次世代インターネットへの責任

WIDE Project
Keio University
村井　純

Art and Intelligence

Museum

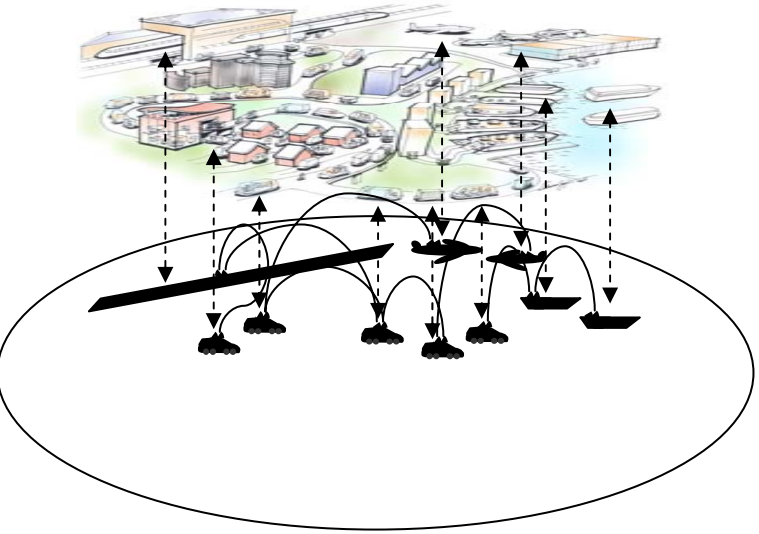
Music,Sound
and
Dance

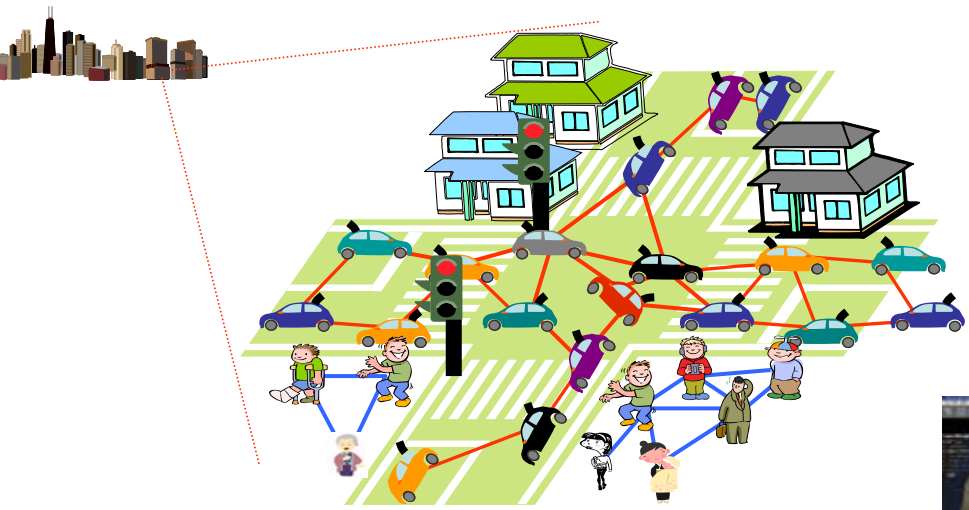
Old Chinese Documents

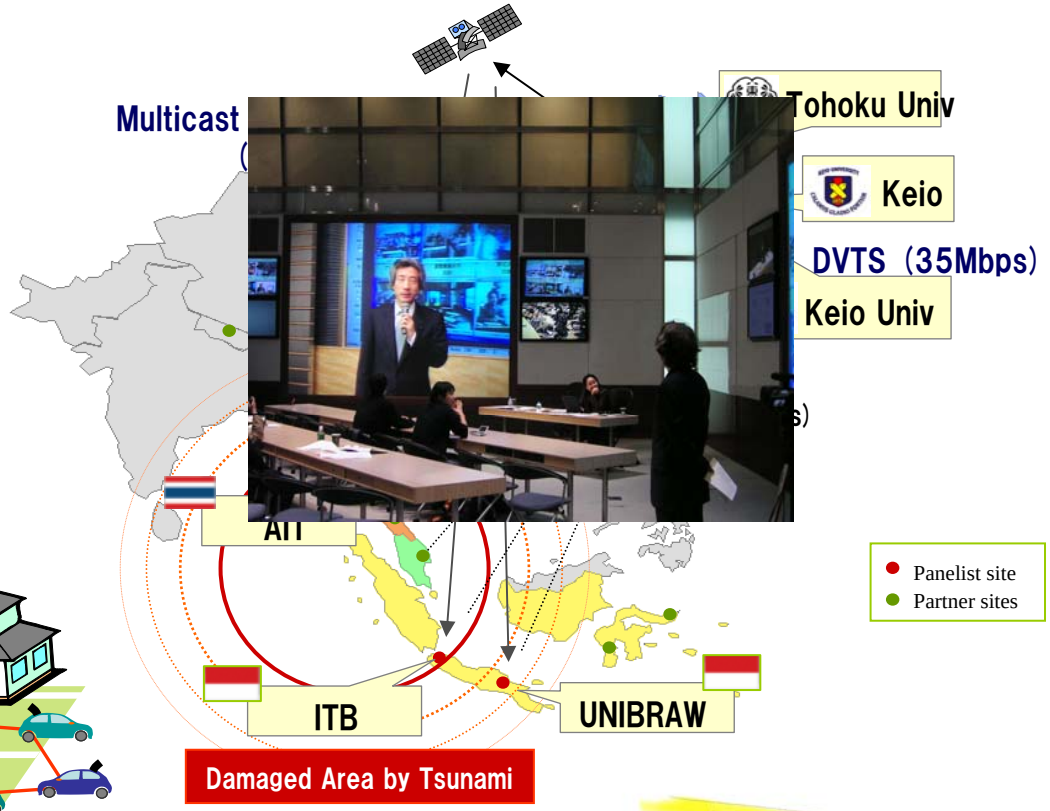
Very Important
and
Very Old Documents

Recovery of
the past

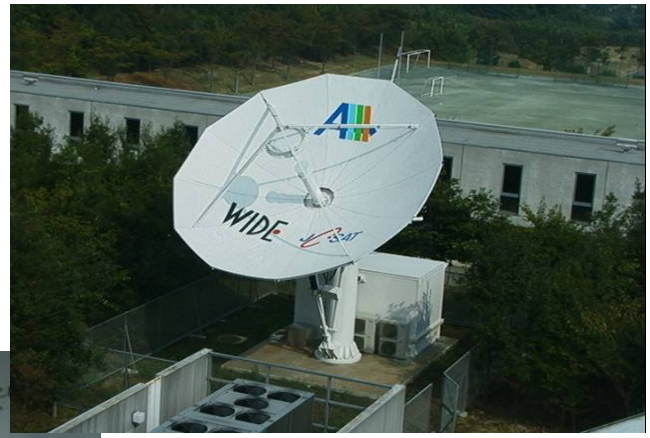
