

**REACH**



# **The Emergence of Tier 1's in the Global IP Space**

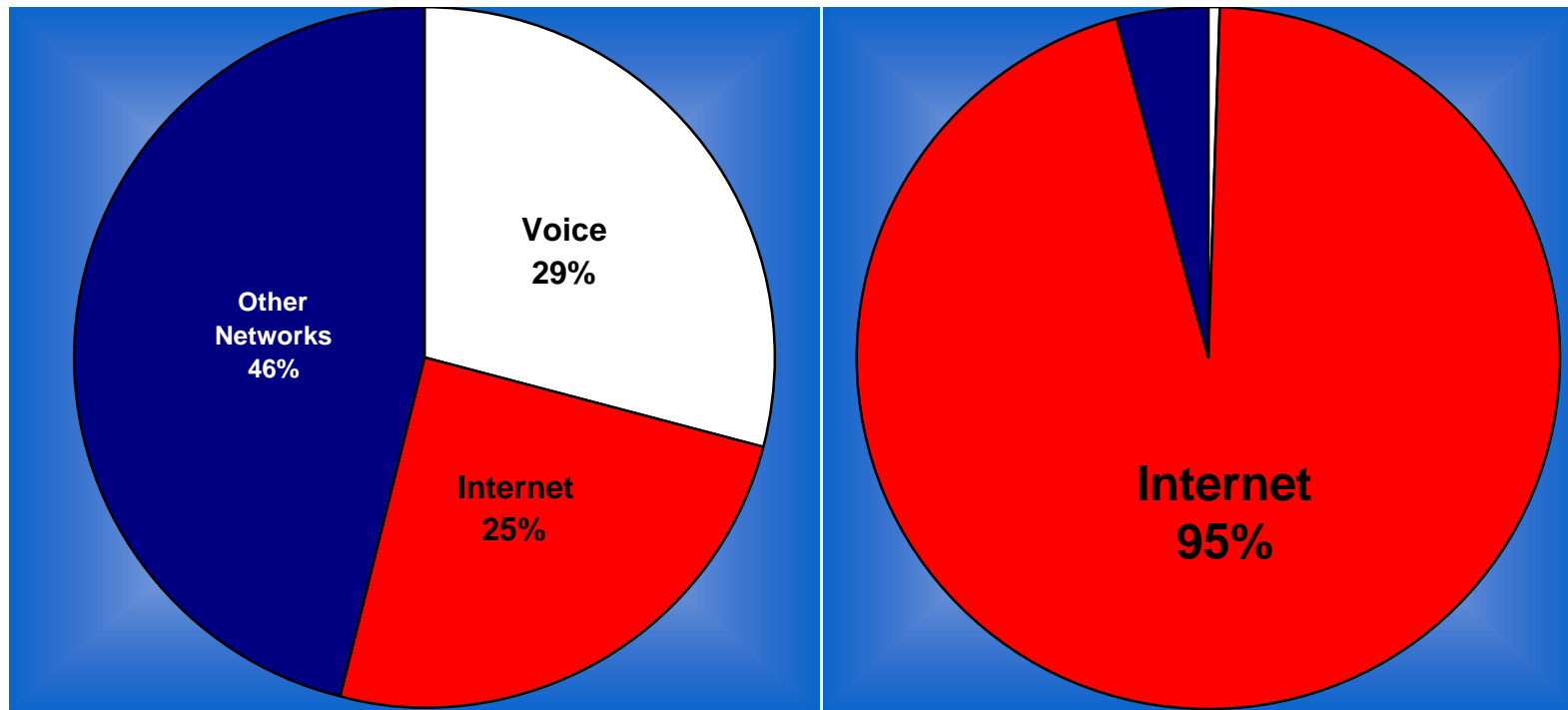
***Peter Dutton***  
**Director, Data Marketing**





