



International Research Networking

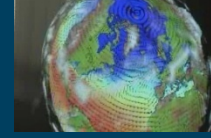
Trans Eurasia Information Network, Phase 3

George McLaughlin, APAN Vice-Chair &
Coordinator, TEIN2 Applications & Collaboration Framework

David West , Project Manager TEIN2/TEIN3

VinaREN National Forum, 27 March 2008





International Research Networking

“Greetings to all at the National VinaRen Forum! Sorry I cannot be with you but I wish you every success. VinaRen’s progress is very impressive – it is a great example of how research and education networking can quickly develop and how the user communities can actively benefit.

VinaREN has been a very positive partner in the TEIN2 programme and I am looking forward to this continuing in TEIN3”



**David West
TEIN2/3 Project Mgr
DANTE**



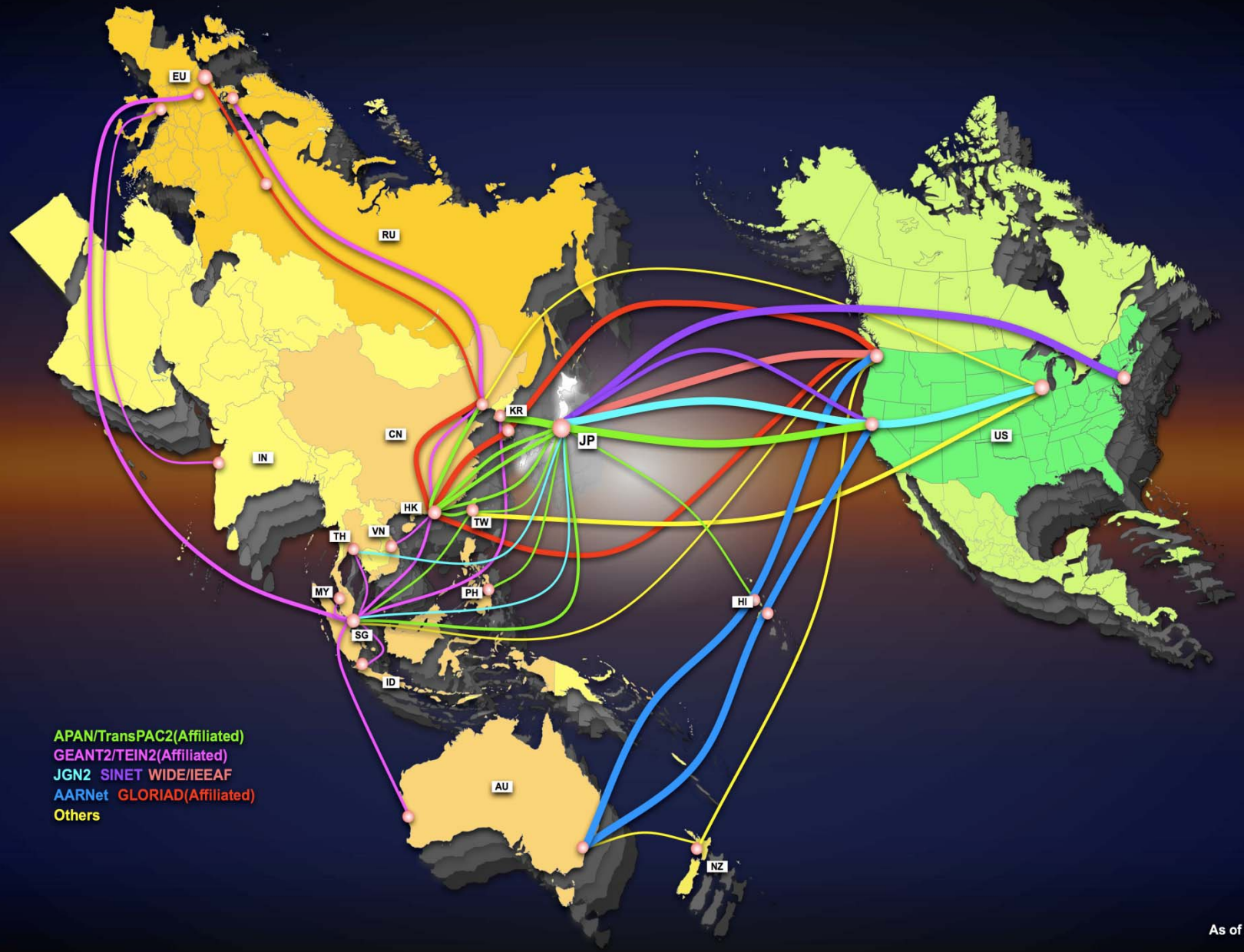
TEIN2 is part of the regional (APAN) network fabric



