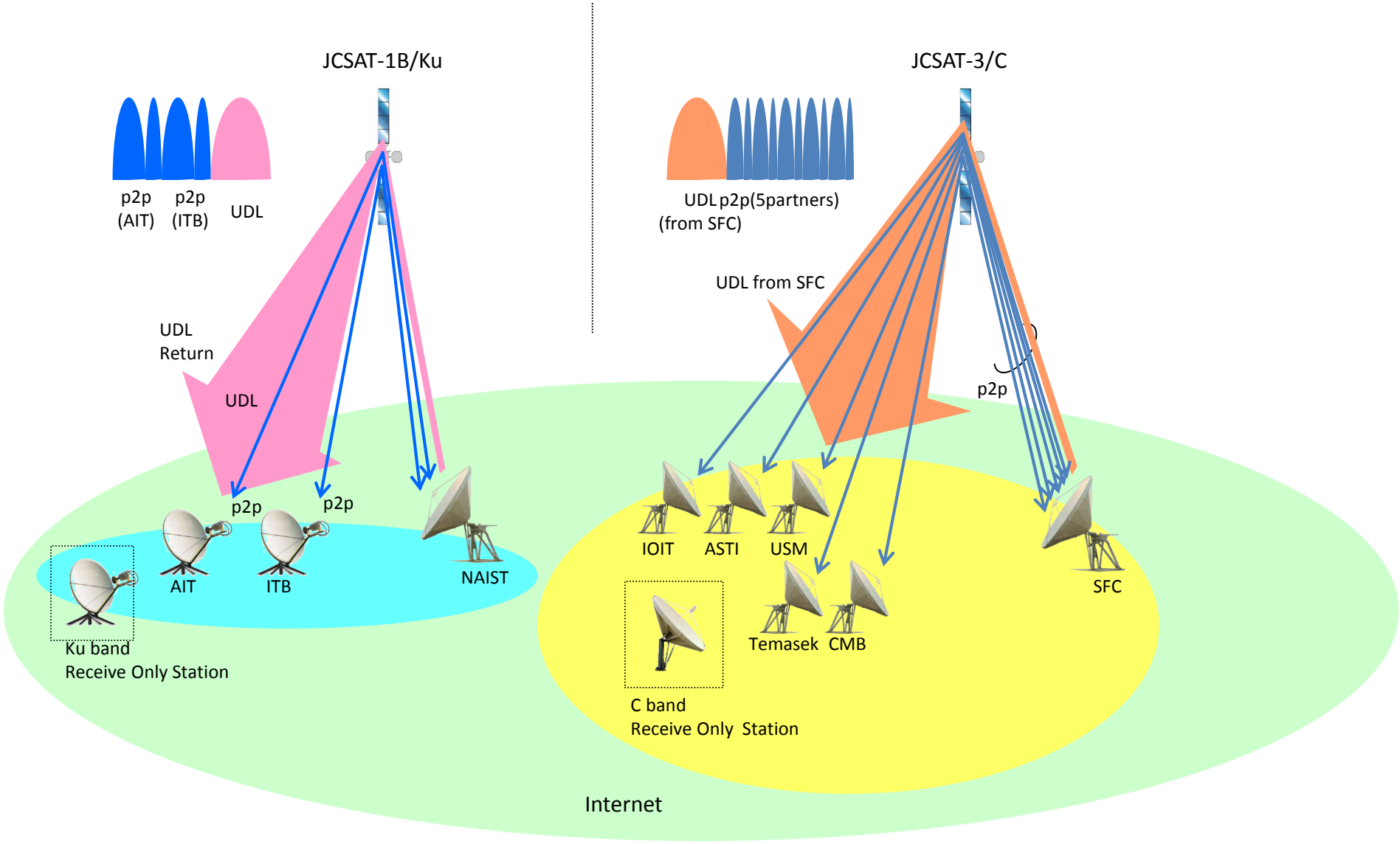
2001年（平成13年）12月4日（火曜日）

住宅リフォーム、ネットで仲介

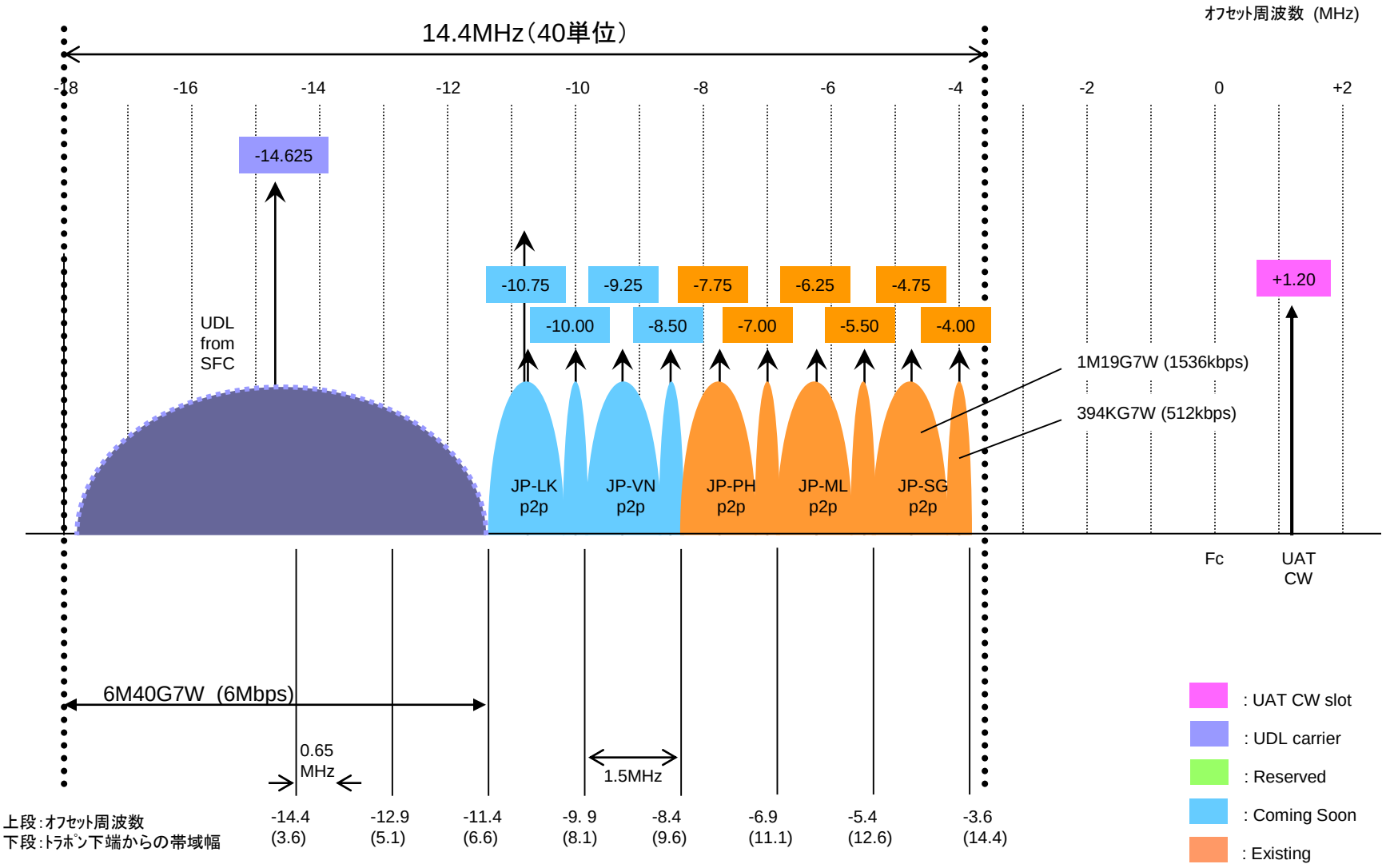
利用者 匿名・無料

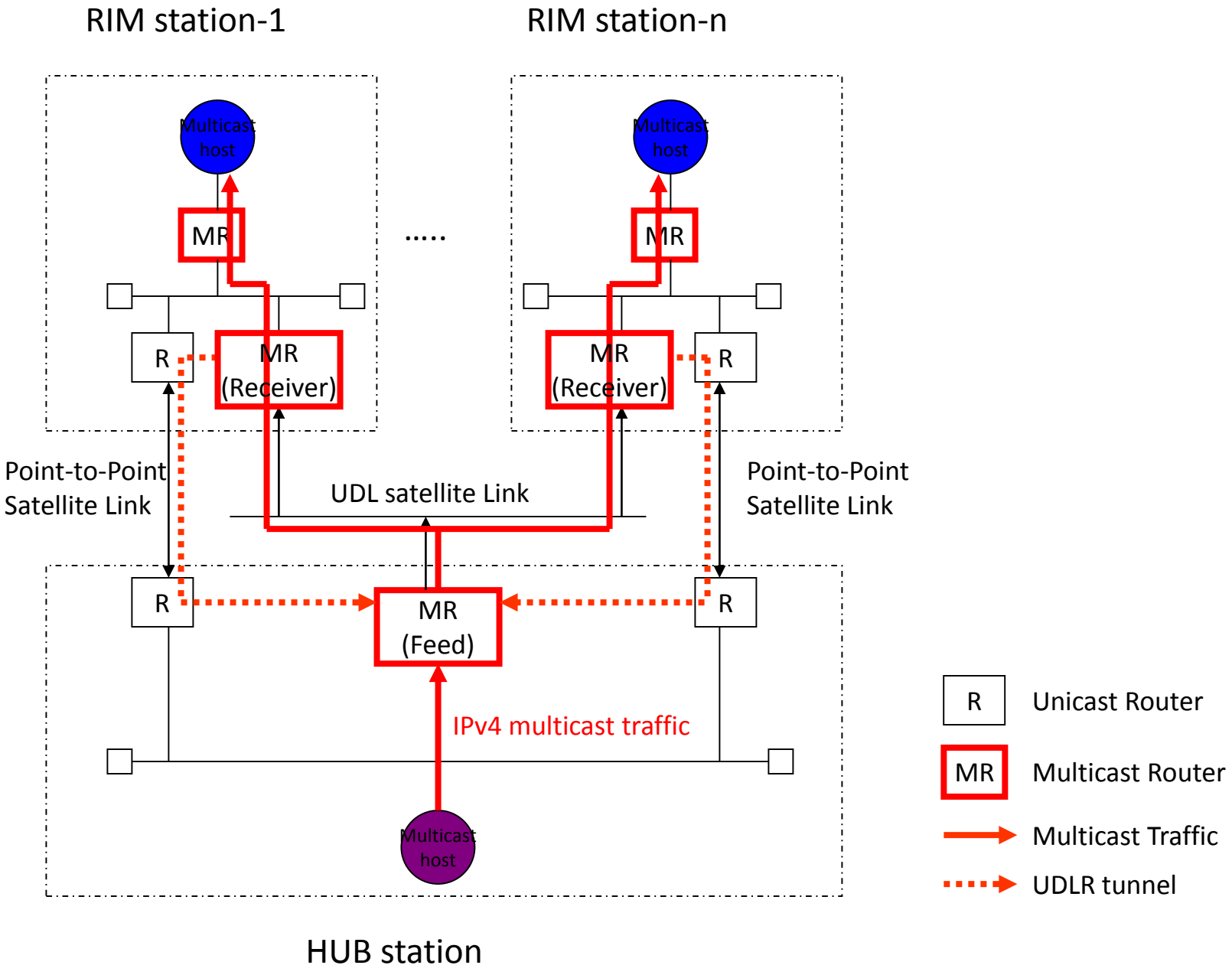
業者 安い経費で

ASIA SATELLITE


JCSAT-1B/Ku
p2p
(AIT)
p2p
(ITB)
UDL
UDL
Return
UDL
p2p
p2p
AIT
ITB
NAIST
Ku band
Receive Only Station
JCSAT-3/C
UDL p2p(5partners)
(from SFC)
UDL from SFC
p2p
IOIT
ASTI
USM
SFC
Temasek
CMB
C band
Receive Only Station
Internet