New Intelligence

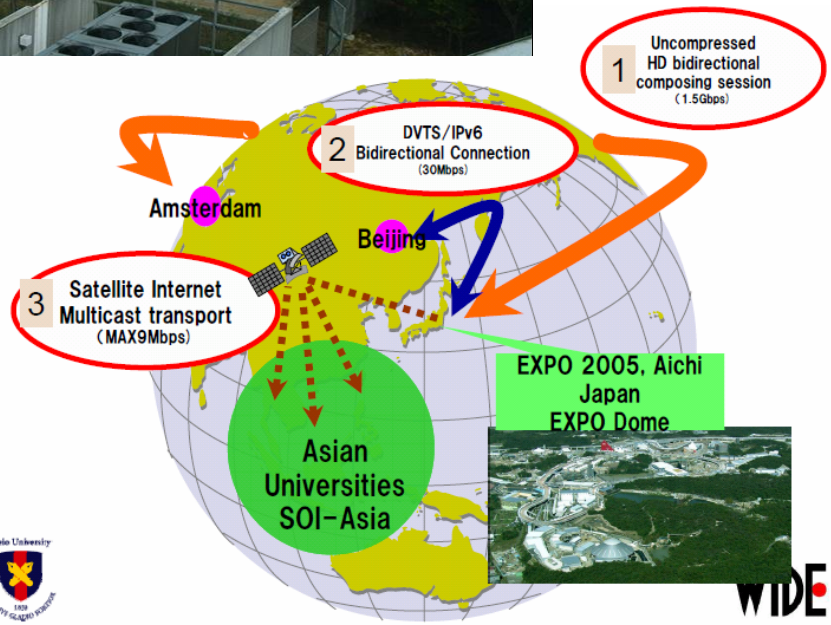


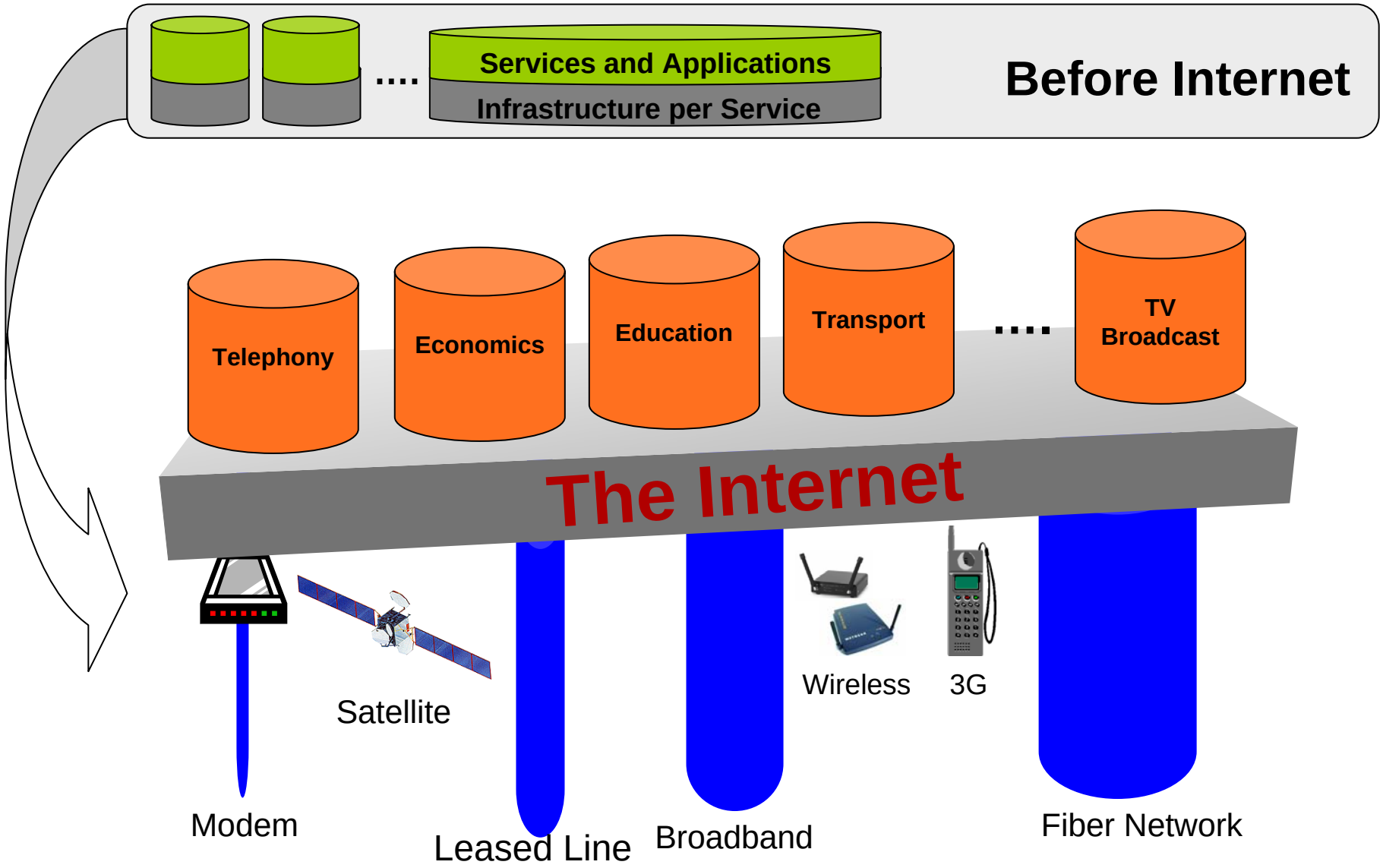




Digital Communication Media







The ‘real’ infrastructure for Knowledge and Information

KAME, SHISA, USAGI Project

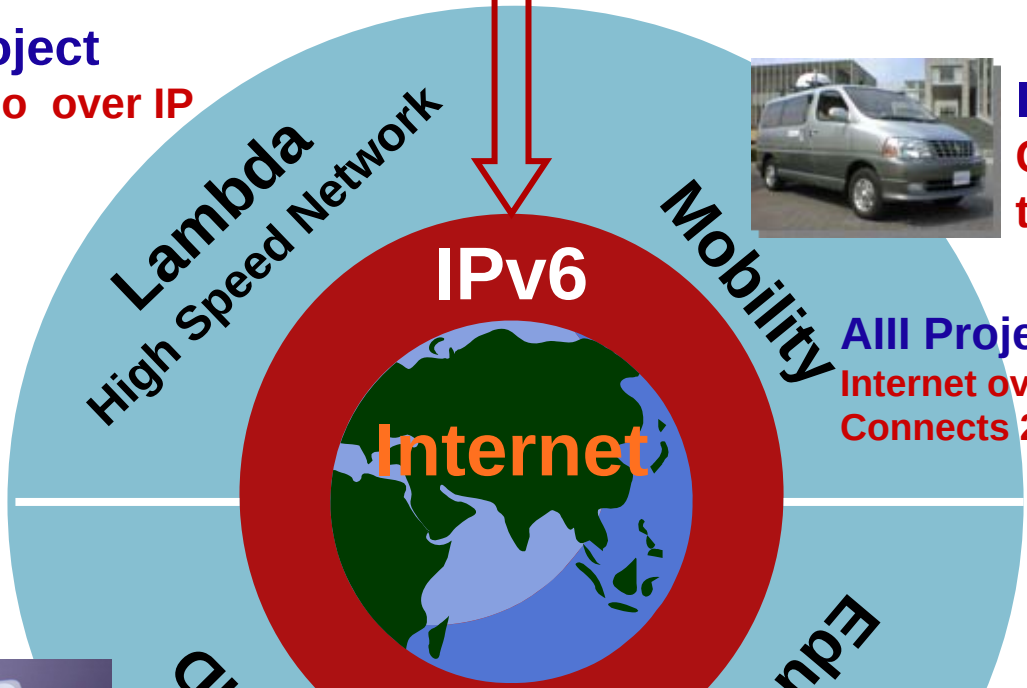
IPv6 Reference Implementation
on BSD, Linux