International Research Networking

- Launched at Halong Bay in June 2006
- Provides short paths to Europe (going west)
- Provides short paths WITHIN the APAN region (instead of transit via US or Japan)
- Capacity ranges from 45Mbps to 2.5Gbps
- Complements the multi-Gigabit networks from Japan and Korea to the US
- Catalysed new NRENS in Malaysia, Indonesia and Vietnam

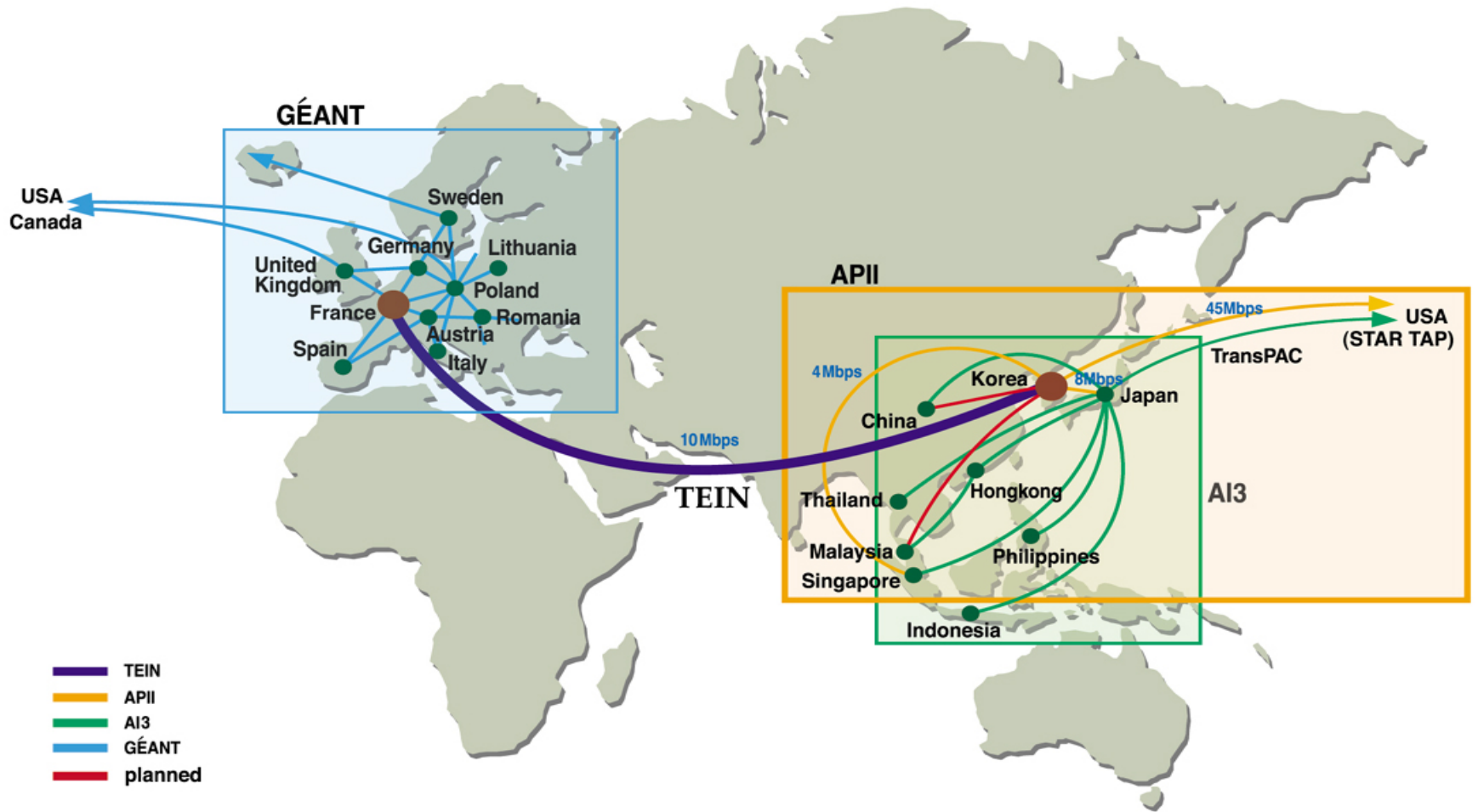
Asia-Pacific Backbone Topology



- APAN/TransPAC2(Affiliated)
- GEANT2/TEIN2(Affiliated)
- JGN2 SINET WIDE/IEEAF
- AARNet GLORIAD(Affiliated)
- Others

Trans Eurasia Information Network

1st link: Korea- France 2001 (2 Mbps)





From TEIN1 to TEIN2

- Intra-Asia regional network
- Asia-Europe inter-regional links
- 10million Euros European Commission funding
+ funding by Asian partner countries
- TEIN2 programme aims to:
 - build and operate a regional network
 - promote network usage through catalysing applications
 - train technical staff in developing countries
 - reduce the digital divide

TEIN2 Partner Countries- representatives



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Asia Pacific:

Australia (AARNet)
China (CERNET)
Indonesia (ITB)
Japan (MAFFIN, NICT, NII)
Korea (NIA)
Lao (LERNET)
Malaysia (MDC)
Philippines (ASTI)
Singapore (SingAREN)
Thailand (ThaiREN)
Vietnam (VinaREN)

Europe:

France (RENATER)
Netherlands (SURFnet)
UK (UKERNA)
DANTE

Also supported by:

TRANSPAC2
Juniper Networks



Applications Framework Contributions Summary

<http://www.tein2.net/server/show/nav.1862>



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- **Telemedicine** entry lists 14 activities. All TEIN2 partners involved in at least one activity, most involved in several and some involved in up to 10. Most activities involved several simultaneous partners (often 4 or 5)
- **Emerging Infections** entry lists only one activity but involves 9 partners
- **TeleTeaching** entry lists only **one** activity between two partners. Many more examples to add.
- **Meteorology and Climate** entry lists only one entry between two countries, though various presentations indicate there is more going on
- **Digital Heritage** entry lists 3 activities with 5 partner countries involved. There are likely to be quite a few more than this
- Many other entries to be added – please forward your contributions to george@mclaughlin.net



Paediatrics

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- TEIN2 has significantly enhanced the collaboration between the National Hospital for Paediatrics (NHP) in Hanoi and the Royal Childrens Hospital (RCH) in Melbourne, Australia
- This was demonstrated at the Halong Bay launch of TEIN2
- NHP and RCH now have regular videoconferences over TEIN2 to enhance joint activities