AI3 C-band Carrier Assign




RIM station-1
RIM station-n
Multicast host
Multicast host
MR
MR
.....
R
MR (Receiver)
MR (Receiver)
R
Point-to-Point Satellite Link
UDL satellite Link
Point-to-Point Satellite Link
R
MR (Feed)
R
IPv4 multicast traffic
Multicast host
HUB station
R Unicast Router
MR Multicast Router
Multicast Traffic
UDLR tunnel

Site Setup Status

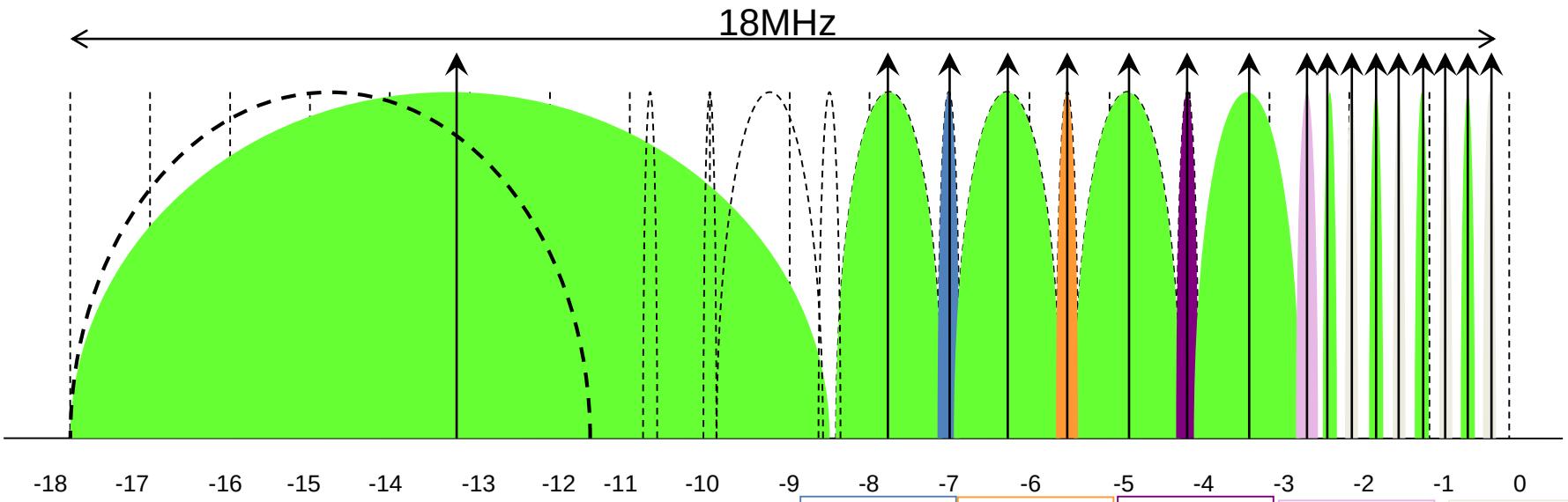
Thailand

Myanmar

Laos

New AI3 C-Band Frequency Allocation

- When more than 3 197KG7W carriers are transmitted from SFC, the SFC license need to be changed.



SFC transmit
VN transmit
PH transmit
SG transmit
MY transmit
Laos transmit

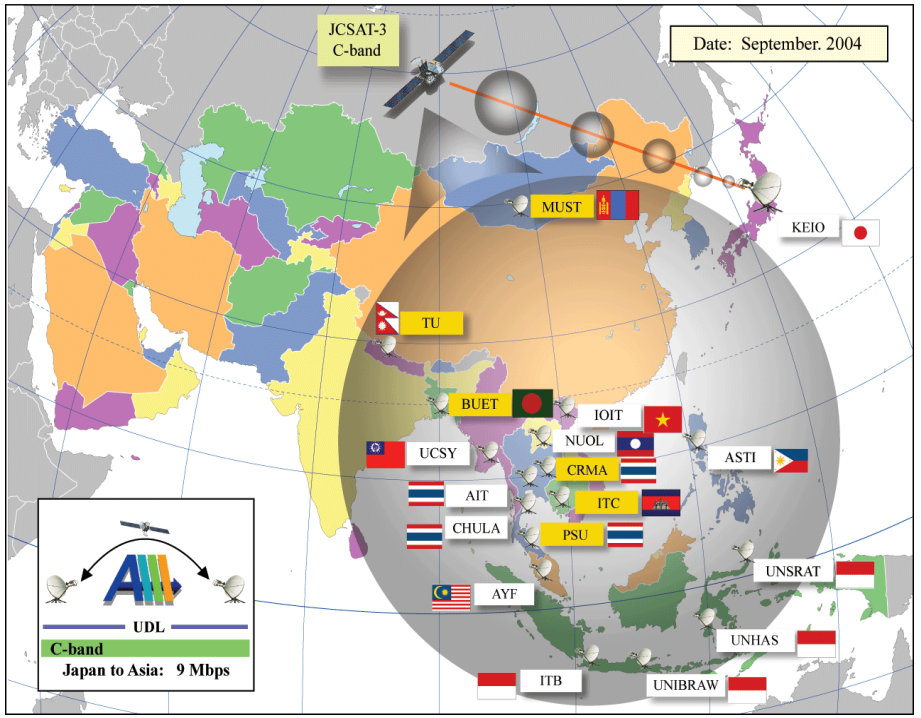
394KG7W (512kbps) VN ↓ SFC	394KG7W (512kbps) MY ↓ SFC	394KG7W (512kbps) SG ↓ SFC	394KG7W (512kbps) PH ↓ SFC	197KG7W (128kbps) Laos ↓ SFC

9M40G7W (9690kbps) SFC ↓ UDL

1M19G7W (1536kbps) SFC ↓ VN	1M19G7W (1536kbps) SFC ↓ MY	1M19G7W (1536kbps) SFC ↓ SG	1M19G7W (1536kbps) SFC ↓ PH	197KG7W (128kbps) SFC ↓ Laos

- Indonesia
  - Brawijaya University
  - Sam Ratulangi University
  - Hsanuddin University
  - Institut Teknologi bandung
  - Univesitas Syiah Kuala(*)
- Thailand
  - Chulalongkorn Univeristy
  - Asia Institute of Technology
  - Chulachomklao Royal Military Academy
  - Pricen of Songkla University
- Laos
  - National University of Laos
- Myanmar
  - University of Computer Studies, Yangon
- Malaysia
  - Asian Youth Fellowship
  - University Science Malaysia
- Vietnam
  - Institute of Information Technology
- Philippines
  - Advanced Science and Technology Institute
  - University San Carlos
- Mongolia
  - Mongolian University of Science and Technology
- Cambodia
  - Institute of Technology of Cambodia
- Bangladesh
  - Bangladesh University of Engineering
- Nepal
  - Tribhuvan University