## Current Landscape

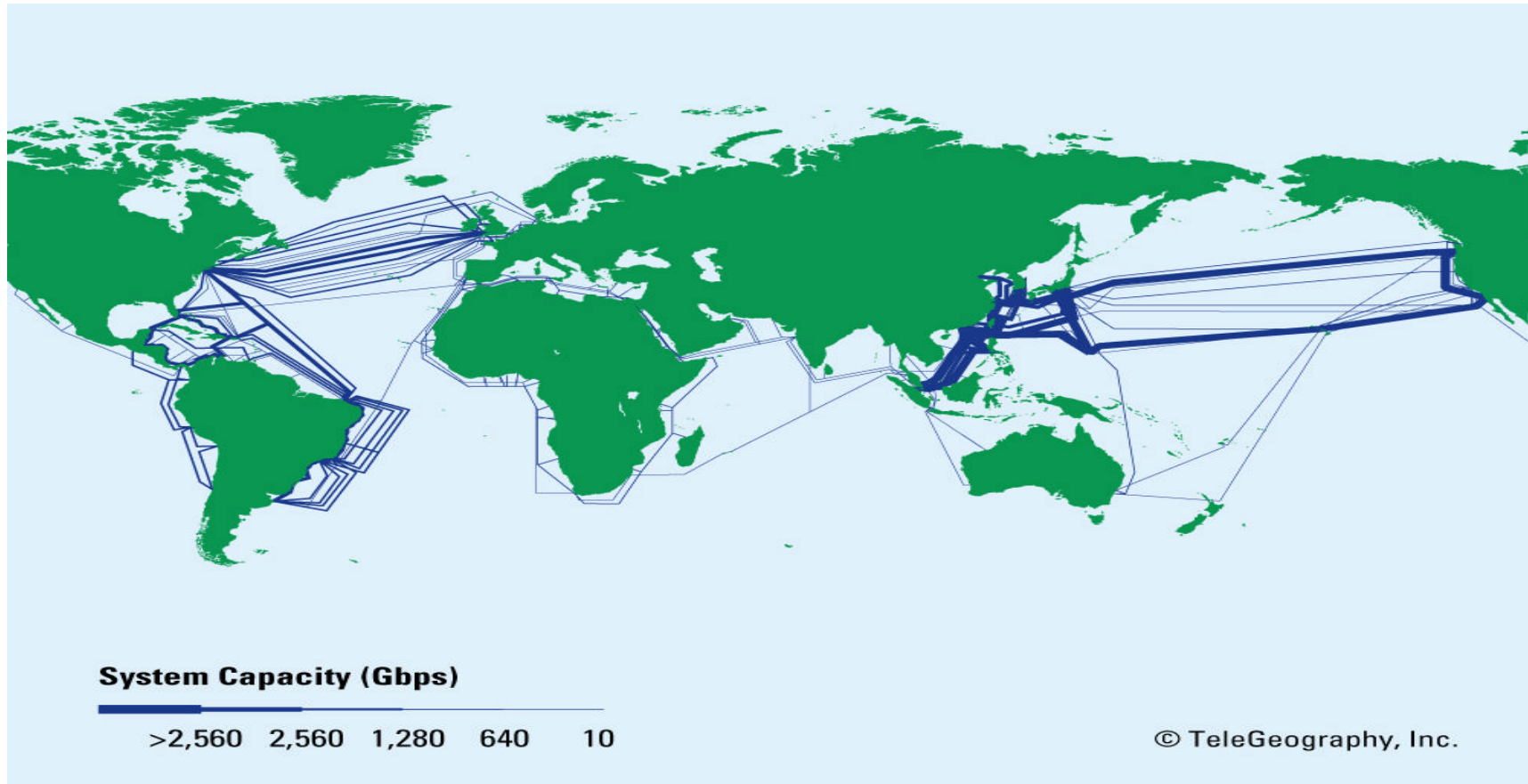
### Projected Capacity Deployment by Network Type