DVTS Project

Audio/Video over IP

ICAR Project

Connecting CAR
to the Internet



AIII Project

Internet over Broadcast Media
Connects 20 univ. in 20 countries

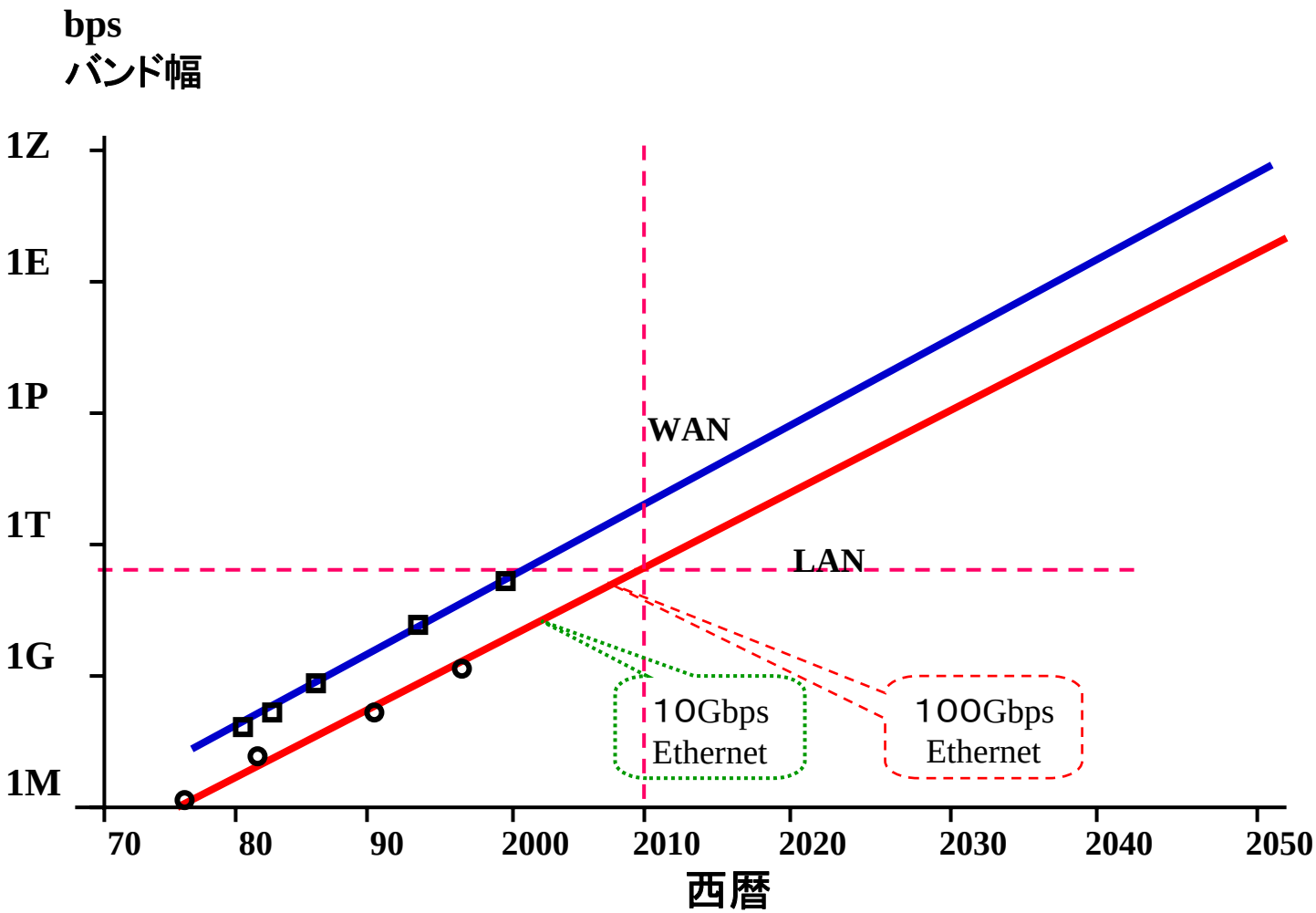
SOI Project

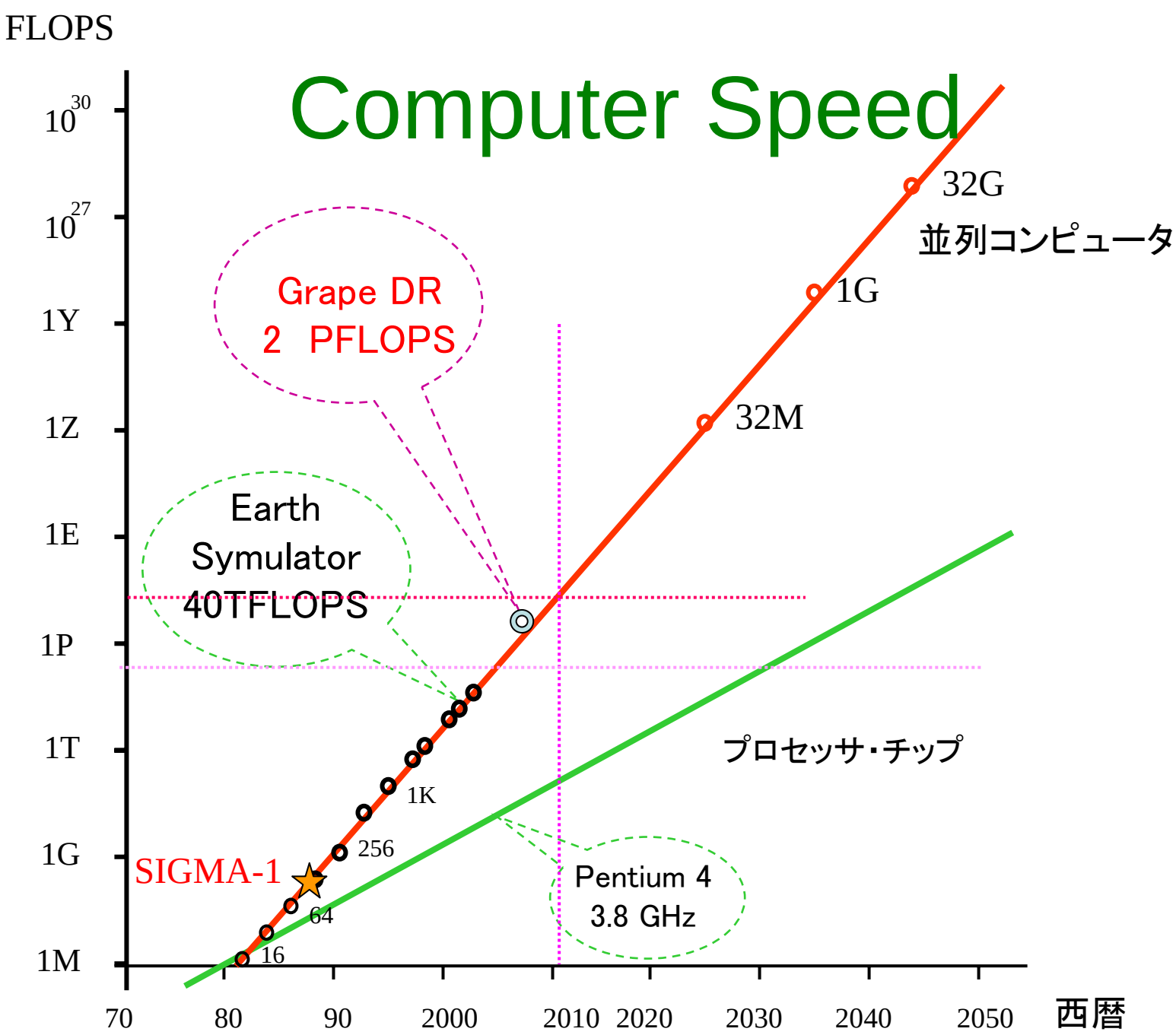
School on Internet
Global sharing of education

AutoID Project

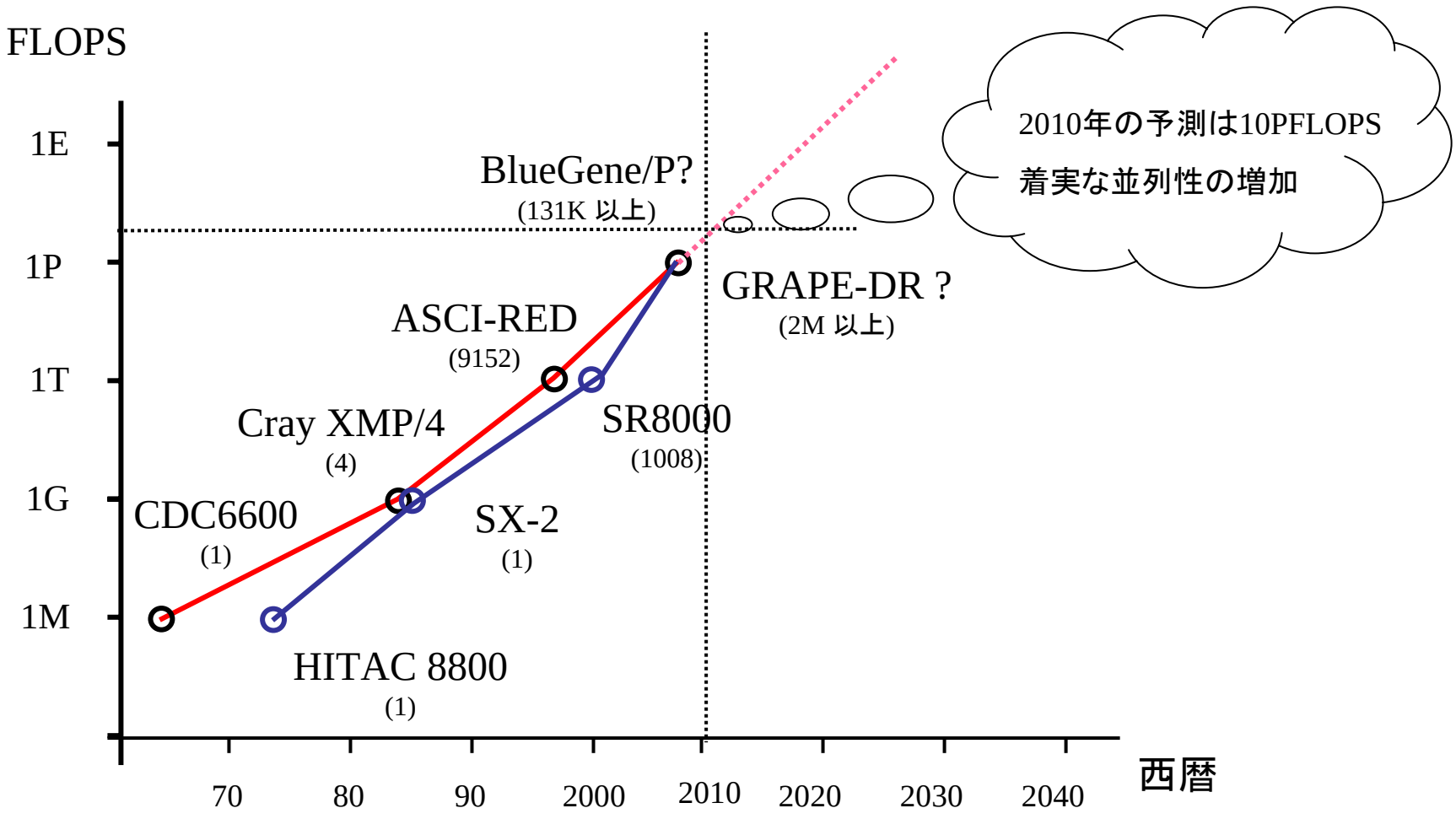
Creating firm links between
Cyberspace and Realspace