AIII SoI Partners
24 partners in 11 countries connected with IPv6



Brawijaya University,
Indonesia

Hasanuddin University,
Indonesia

Sam Ratulangi University,
Indonesia

Asian Institute of
Technology, Thailand

National University of Laos,
Laos

Advanced Science and
Technology Institute,
Philippines

University of Computer
Studies, Yangon, Myanmar

Asian Youth Fellowship,
Malaysia

Chulalonkorn University,
Thailand

Institute of Technology,
Bandung, Indonesia

Institute of
Information Technology,
Viet Nam

USM
Malaysia

Mongol University of
Science and Technology
Mongolia

Prince of Songklang
University
Thailand

Chulachomklao Royal
Military Academy
Thailand

Keio University
Shonan Fujisawa Campus,Japan

University of
Syiah Kuala
Indonesia
- Under Construction -

University of San Carlos
Philippines
- Under Construction -

Bangladesh University of
Engineering and Technology
Bangladesh

Institute of Technology of
Cambodia, Cambodia

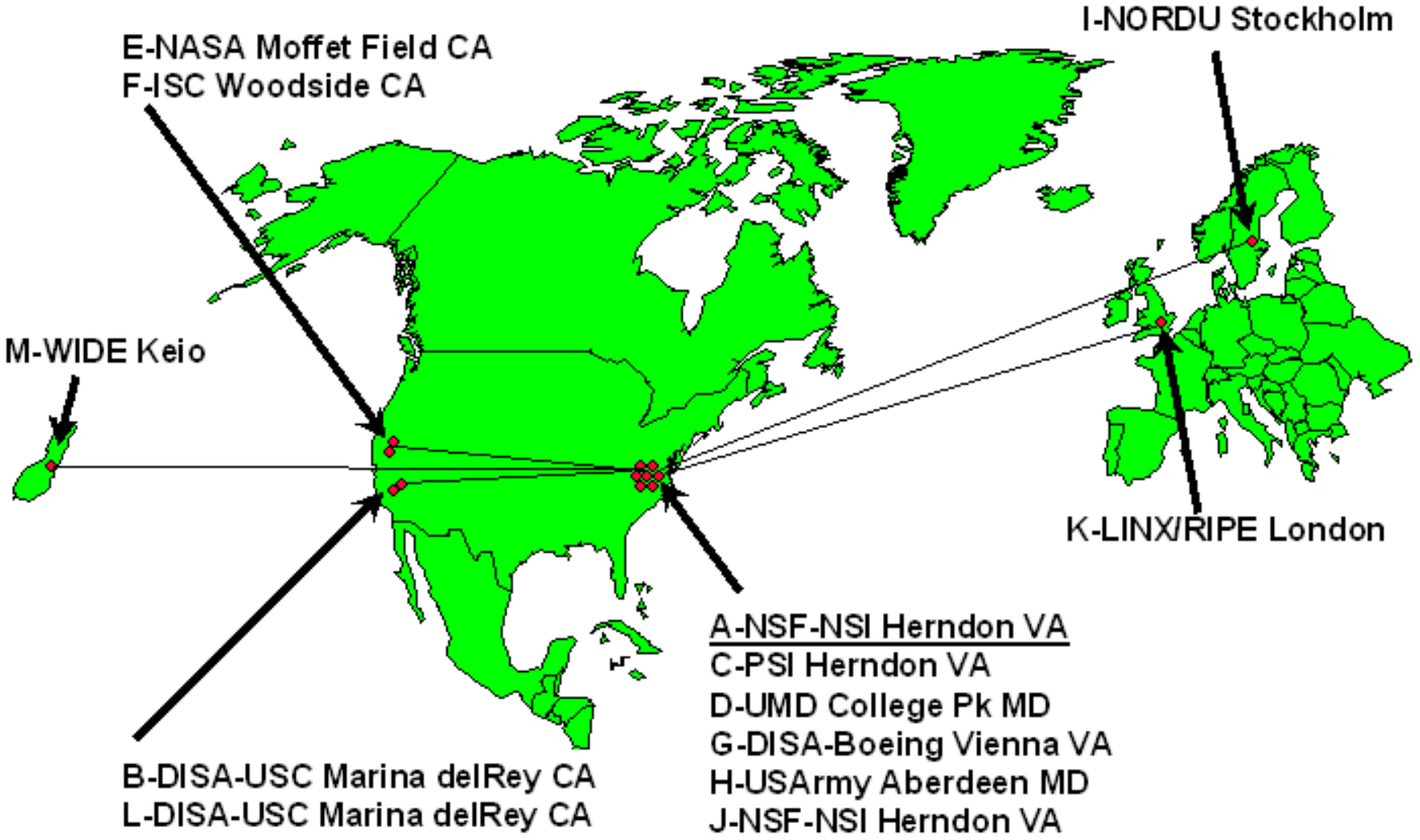
Tribhuvan University
Nepal

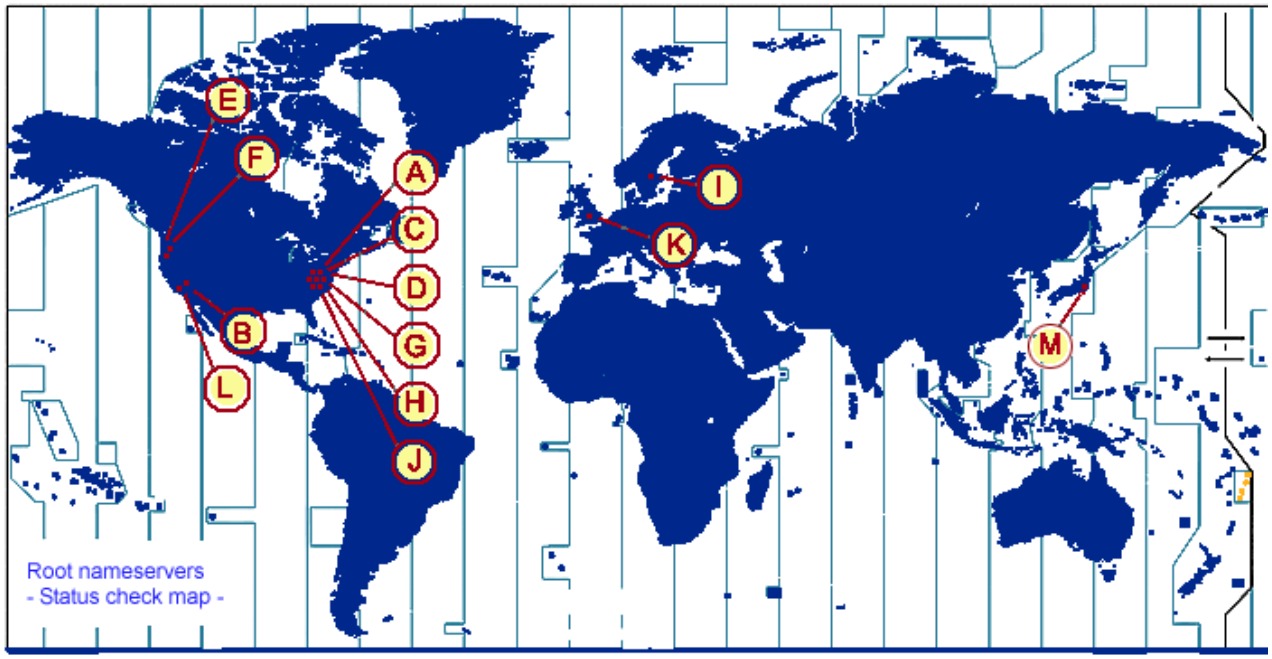
GLOBAL…

DNS Root Servers

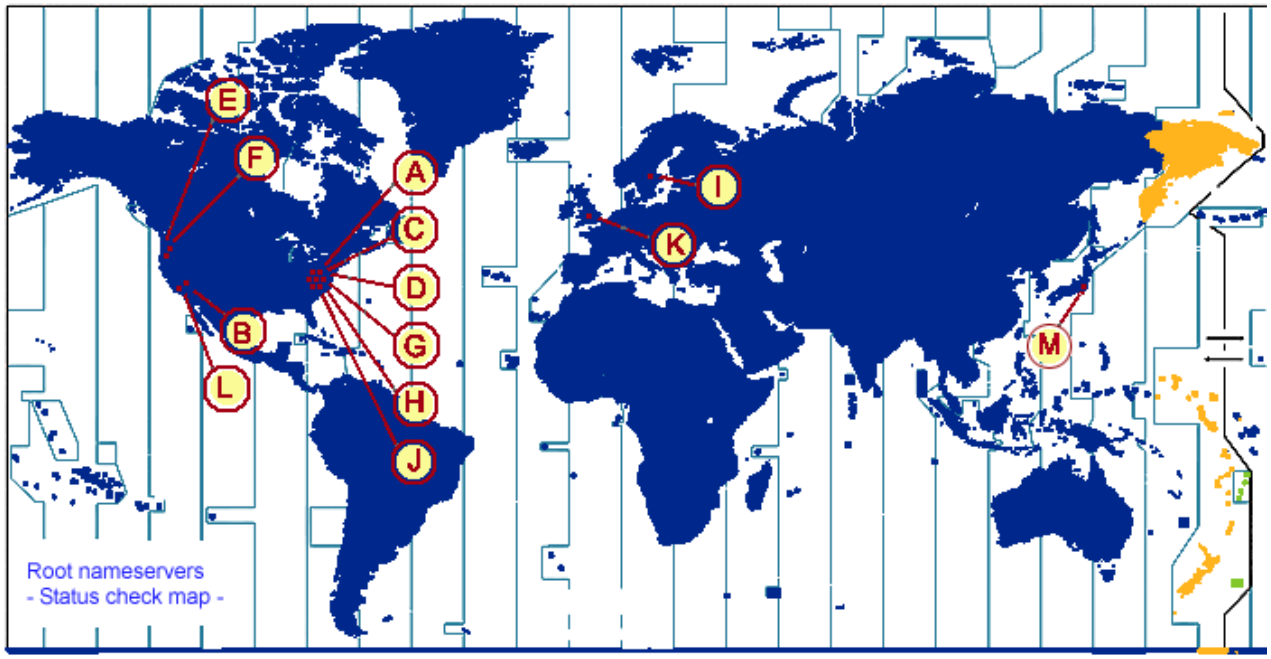
1 Feb 98

Designation, Responsibility, and Locations





Server	Operator	Status
A	Network Solutions, Inc	working
B	USC/ISI	working
C	PSInet	working
D	UMD	working
E	NASA	working
F	ISC	working
G	DISA	working
H	ARL	working
I	NORDUnet	working
J	(TBD)	working
K	RIPE	working
L	ICANN/IANA	working
M	WIDE	working



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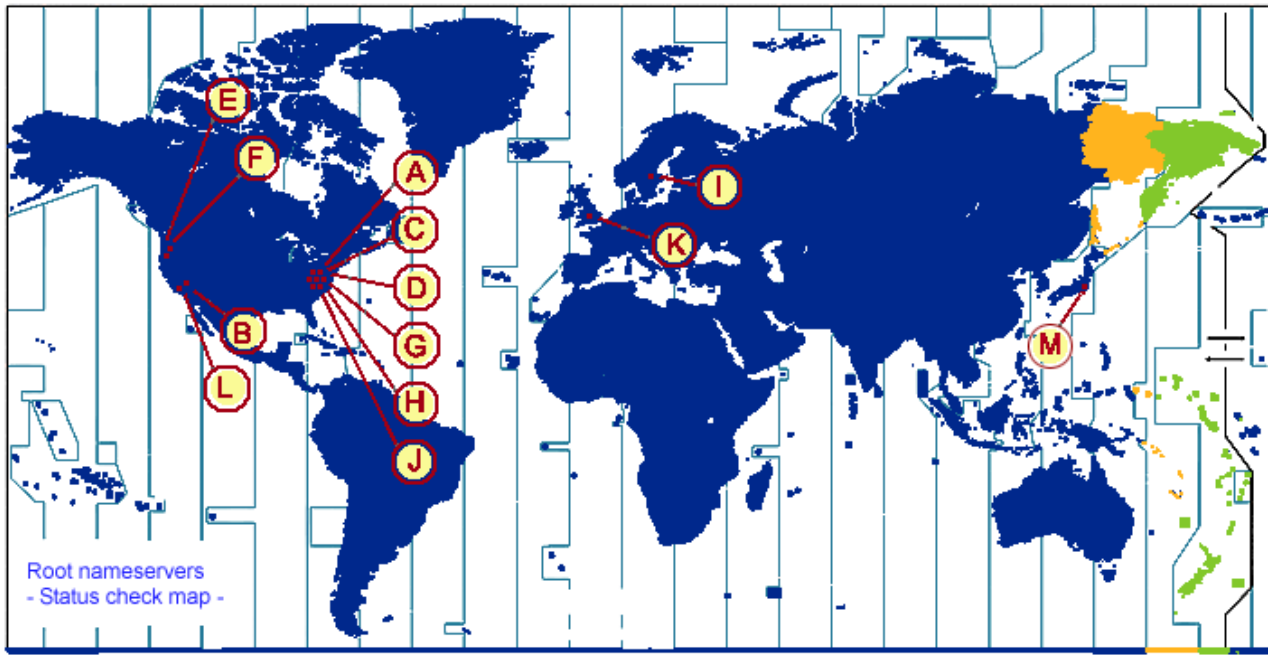

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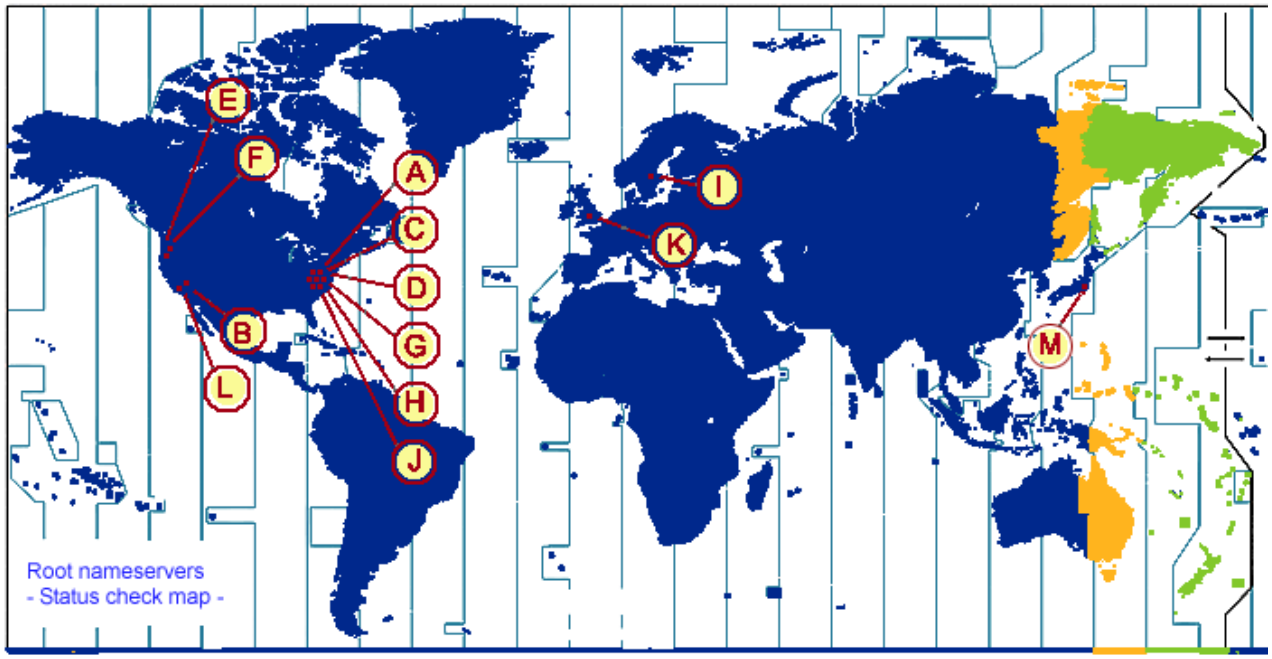