Source: © Telegeography Inc 2001



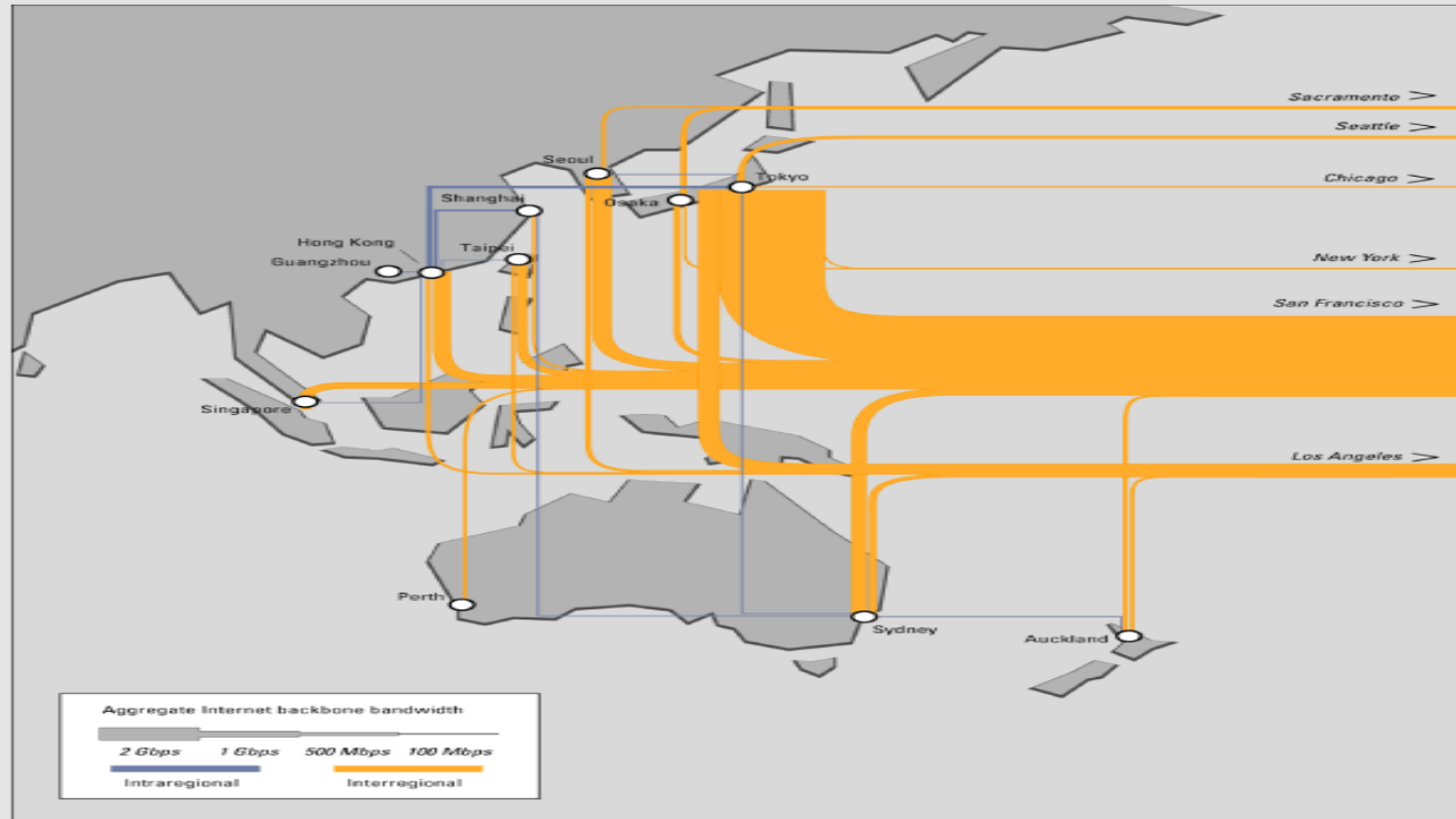
# Current Landscape





# Current Landscape

**Figure 5. Map of Major Asia/Pacific International Backbone Routes, 2000**



Note: Map includes international backbone routes with at least 100 Mbps of aggregate capacity. Figures represent estimated Internet bandwidth between Consolidated Metropolitan Statistical Areas or equivalents. Domestic backbone routes are omitted. Data as of mid-2000.