Network Speed




FLOPS
Computer Speed
10^30
10^27
1Y
1Z
1E
1P
1T
1G
1M
32G
並列コンピュータ
1G
32M
Grape DR
2 PFLOPS
Earth
Symulator
40TFLOPS
プロセッサ・チップ
1K
256
64
16
SIGMA-1
Pentium 4
3.8 GHz
70
80
90
2000
2010
2020
2030
2040
2050
西暦

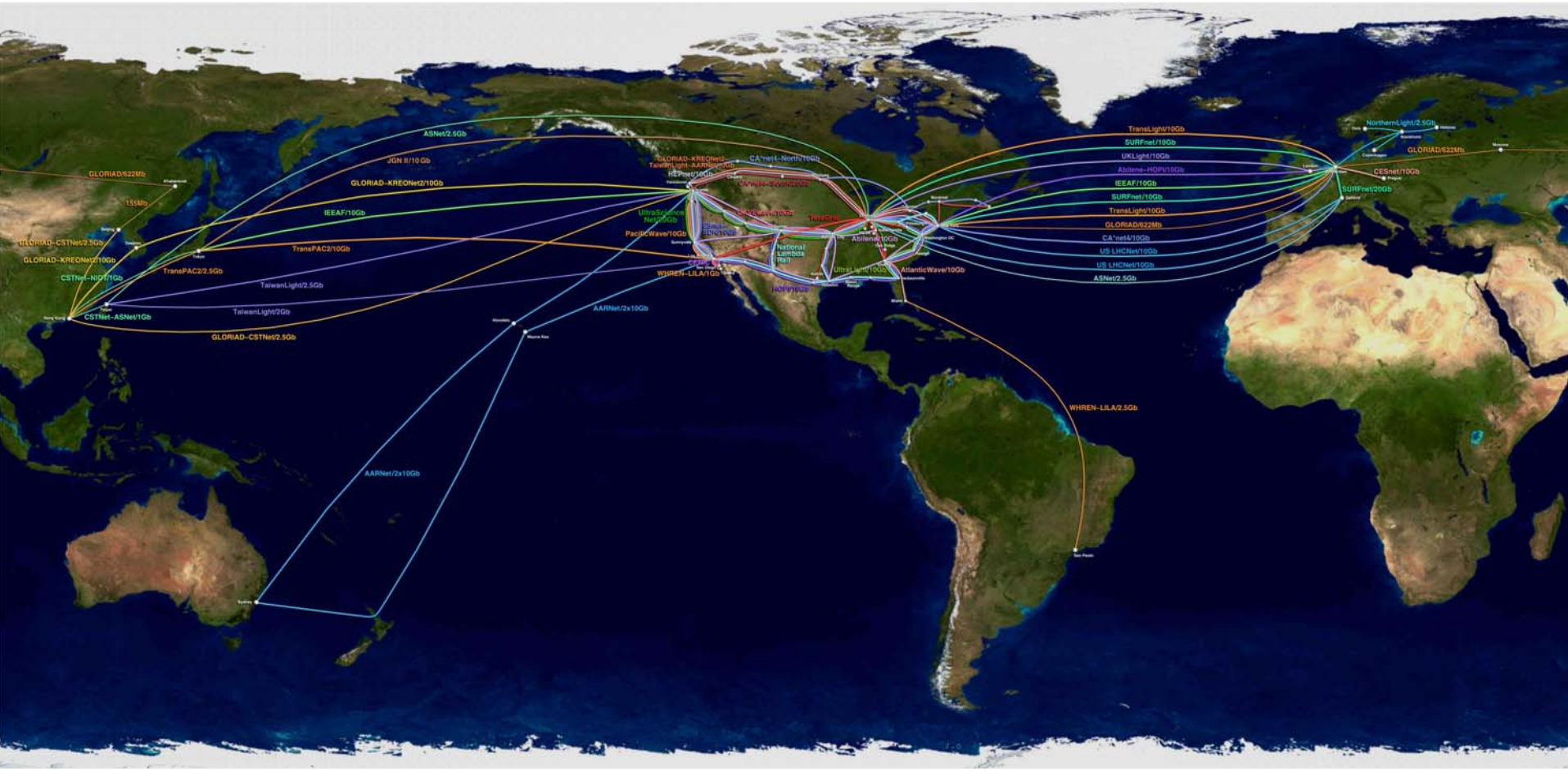
History of Speed breakthrough



Global Lambda Integrated Facility

World Map – August 2005

International Research & Education Network bandwidth, to be made available for scheduled application and middleware research experiments by August 2005.