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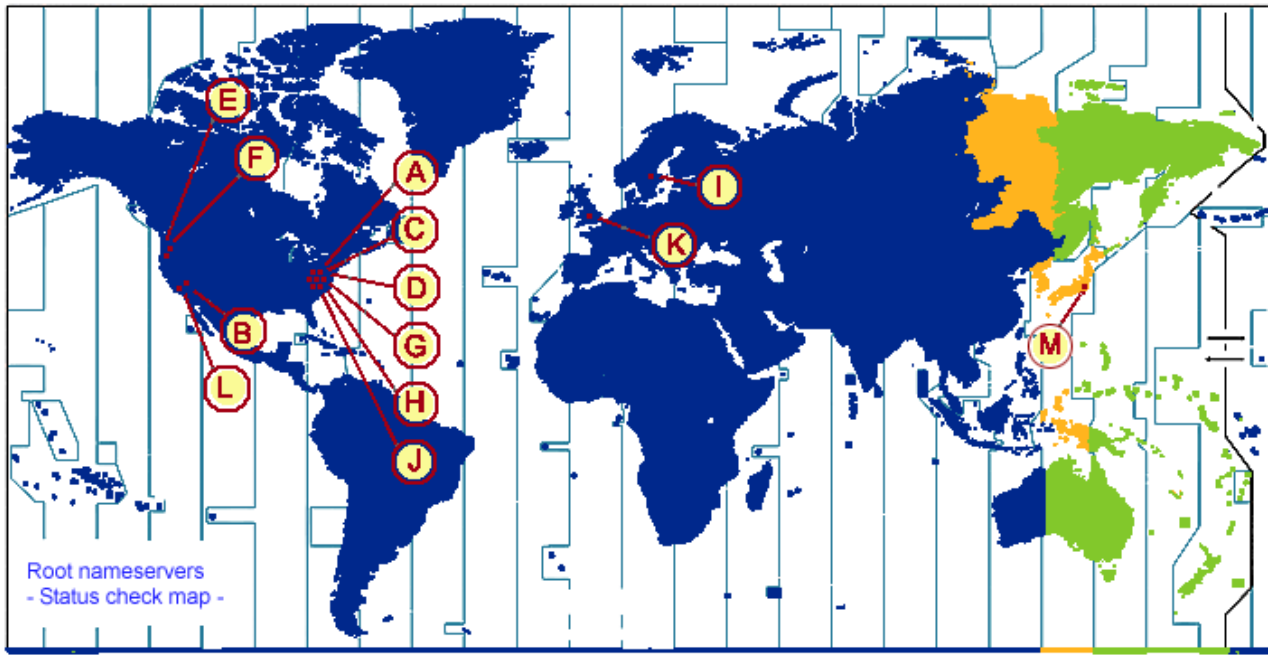

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G	DISA	working
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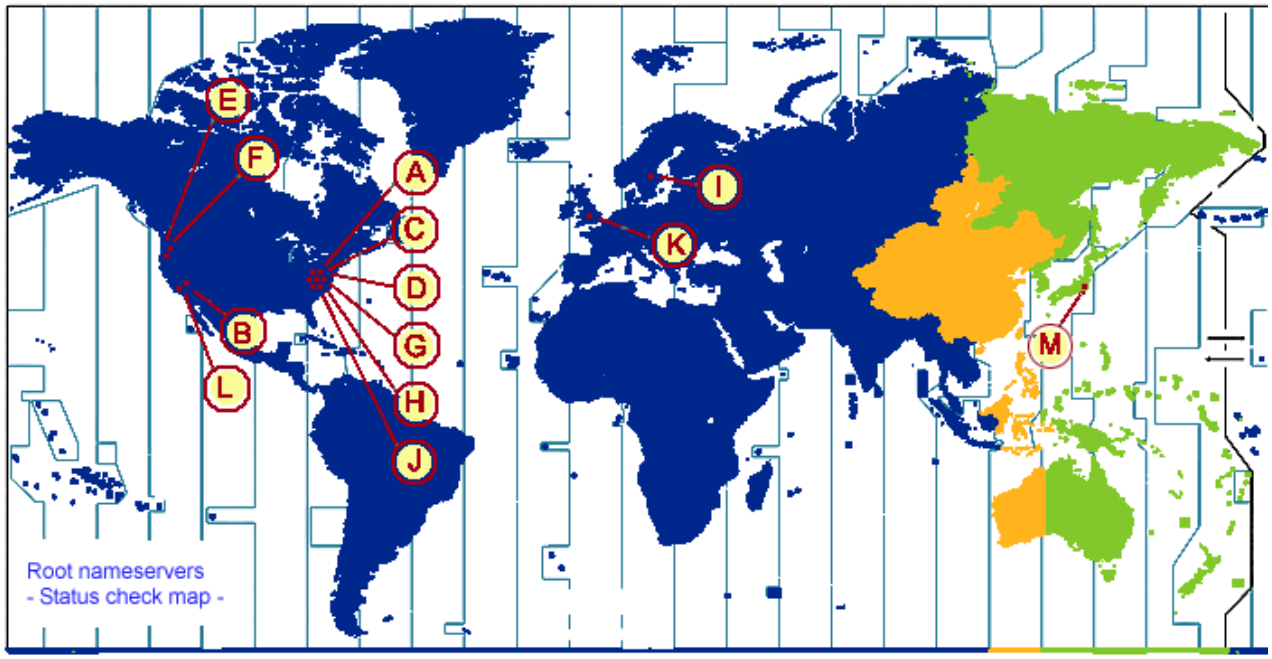
I	NORDUnet	working
J	(TBD)	working
K	RIPE	working
L	ICANN/IANA	working
M	WIDE	confirmed



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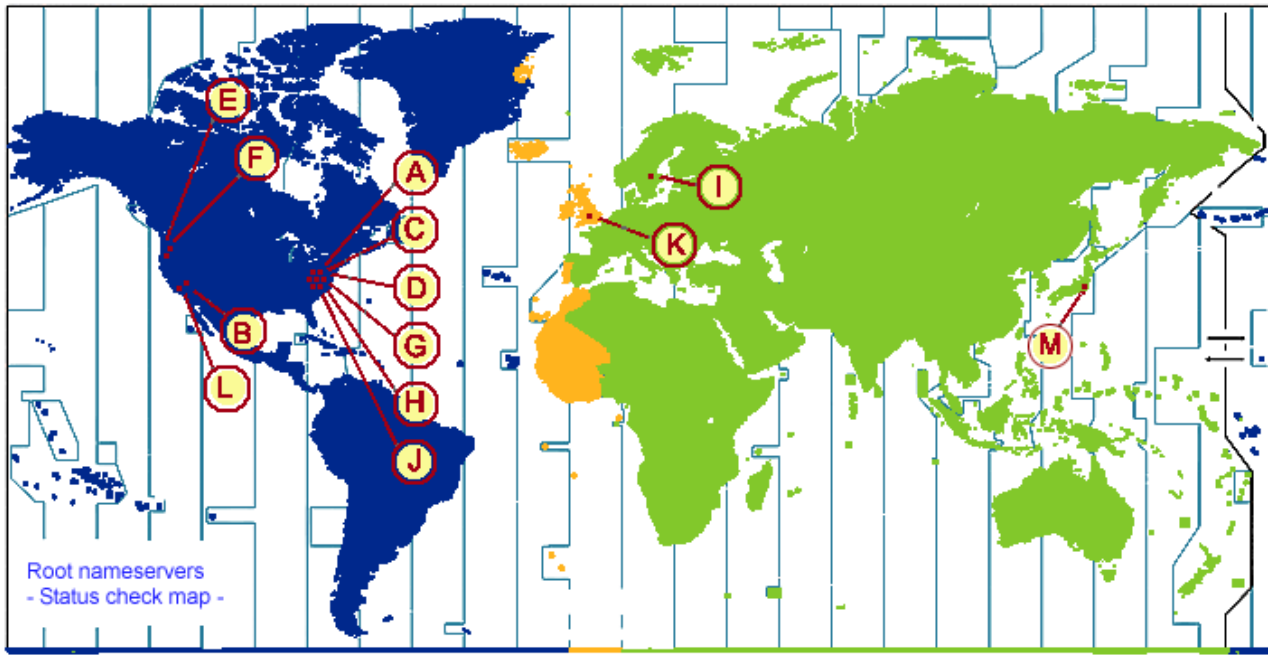

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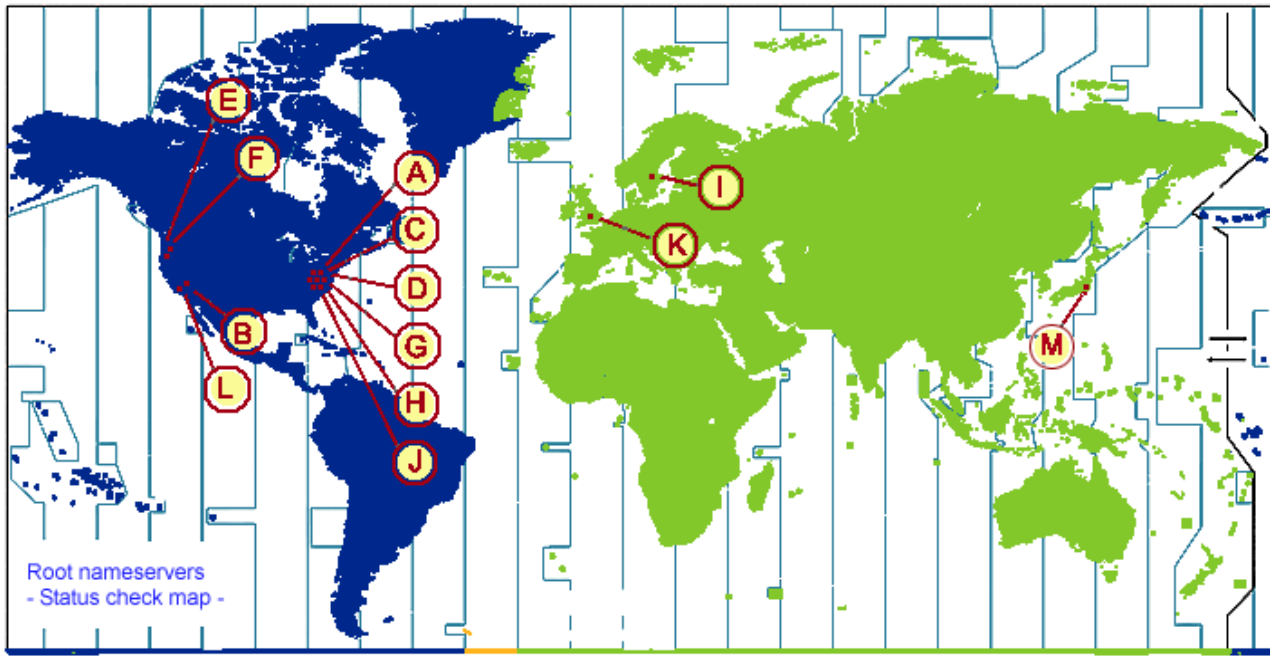

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M	WIDE	confirmed

Server	Operator	Status
A	Network Solutions, Inc	working
B	USC/ISI	confirmed
C	PSInet	working
D	UMD	working
E	NASA	confirmed
F	ISC	working
G	DISA	confirmed
H	ARL	working
I	NORDUnet	confirmed
J	(TBD)	working
K	RIPE	confirmed
L	ICANN/IANA	confirmed
M	WIDE	confirmed