Source: TeleGeography research

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## The IP Backbone Network Operator Space

IP backbone network operators provide packet data connectivity between and amongst Access ISPs and Content and Applications Providers.



## The IP Backbone Network Operator Space

The key challenges in this space centre around providing better support for time sensitive and real time applications, eg. www access, audio/video streaming, voice:

- this is the “not-so-easy” end of the business;
- this is where the growth potential is, for the operators and the internet generally; and
- this is where the operators can differentiate themselves from their competitors.



## The IP Backbone Network Operator Space

To provide this support, IP backbone operators need to focus on offering:

- the lowest-practicable latency paths between the users they are supporting;
- absolutely predictable performance, eg. under network failure scenarios; and
- a tighter range of network performance SLGs, eg. across local, regional and global connectivity



## The IP Backbone Space Is Going Global

- The internet has always been about seamless global communications.
- IP backbone operators are looking for horizontal growth opportunities.
- Leveraging off the capabilities that they have built up on a regional basis.



## The IP Backbone Space Is Going Global

Operating on a global basis is a key form of differentiation, and some may even say a necessity to ensure survival in the IP backbone business:

- this doesn't mean having a network presence and offering services in all markets worldwide, but it does require a presence in the three major world regions;
- global operators can provide better service performance to their customers by carrying and having control over their traffic for a greater proportion of its carriage.



## What Makes A Tier-1 Player ?

- They say so on their web-site !!
- They don't buy transit or upstream connectivity in the USA ?
- They provide Tier-1 service to their customers ?



## Some Criteria for Tier-1 Players

**Whilst there would not appear to be an objective test of whether an operator provides Tier-1 service, these factors would seem important in making such a judgment:**

- Does the operator span the three major regions of the internet world, ie USA, Europe and Asia ?
- Does the operator have resilient low-latency connectivity between the three regions ?
- How much intra-regional traffic leaves the region, eg. still bounces off the USA ?
- How direct are the paths for intra-regional traffic ?
- How much local traffic in major markets stays within the country ?



## The Importance Of The USA Is Diminishing

- Customers outside of the US, eg. in Asia and in Europe, are no longer happy to have their intra-regional traffic bouncing off the US.
- From the suppliers' perspective, continuing to do this will not facilitate growth in use of time sensitive applications – key to overall volume growth.
- Corporate Data Networks using IP VPNs are much less USA-centric.



## Asia Is Unique In The IP Backbone World

- It is not a continuous land-mass like the US and most of Europe, eg. international submarine cable systems required to provide connectivity between markets.
- It does not have a homogenous regulatory and business environment.
- The major Asian IP backbone operators have been forced to build out and operate their backbone networks to the US West Coast and beyond.