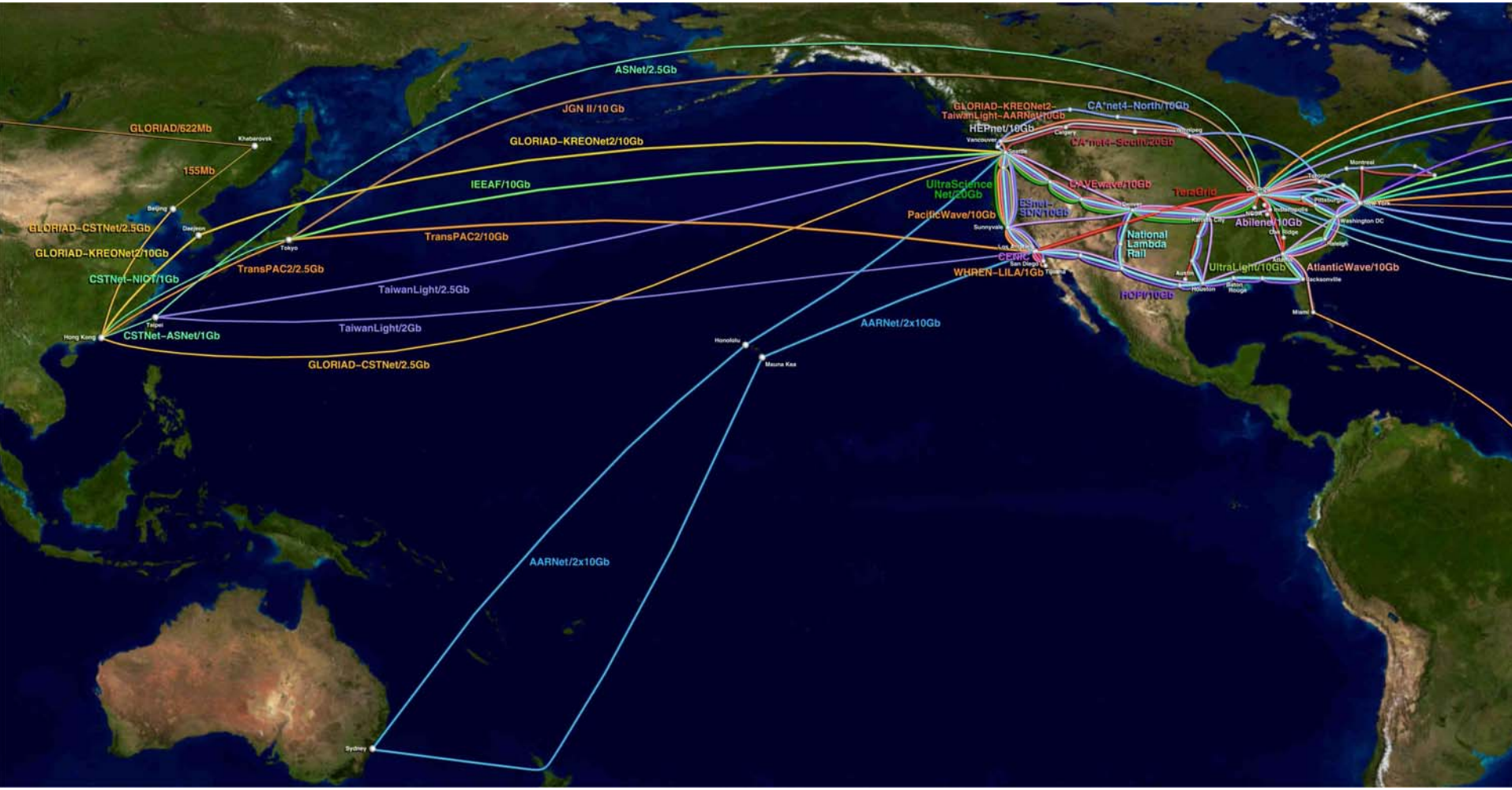
www.glif.is

Visualization courtesy of Bob Patterson, NCSA/University of Illinois at Urbana-Champaign.
Data compilation by Maxine Brown, University of Illinois at Chicago. Earth texture from NASA.

Global Lambda Integrated Facility

Pacific Map – August 2005

Predicted Bandwidth for Scheduled Experiments



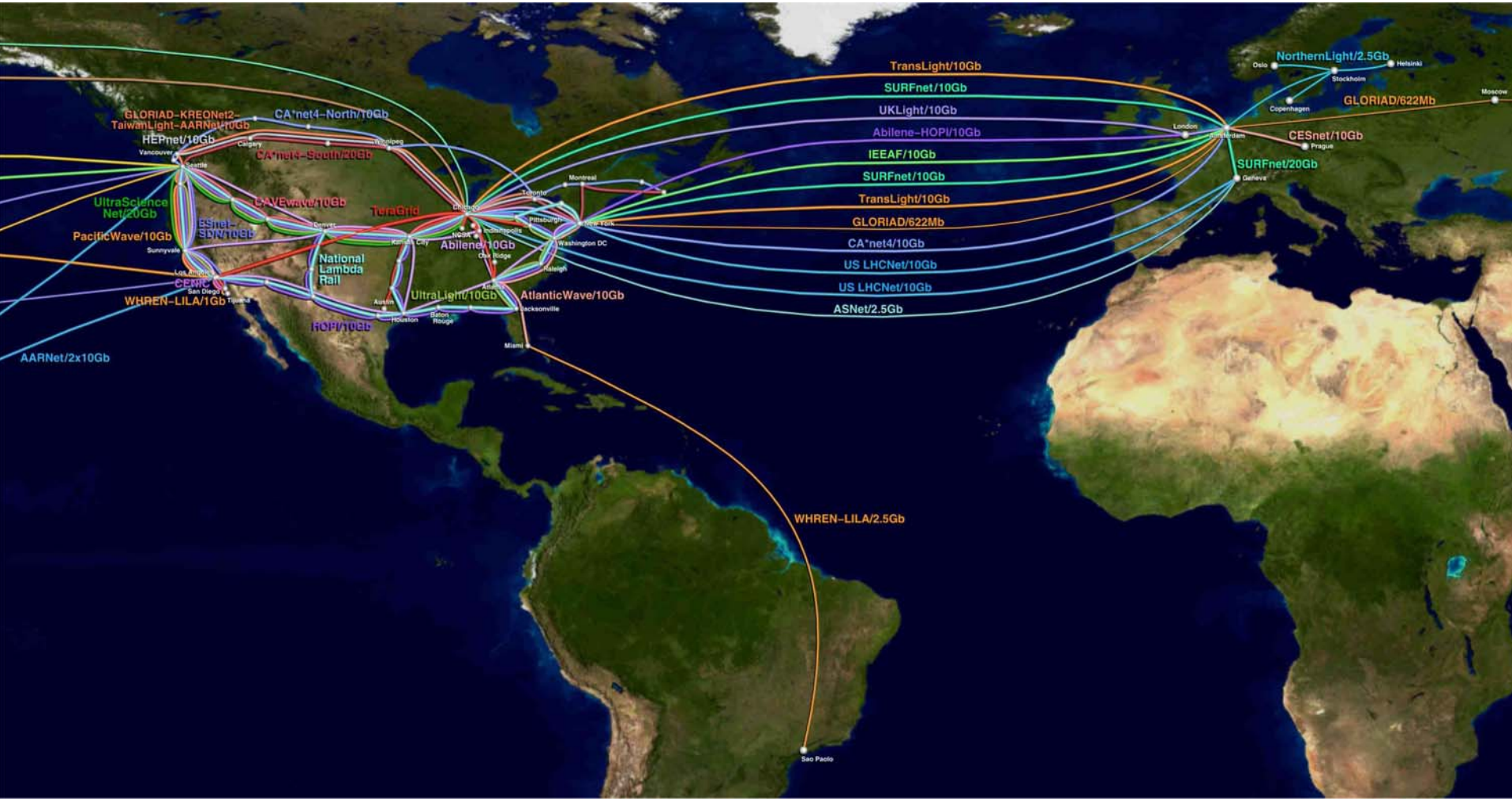
www.glif.is

Visualization courtesy of Bob Patterson, NCSA/University of Illinois at Urbana-Champaign.
Data compilation by Maxine Brown, University of Illinois at Chicago. Earth texture from NASA.

Global Lambda Integrated Facility

Atlantic Map – August 2005

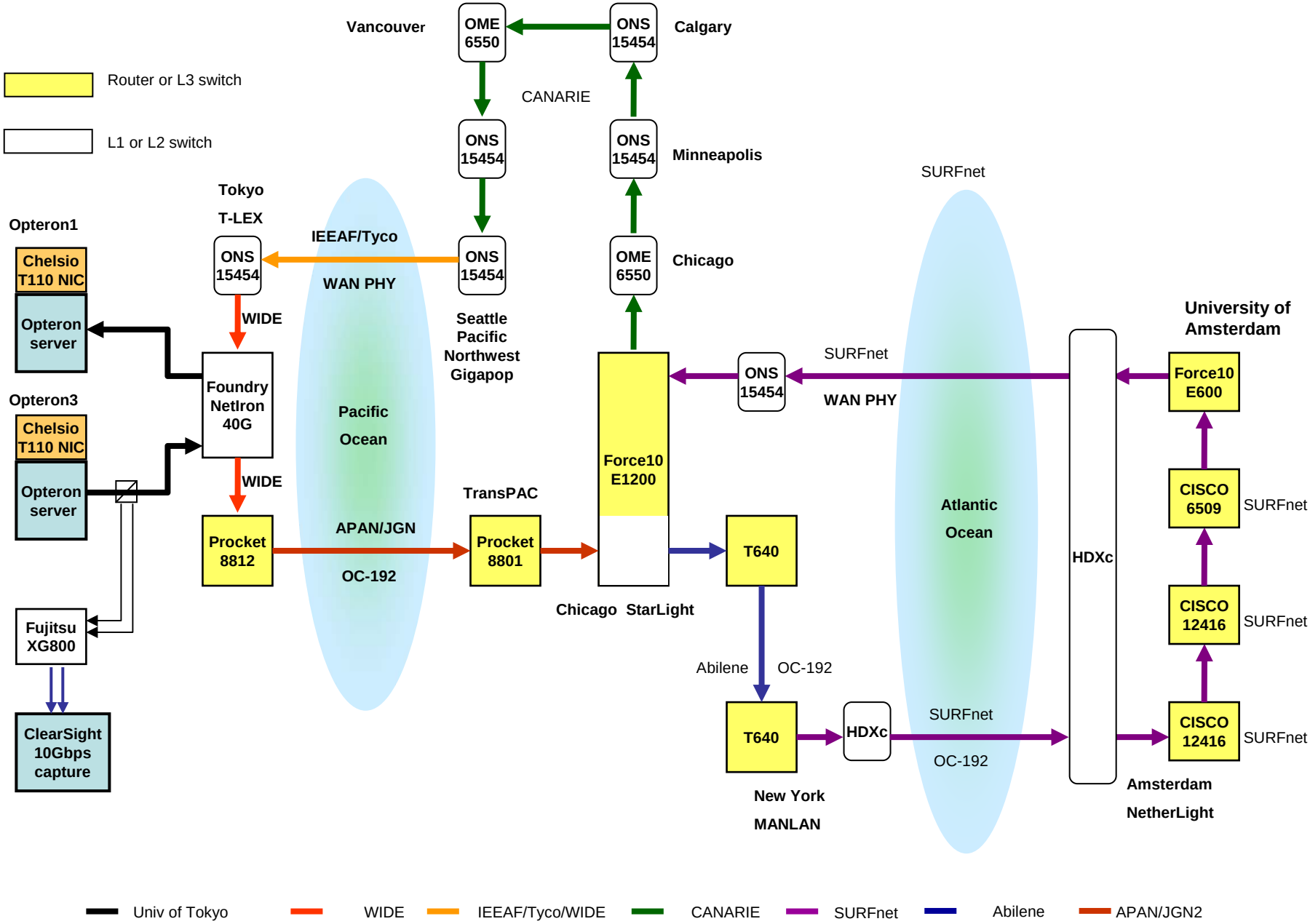
Predicted Bandwidth for Scheduled Experiments