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A	Network Solutions, Inc	confirmed
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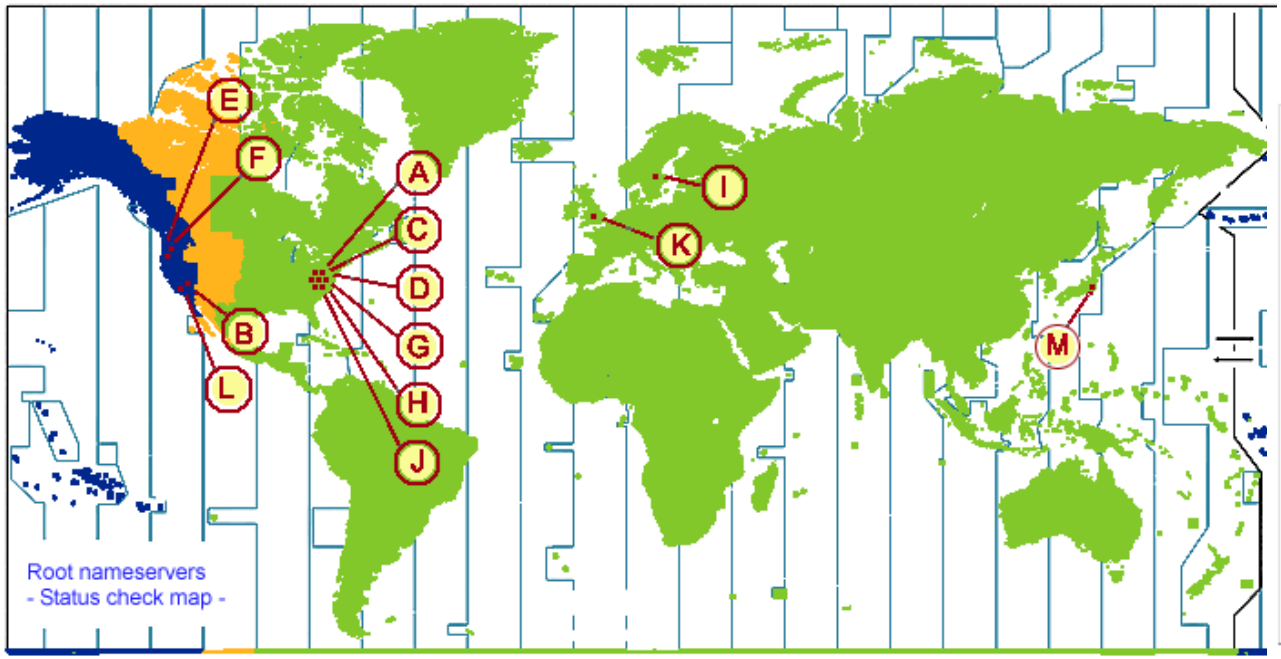
K	RIPE	confirmed
L	ICANN/IANA	confirmed
M	WIDE	confirmed



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C	PSInet	confirmed
D	UMD	confirmed
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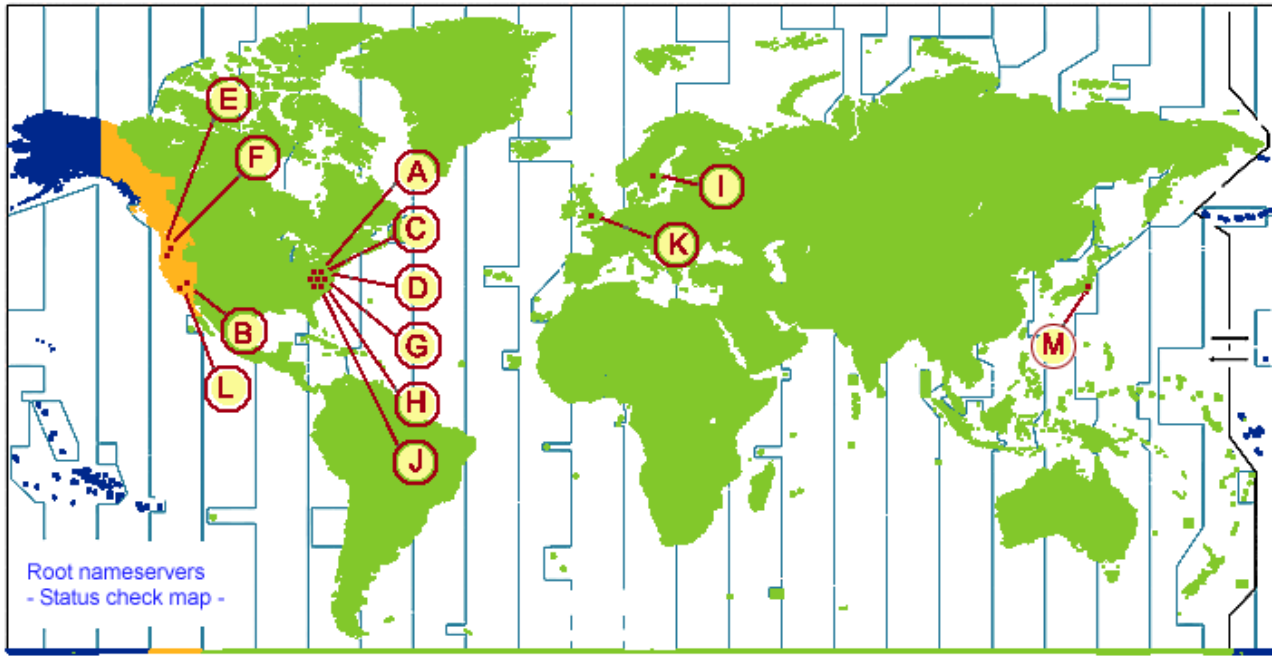

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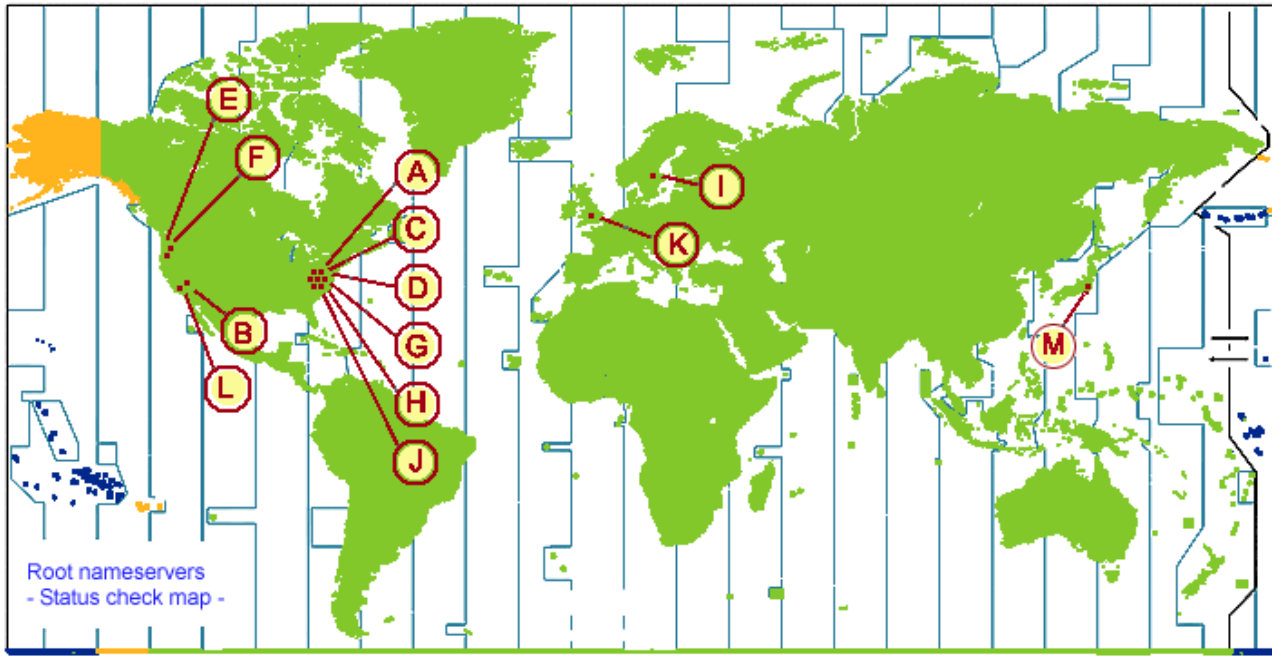

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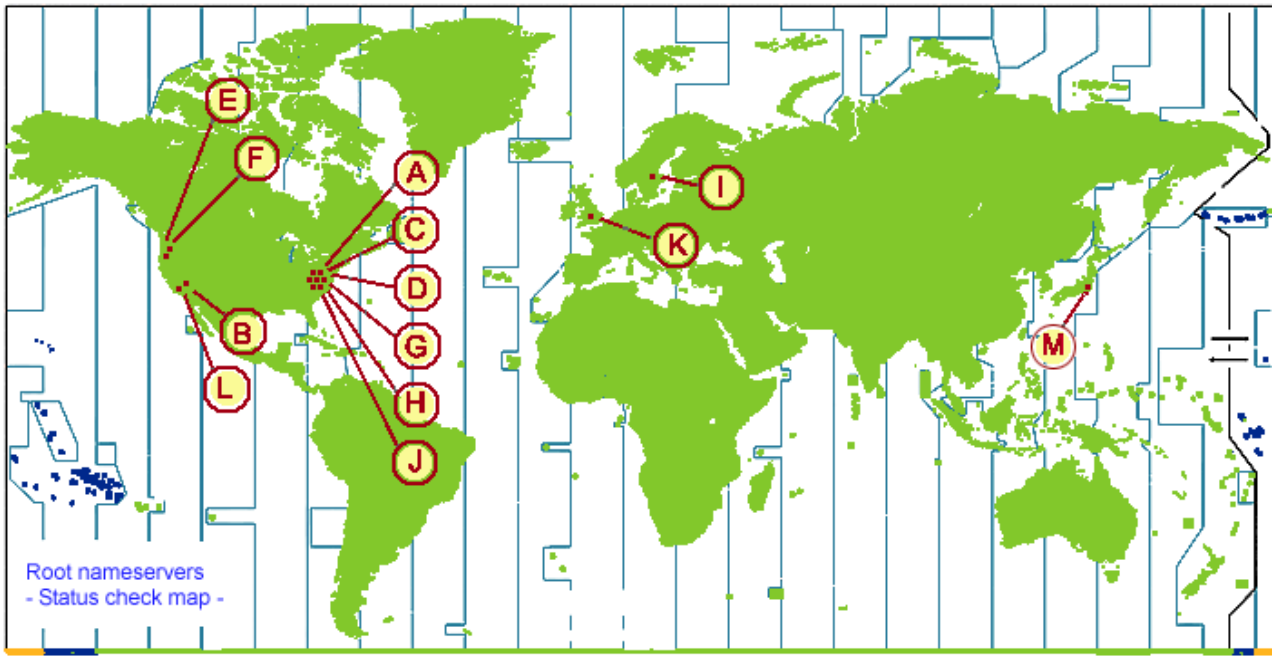

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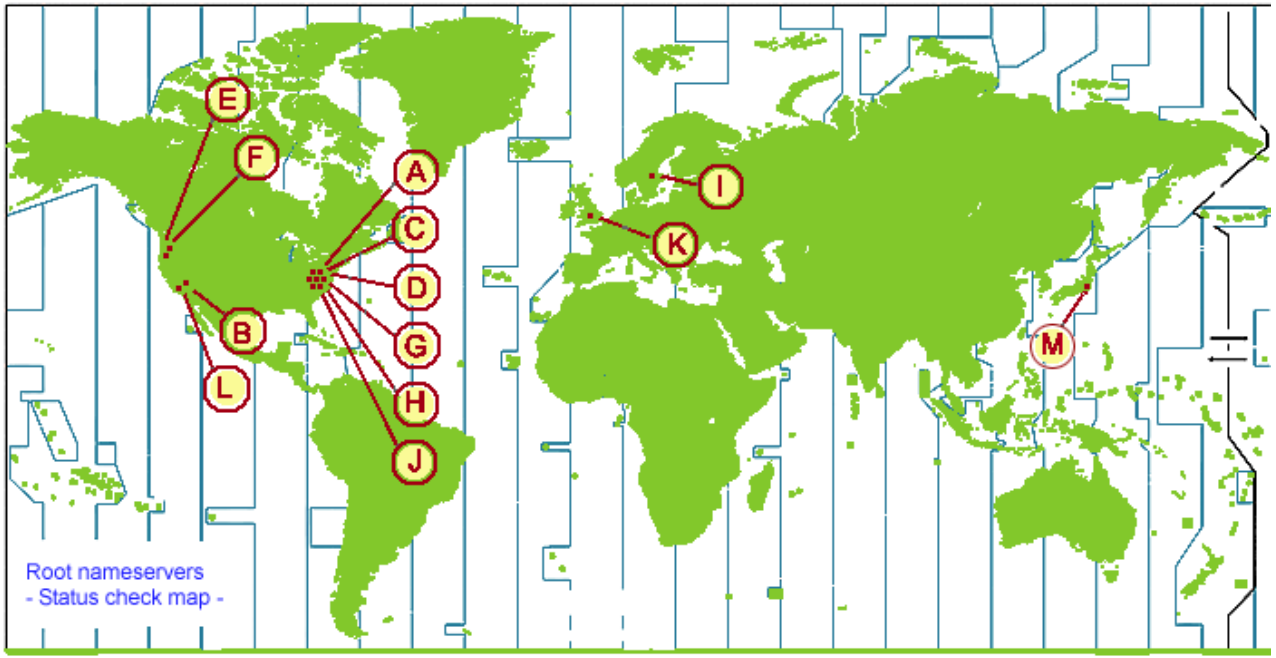