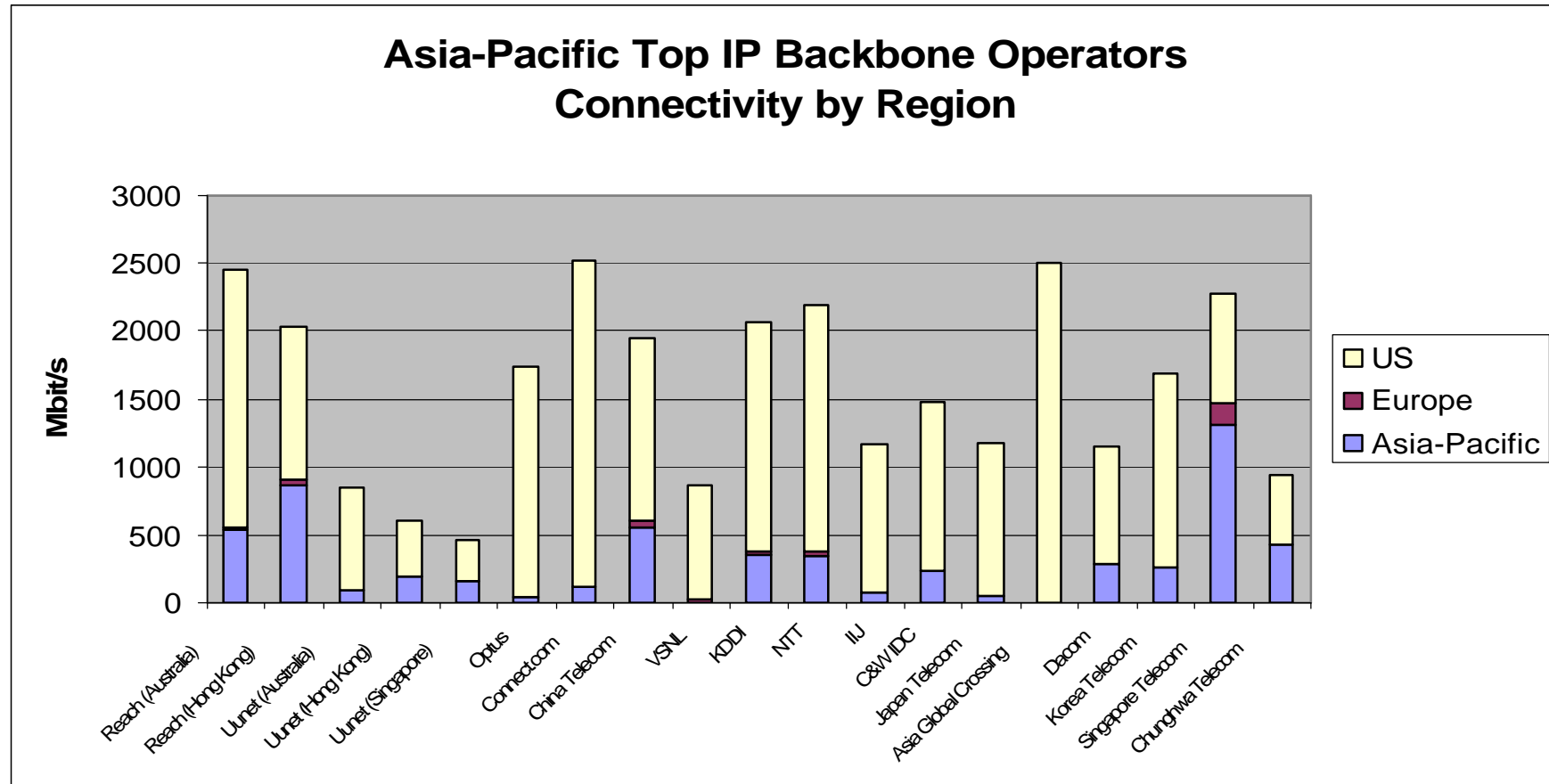
## The Springboard for Asian IP Operators

Home-grown Asian IP backbone operators are very well placed to transition to global Tier-1 players in this space.

- They have done the hard things already:
  - established intra-Asian connectivity within their IP backbone networks;
  - established private peering within the region based upon international bilateral capacity; and
  - built out their backbone networks to the US and Europe.