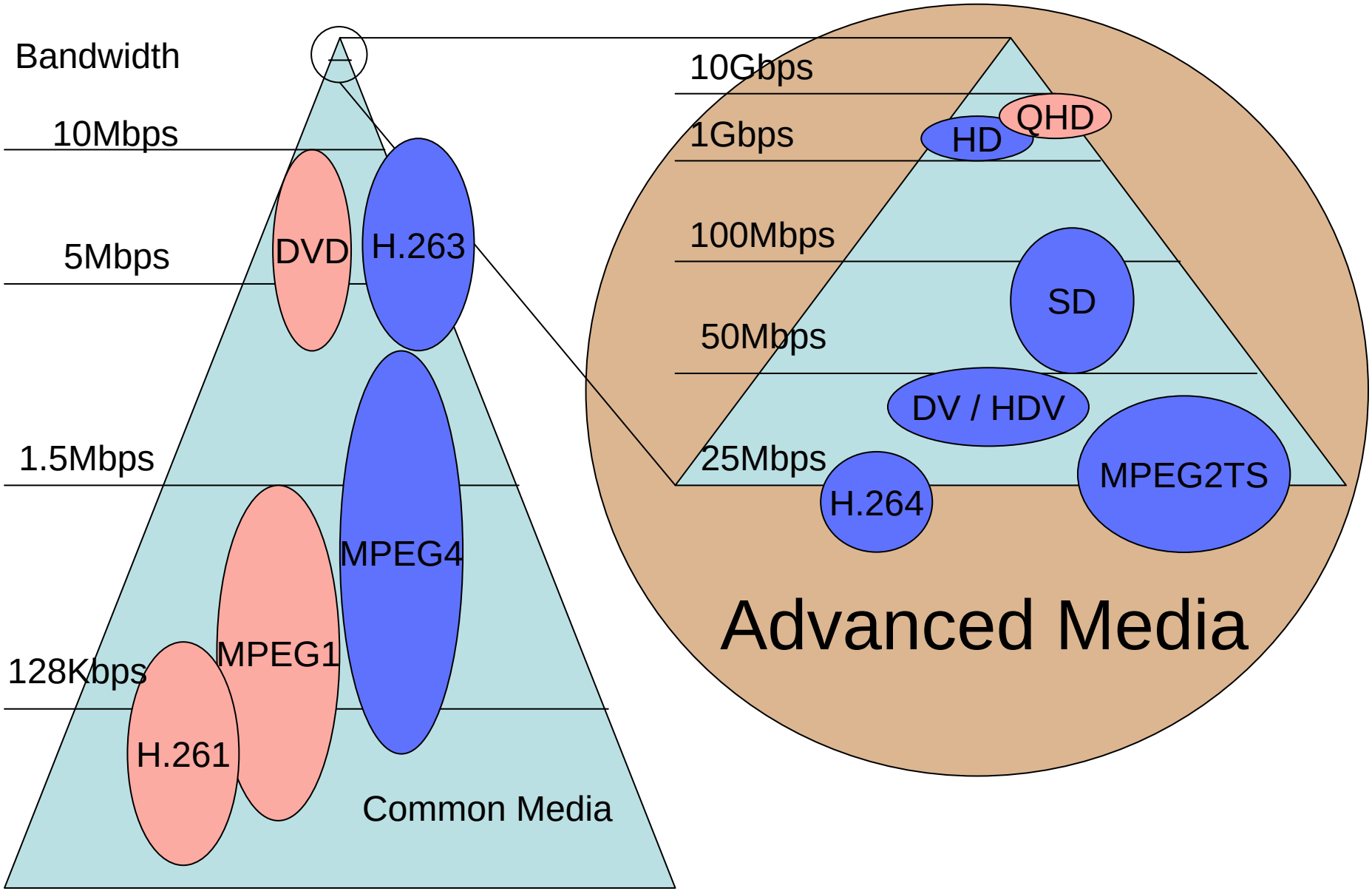
www.glif.is

Visualization courtesy of Bob Patterson, NCSA/University of Illinois at Urbana-Champaign.
Data compilation by Maxine Brown, University of Illinois at Chicago. Earth texture from NASA.

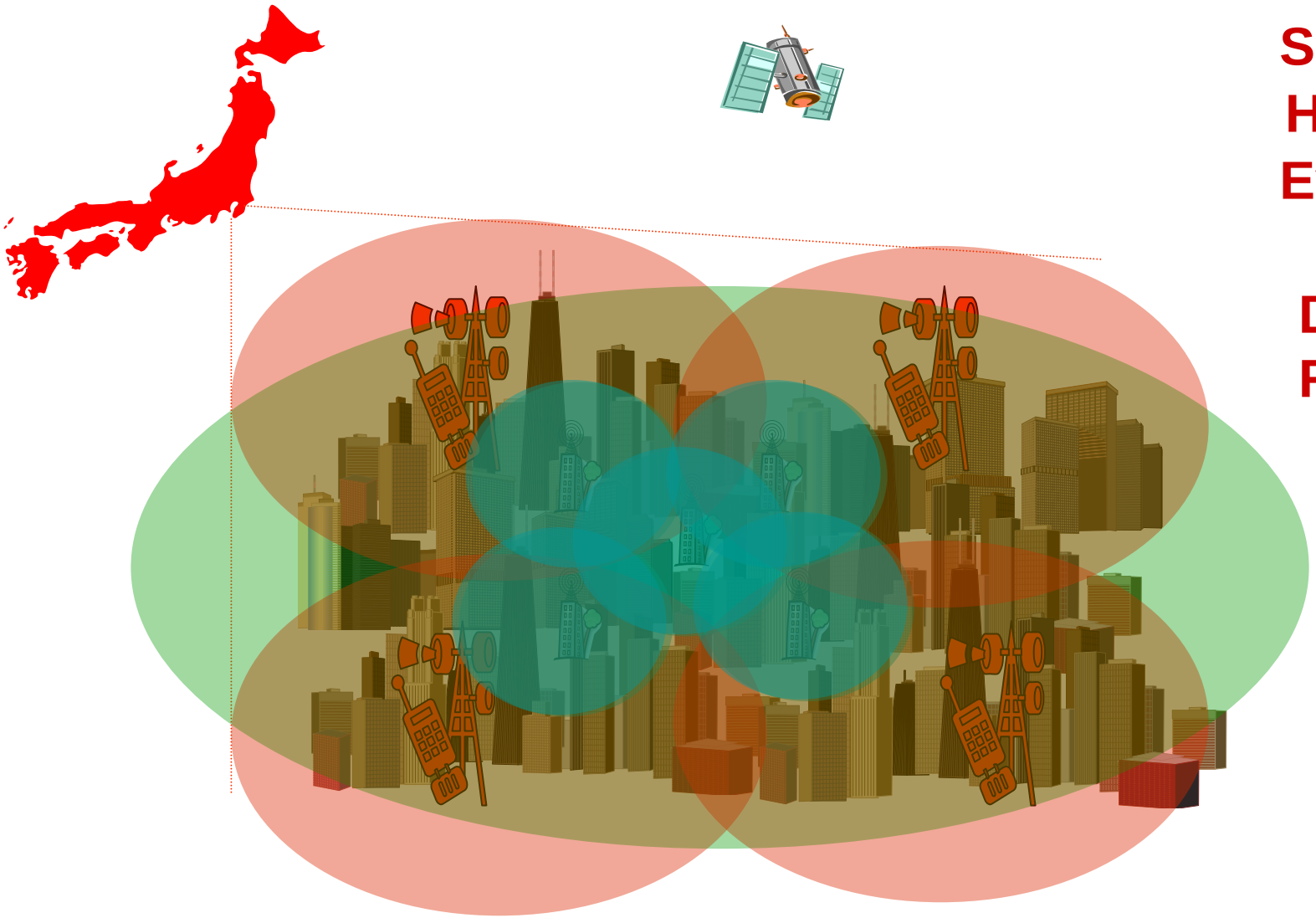
Single stream TCP – Tokyo – Chicago – Amsterdam – NY – Chicago - Tokyo



Structured Media Design



Unwired Mess?