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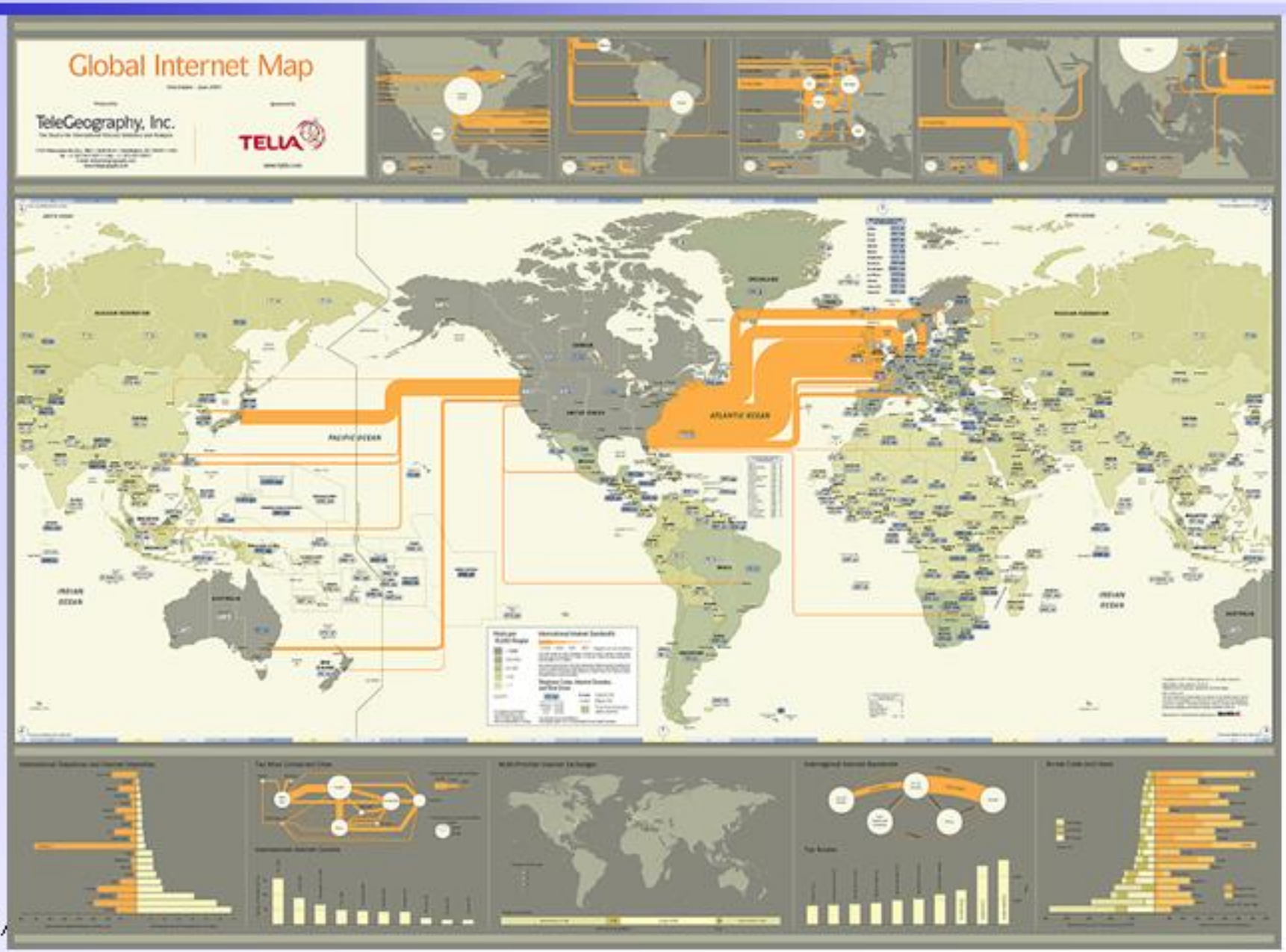
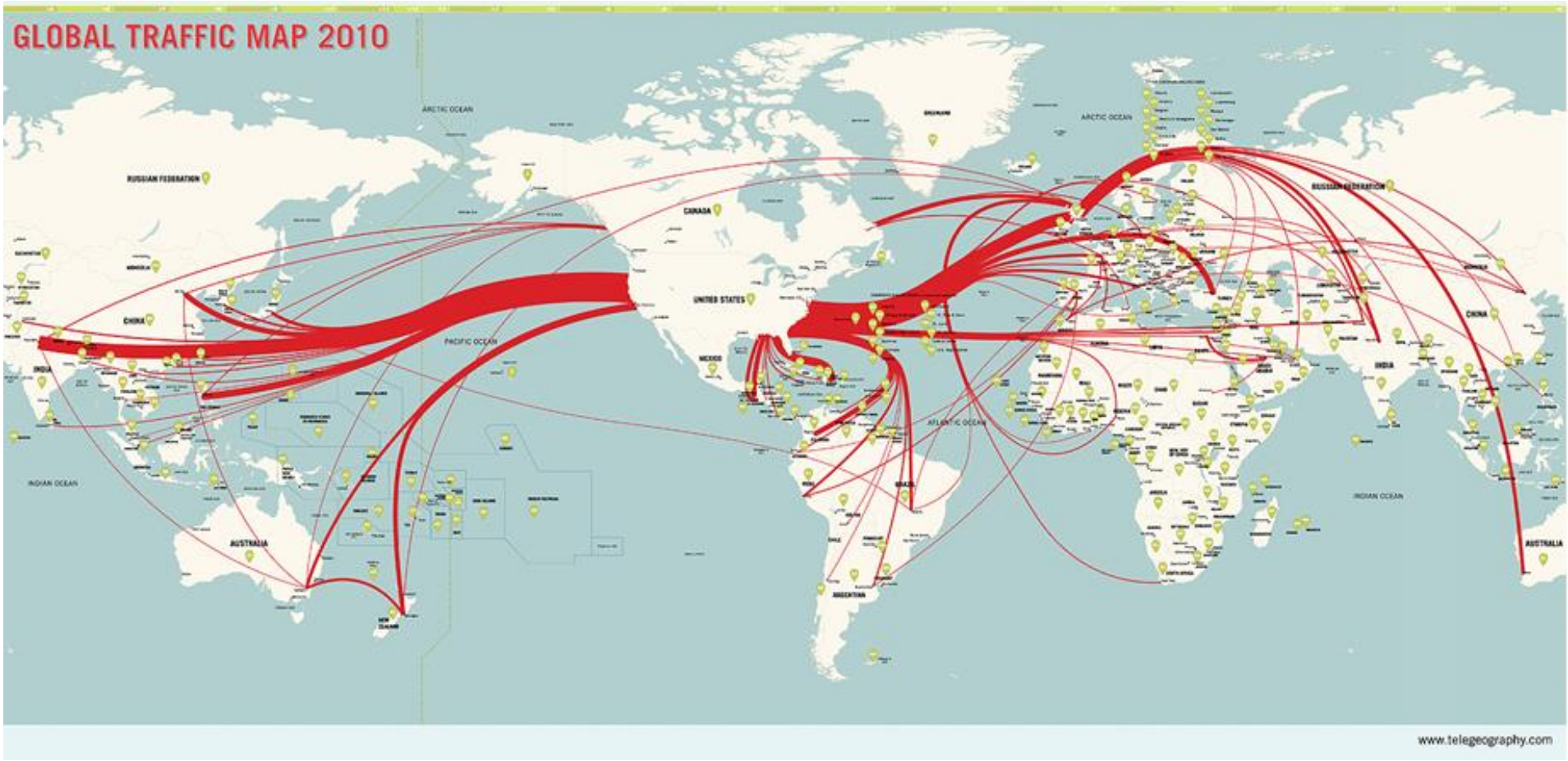
2001 InternetTraffic