# Intra Regional Importance



Source: Gartner 2001

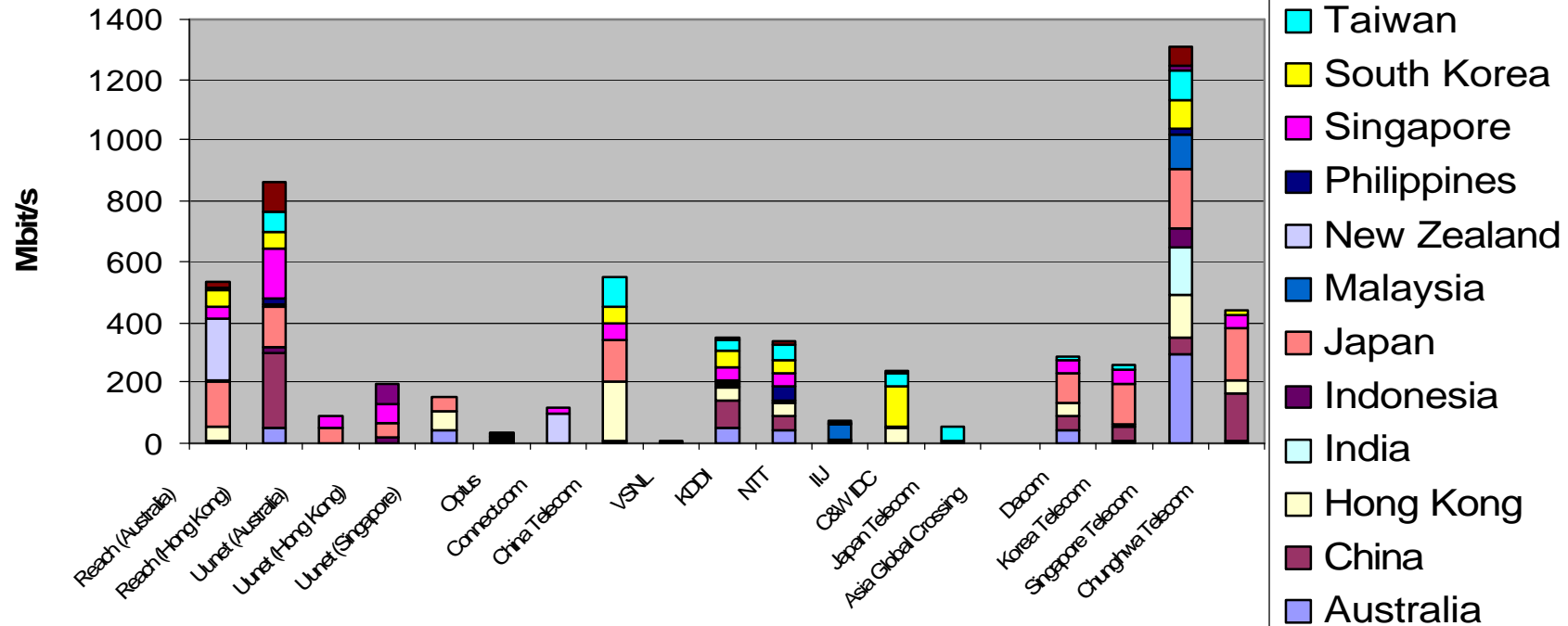
Peter Dutton, Director Data Marketing / Global IP Carriers  
30 October 2001