WiMAX

WLAN

Satellite

HSDPA

EvDo 1x

PHS

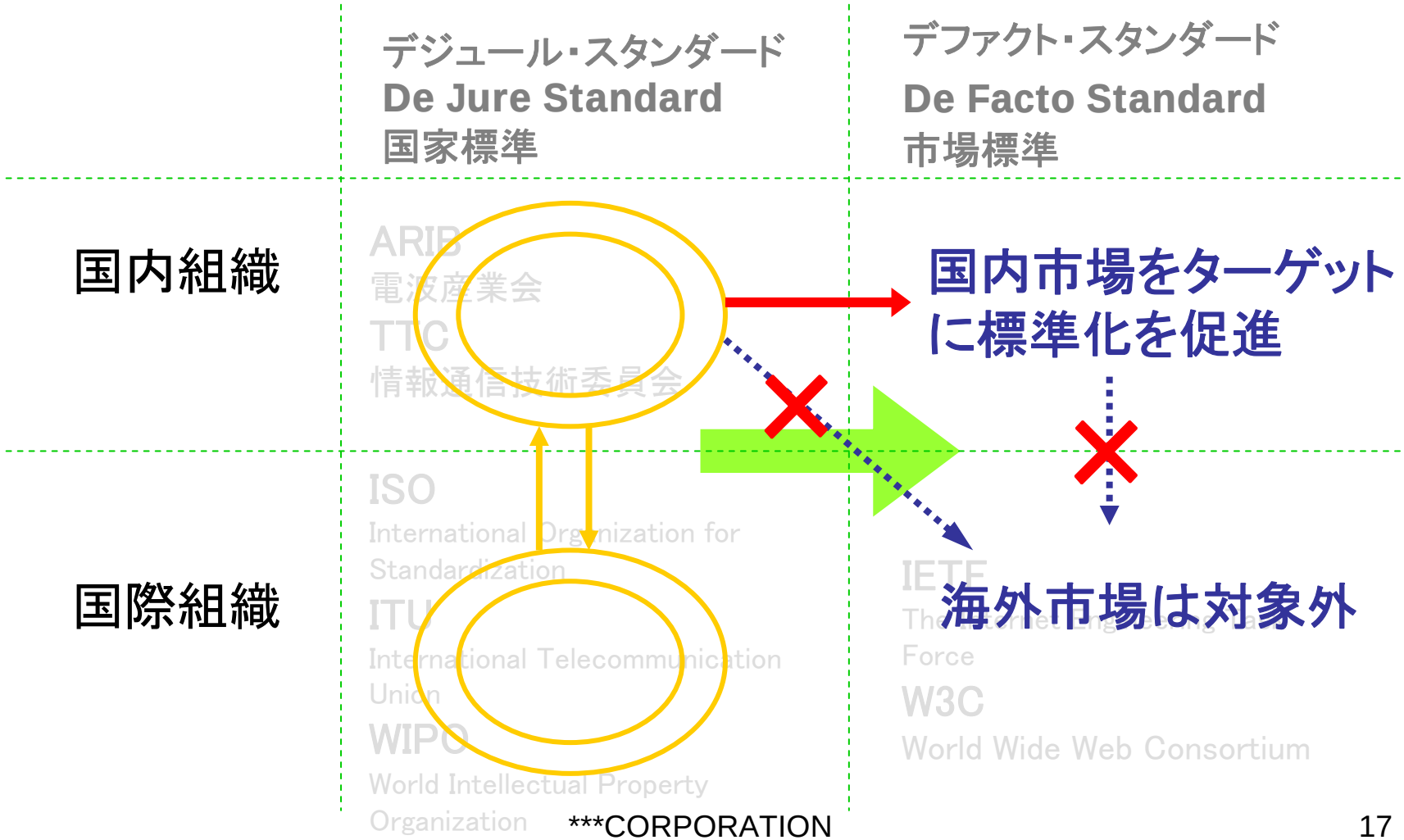
DSRC

RFID

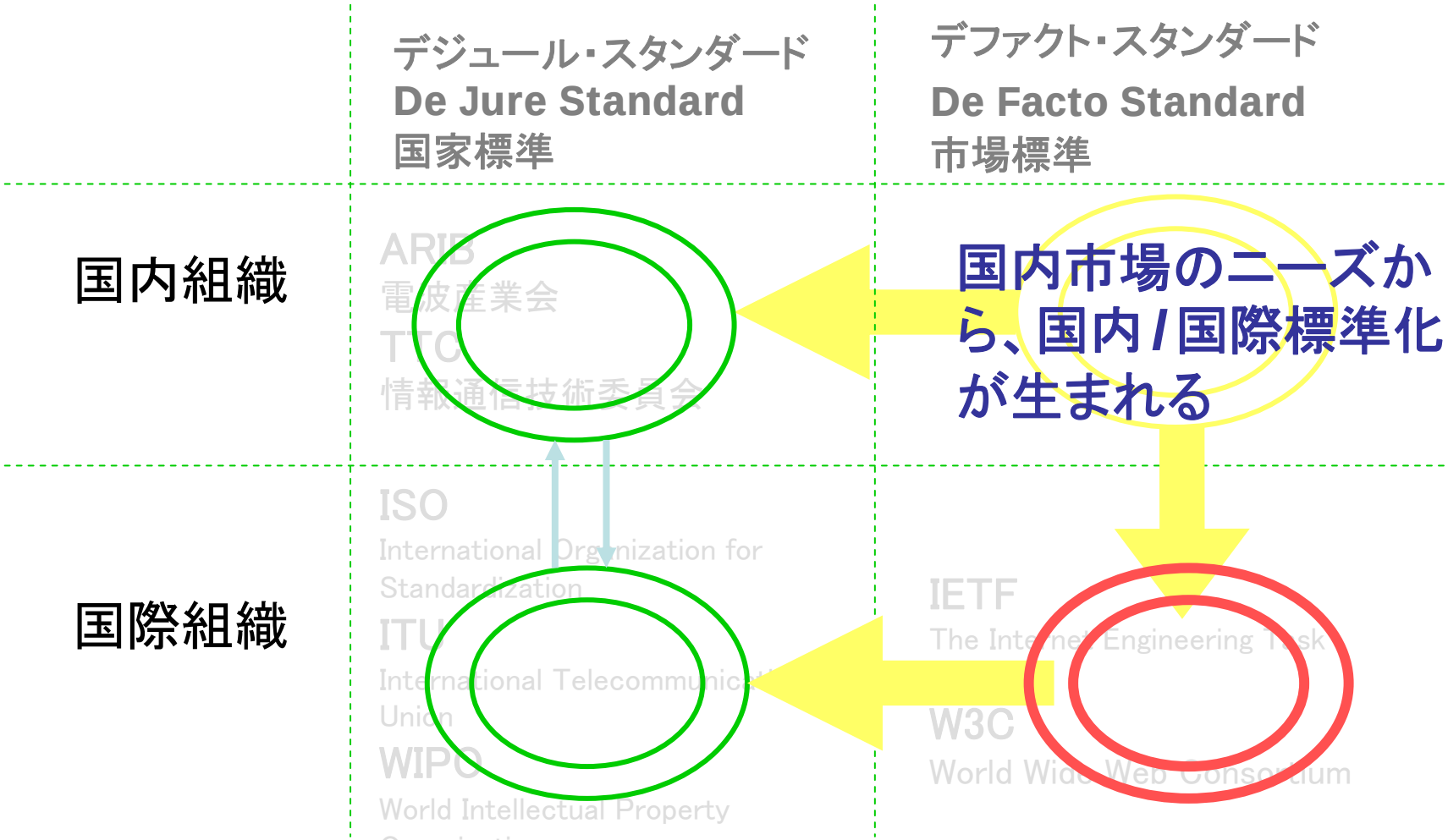
技術の標準化

	デジュール・スタンダード **De Jure Standard** 国家標準	デファクト・スタンダード **De Facto Standard** 市場標準
国内組織	ARIB 電波産業会 TTC 情報通信技術委員会　等	
国際組織	ISO International Organization for Standardization ITU International Telecommunication Union WIPO World Intellectual Property Organization　***CORPORATION等	IETF The Internet Engineering Task Force W3C World Wide Web Consortium　等