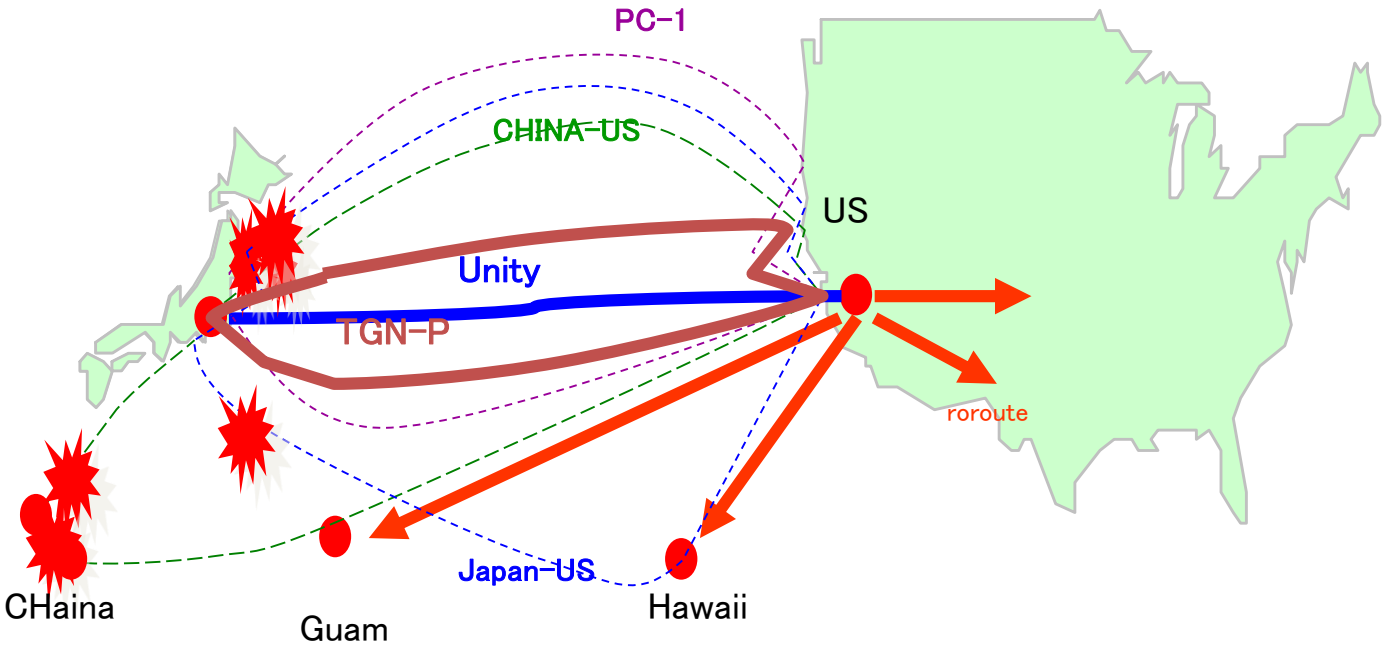


Global Traffic

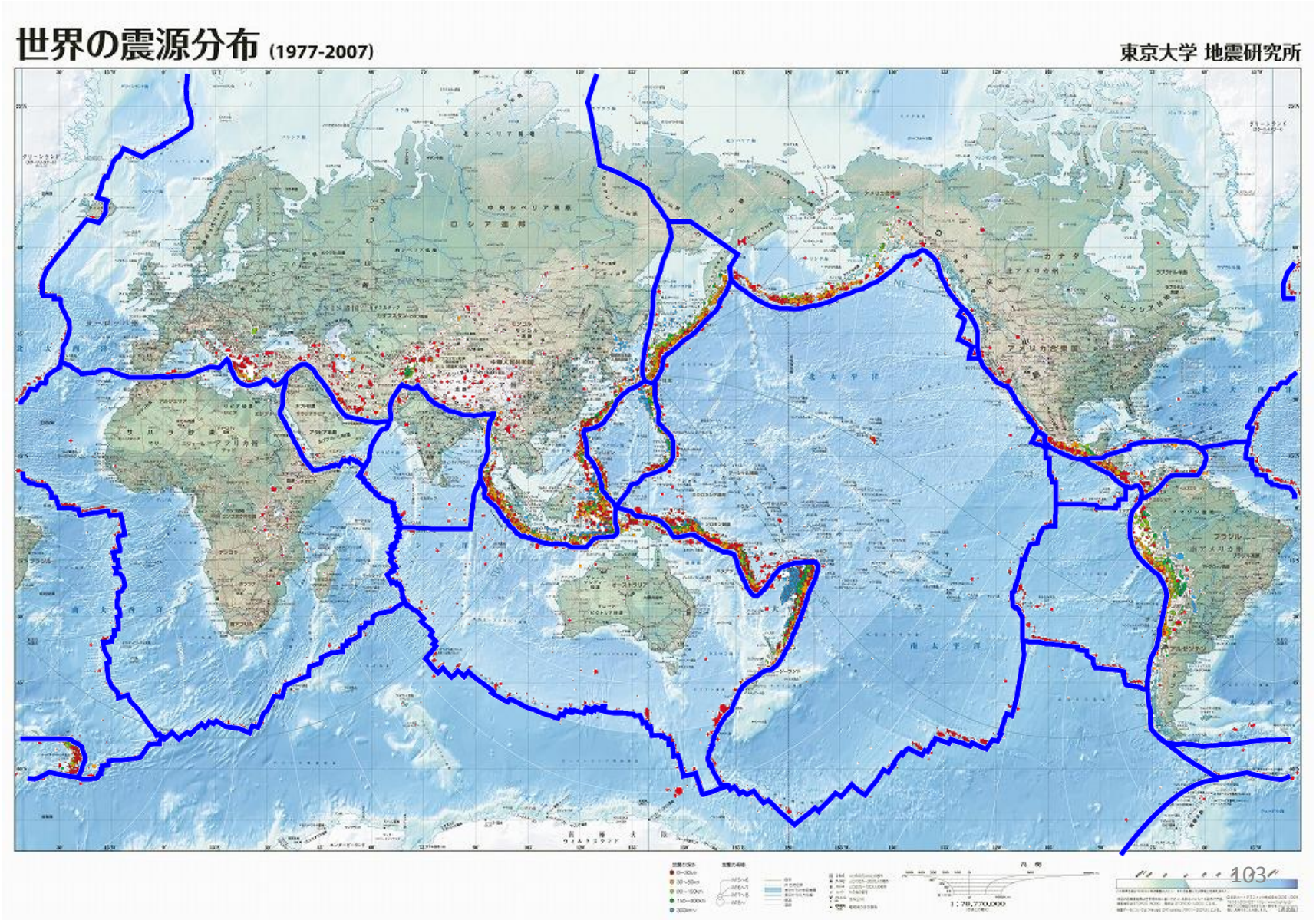


Submarine cable after 3.11

- PC1、Japan-US、CHINA-US cable was broken at more than 10 point.
- But Internet was still working.