# Intra Regional Importance

## Asia-Pacific Top IP Backbone Operators Connectivity in Asia



Source: Gartner 2001

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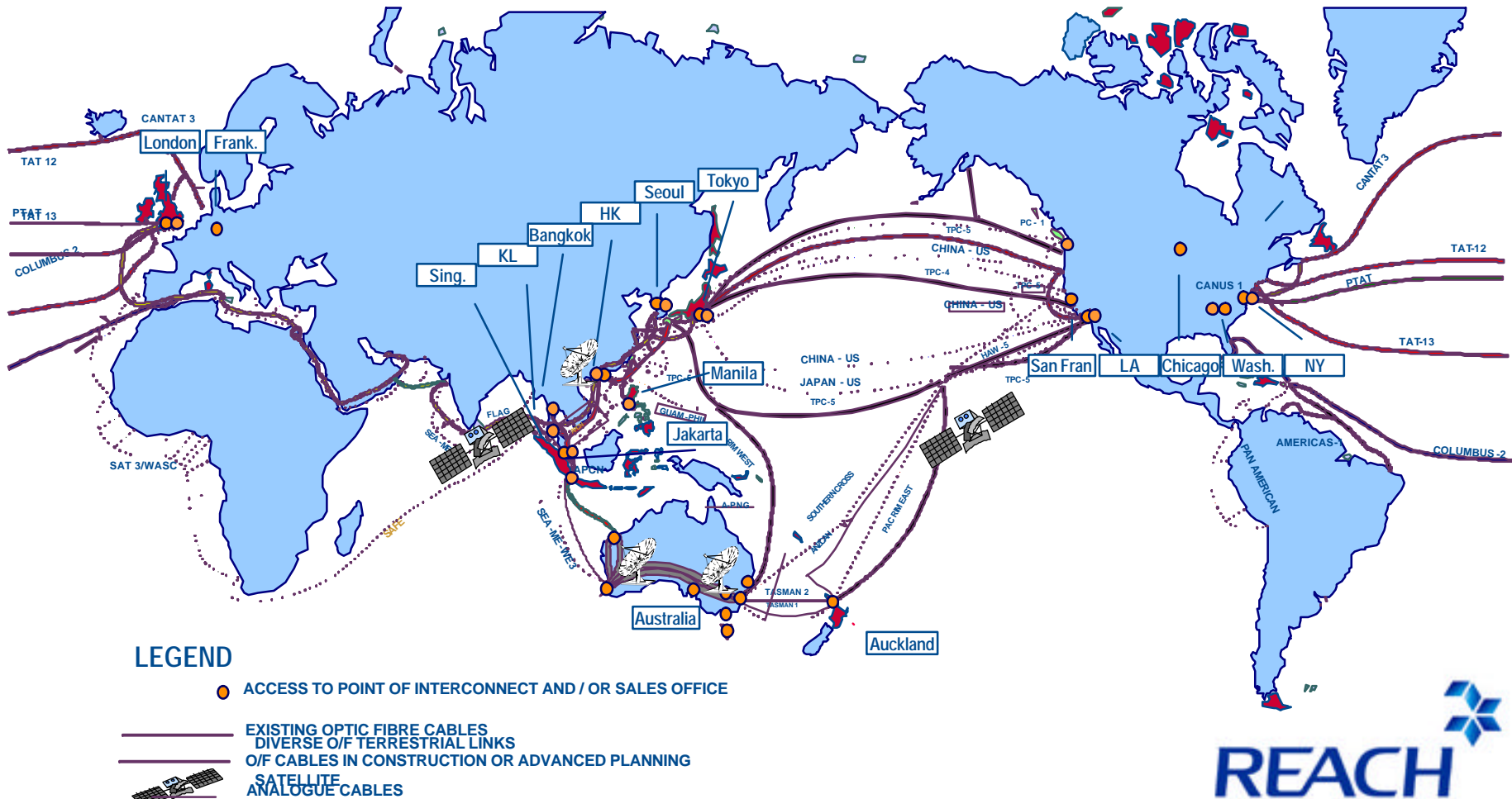


## The Springboard For Asian IP Operators

- The things that they have to do now are relatively easier:
  - establish a basic IP backbone network in North America;
  - establish trans-Atlantic IP backbone connectivity; and
  - establish a basic intra-European IP backbone network capability.
- On the other hand, US and European IP backbone operators going global are faced with a more significant challenge in establishing resilient trans-oceanic capacity out of Asia and the level of intra-Asian connectivity required to be a Tier-1 player.



# Reach's Global Network





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# Reach's Global IP Backbone



**Legend:**

-  Reach Network Router Location
-  International Private Peering/Interconnection

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