Orthodontics

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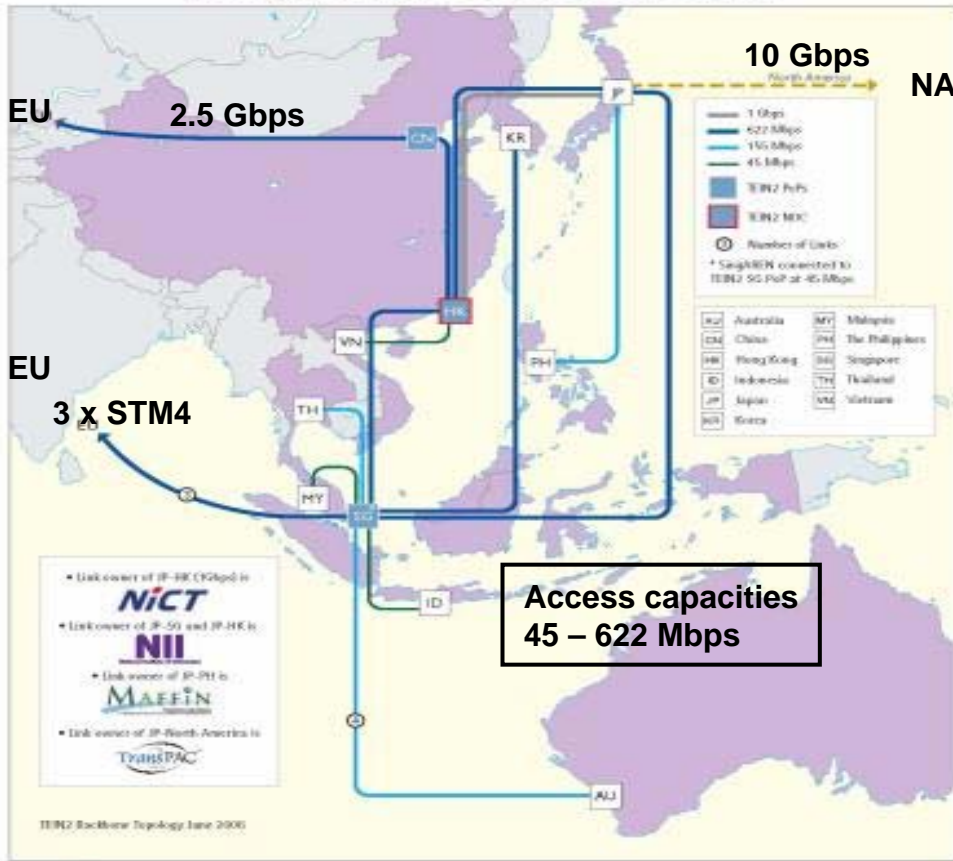
- Dr Mike Snow, an orthodontist from Melbourne, comes to Vietnam three times each year to treat Vietnamese children with cleft lip and cleft palette deformities.
- He has developed a broadband-enabled dental assessment chair that will allow him to examine Vietnamese children while he is still in Melbourne
- Two broadband-enabled orthodontal examination chairs are now in Vietnam



TEIN2

Regional Connectivity for Asia-Pacific Research and Education

Linking Asia-Pacific to Europe and beyond



TEIN2 is co-funded by the European Commission through the European Co-operation Office

www.tein2.net



International Research Networking

TEIN2 network started Jan 2006, now connects:

- 30million researchers and students
- 4000 institutions
- 10 countries

PoPs in Singapore, HK and Beijing; NOC in HK

Funded to Sept 2008, then.....





...TEIN3 Network project!

- European Commission has approved funding to end 2011
- Extend to South Asia
- Further support for application development
- Transfer TEIN3 programme to Asian ownership
- Plan for 'TEIN4'
- Vietnam the first country to submit a Letter of Intent to participate in TEIN3



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Timezones and Populations

TEIN2:

Member countries represent 1/3 of the world's population in a timezone range spanning only 3 hours

TEIN3

Potential member countries represent almost 60% of the world's population in a timezone range spanning only 5 hours

Small timezone range is critical for interactive collaboration



TEIN3 Network Topology

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- To be determined from the tender results (not pre-defined)
- Current TEIN2 hub locations to be reviewed
- Europe-Asia links going West from Asia, likely to be 622Mbps, 2.5 or 10 Gbps
- Intra-Asia links likely to be in range 155Mbps to 10Gbps depending on partner needs, affordability by project and partner, and topology requirements (cost for some countries still currently very high)

Tender Timescales



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April 2008:

- Contract Notice published in EU Official Journal and on DANTE website

May 2008:

- Initial tender documentation sent to interested organisations

June – Sept 2008

- Tender discussions and negotiations (timetable subject to tender procedure adopted)

September/October 2008

- First Contracts awarded

January 2009

- TEIN3 network starts service



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Looking forward to Vietnam's participation in TEIN3

Wishing you success for the VinaREN National Forum

George McLaughlin
george.mclaughlin.net
www.tein2.net/