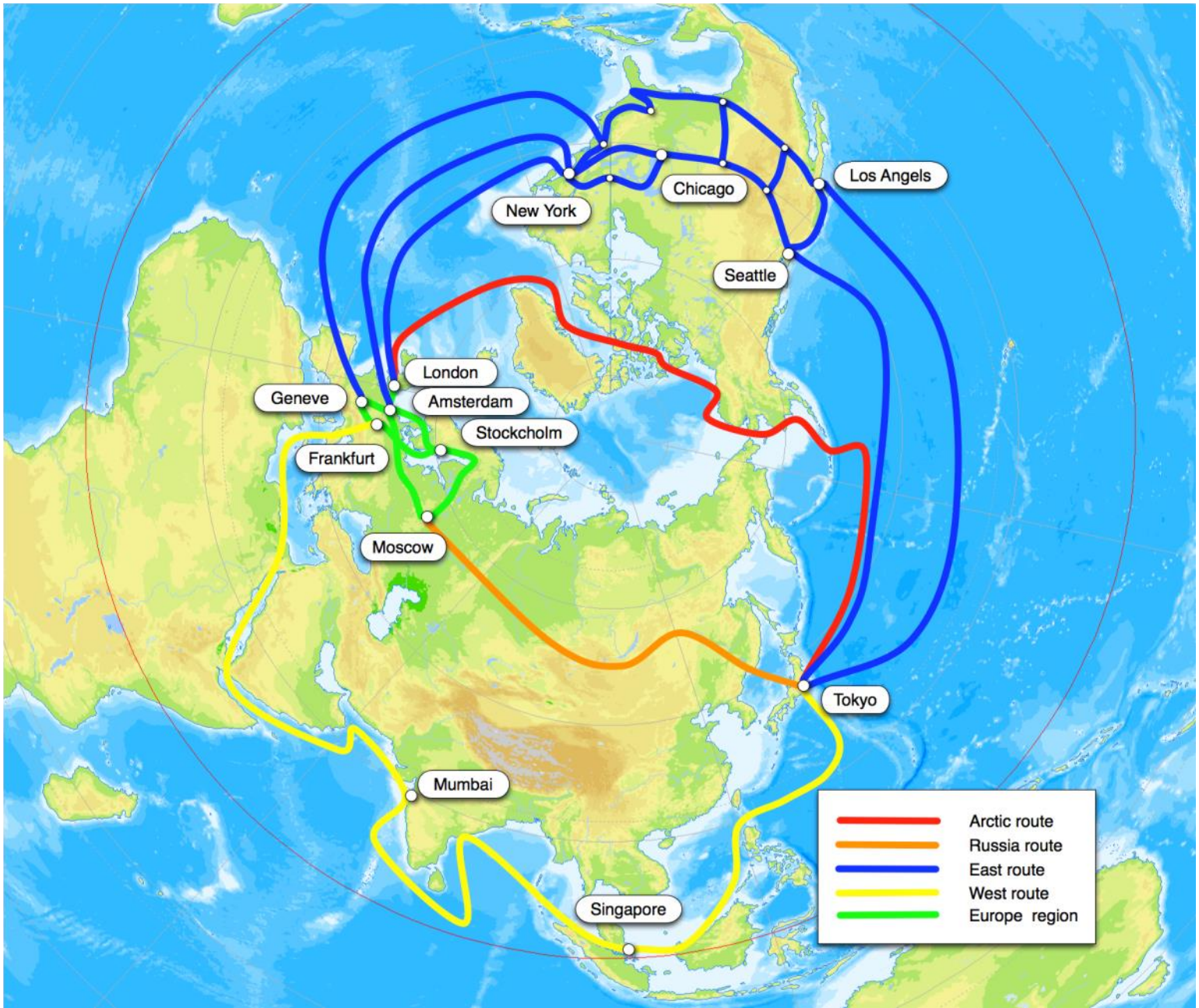
Locations of Earthquakes

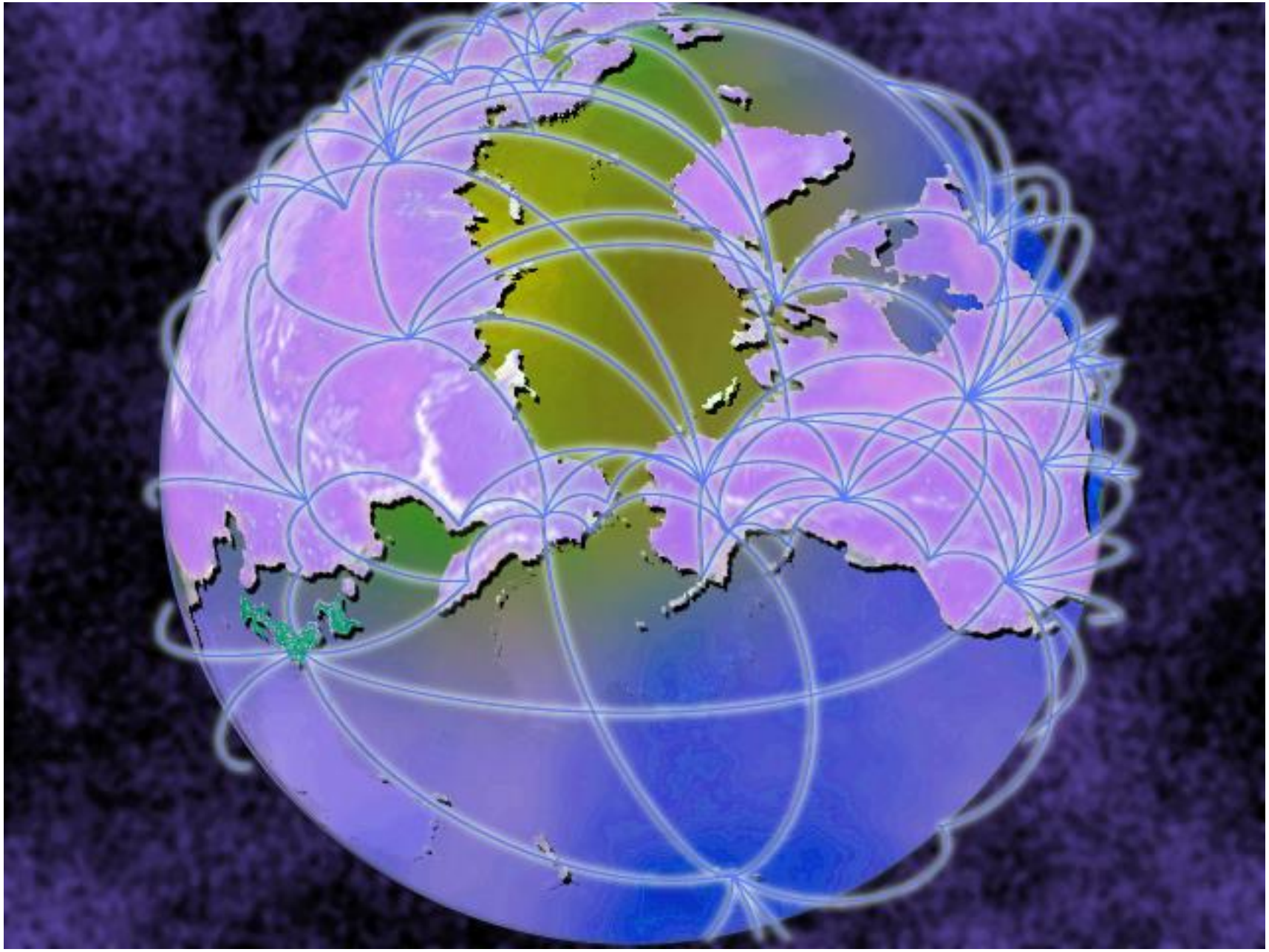


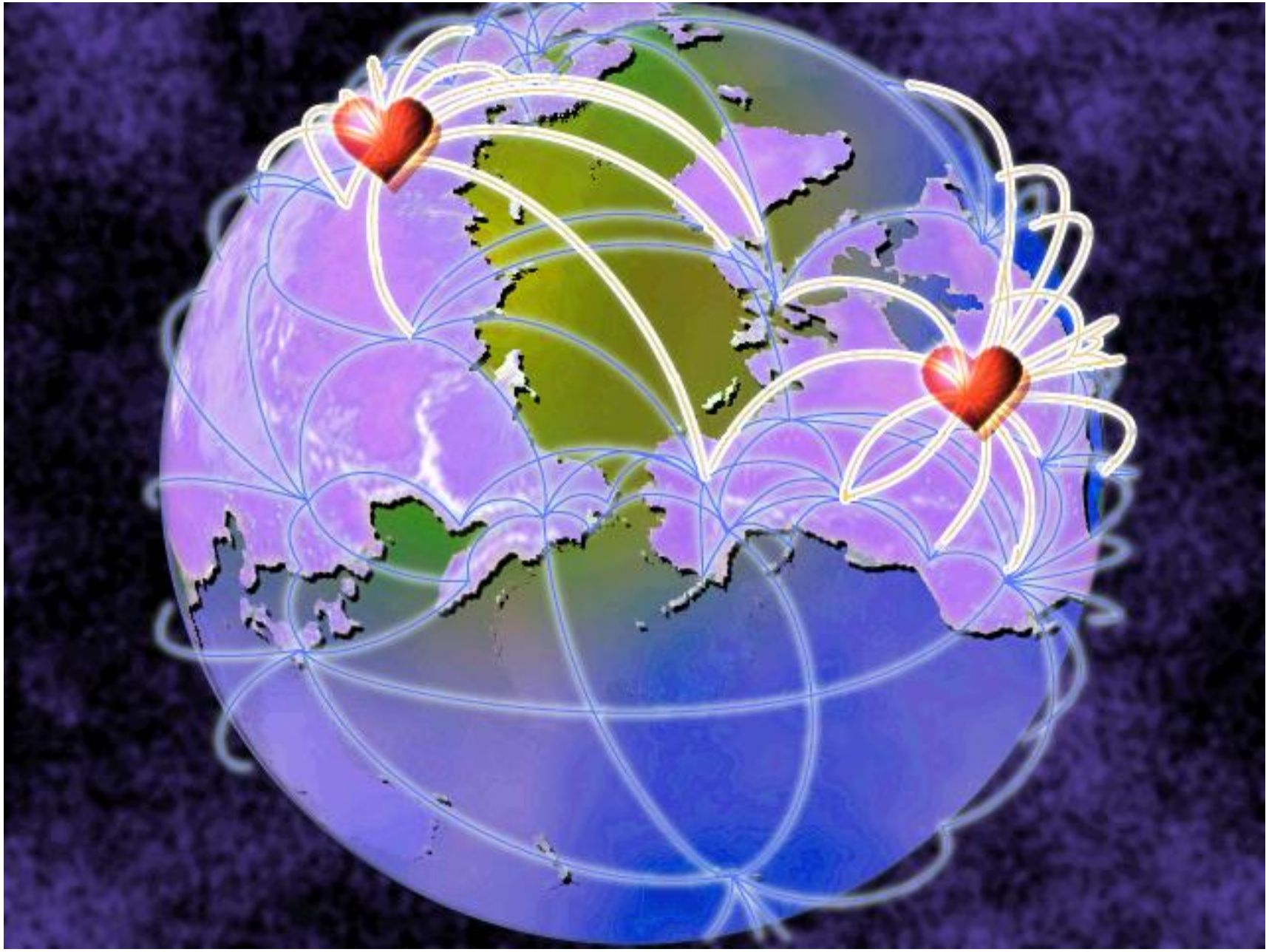
http://outreach.eri.u-tokyo.ac.jp/education/material/

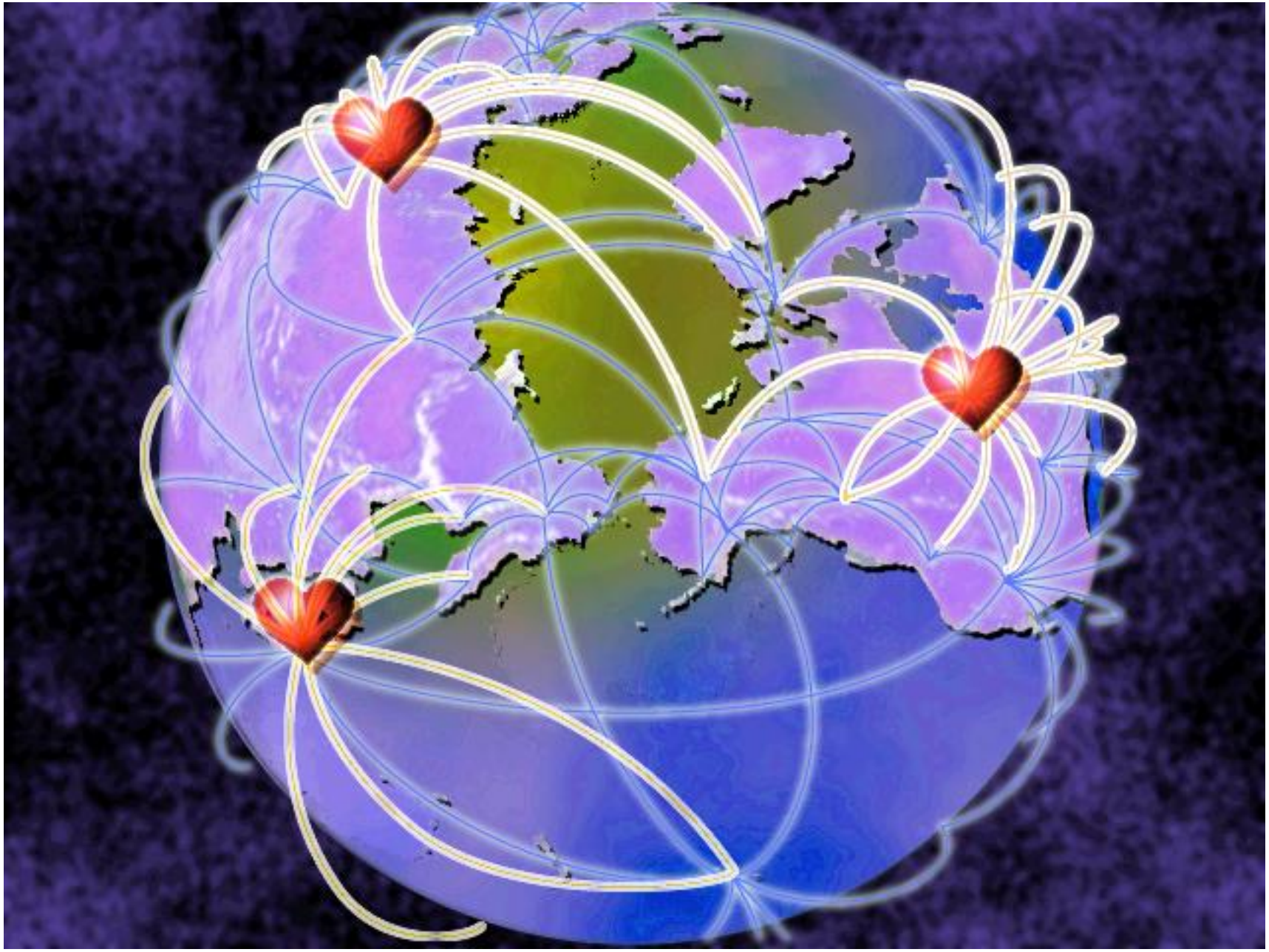
Lambda from Above

Lambda from Above









Internet is for Computers
Internet is for Everyone
Internet is for Everything

Internet 2013 (and beyond…)

- Evidence Based Society
  - With Bigdata and Cloud computing
  - Eternal preservation
- Video Traffic
  - Huge amount of data
  - Services, DRM and legal acts
- 20 billion to 70 billion users
  - Global, local, social, mobile

Dennis Ritchie

(dmr)

1941-2011

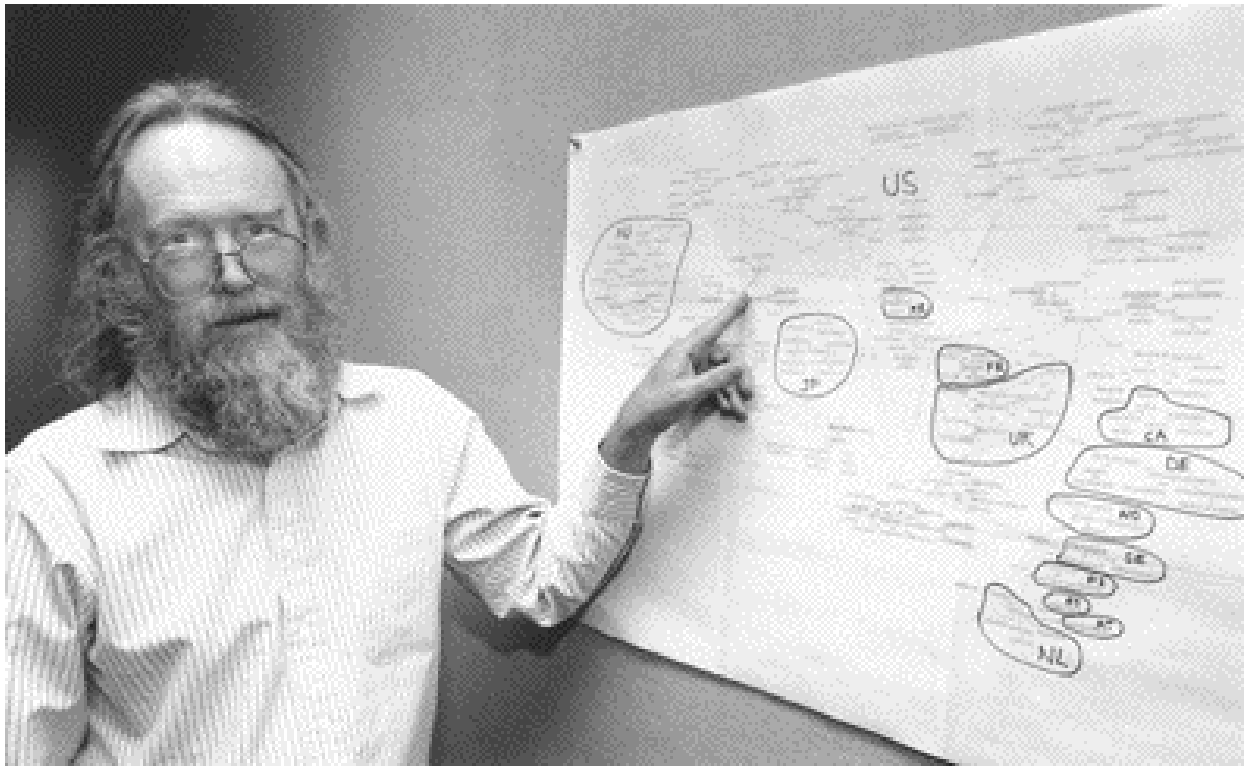
Father of C and UNIX

From dmr Tue Apr 7 02:01 EST 1981 remote from research

Don't lose interest in the jerq terminal stuff, no matter what momentary problems you have with the device or the system. I think the approach and the progress so far are very exciting.

There's that line from Newton about standing on the shoulders of giants. We've all standing on Dennis' shoulders.
: Kernighan

2011 Jonathan B. Postel Service Award



Jonathan B. Postel, 1943-1998

The Itojun Service Award 2011

itojun
service award

IETF®

Internet Society™

WIDE

The future of the Internet is…

The future of the Internet is..

yours

to create!