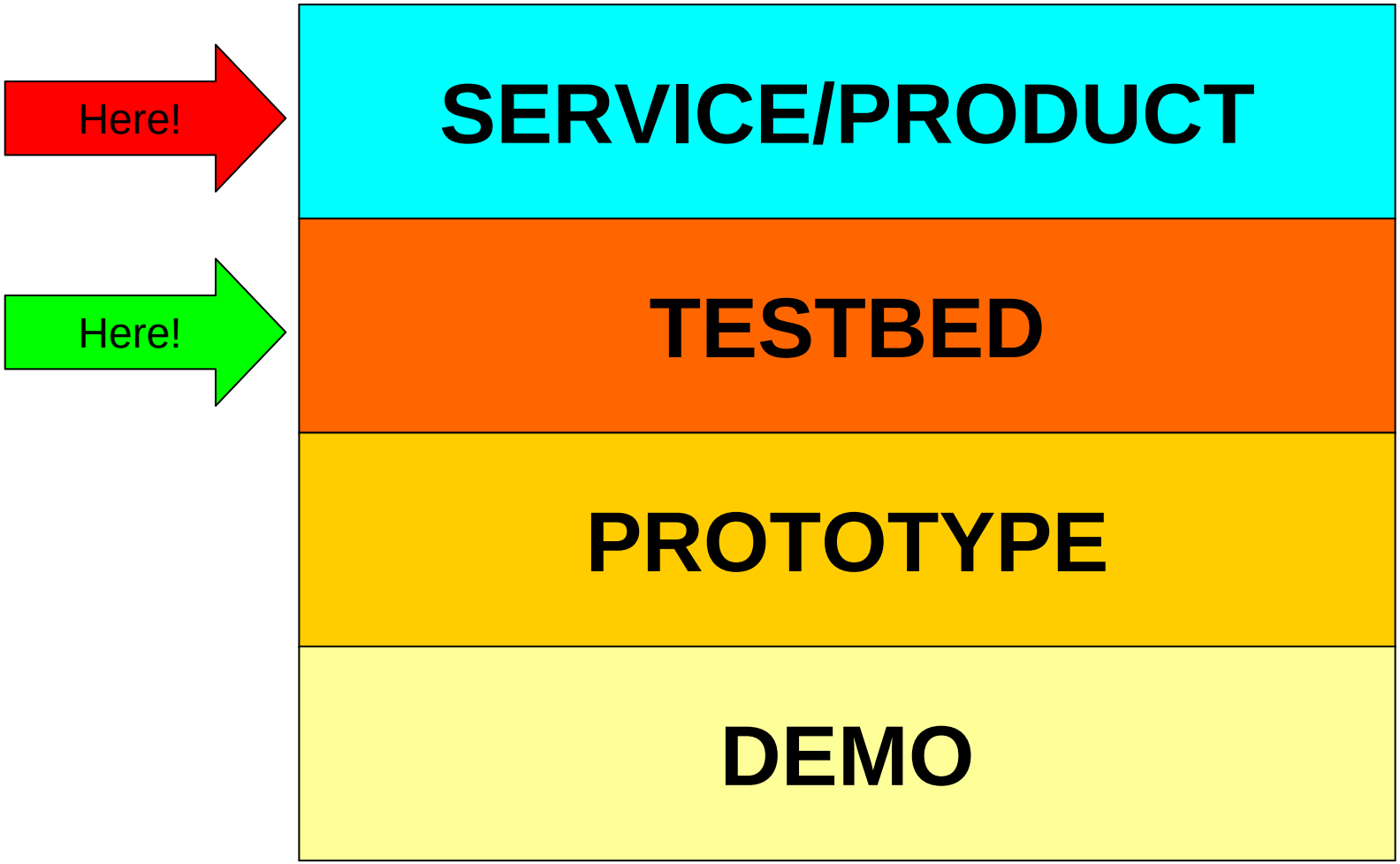
これまで


デジュール・スタンダード
De Jure Standard
国家標準
デファクト・スタンダード
De Facto Standard
市場標準
国内組織
国際組織
ARIB
電波産業会
TTC
情報通信技術委員会
ISO
International Organization for Standardization
ITU
International Telecommunication Union
WIPO
World Intellectual Property Organization
IETE
Force
W3C
World Wide Web Consortium
国内市場をターゲットに標準化を促進
海外市場は対象外

これから

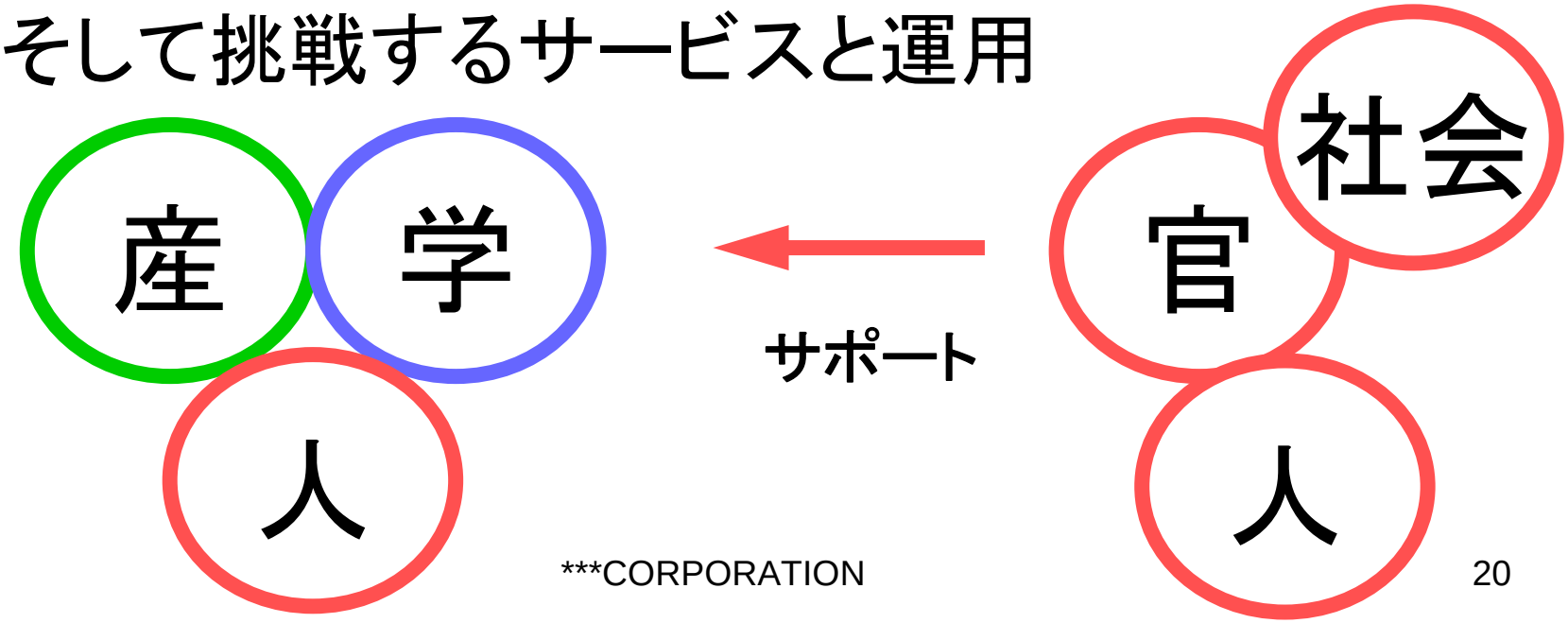

デジュール・スタンダード
De Jure Standard
国家標準
デファクト・スタンダード
De Facto Standard
市場標準
国内組織
国際組織
ARIB
電波産業会
TTC
情報通信技術委員会
ISO
International Organization for Standardization
ITU
International Telecommunication Union
WIPO
World Intellectual Property Organization
IETF
The Internet Engineering Task
W3C
World Wide Web Consortium
国内市場のニーズから、国内/国際標準化が生まれる

Operation is the King



挑戦するサービスと運用

- サービスのイノベーションは単独で完結しない
- 民主導　≠　民まかせ
- 戦略的研究テストベッド及び人材育成
- そして挑戦するサービスと運用



次世代のインターネット

イノベーションは日本から