International connectivity – submarine cables

Simon Smith
Director Regulatory Affairs
Company Overview

• Ownership of Asia-Pacific's most extensive privately-owned high-capacity submarine cable system(s)
  – 46,420 km of sub-sea fiber
  – Multiple cable landings in major markets
  – 100 Gbps-enabled

• Extensive reach to major business centers throughout the region
  – Including: Australia, China, Hong Kong, India, Japan, Korea, the Philippines, Singapore, Taiwan, and the United States

• Connectivity to data centers in markets throughout the region
  – Owned and managed facilities in China, Hong Kong, Singapore and Australia
  – Partner facilities throughout Asia and Australia
Pacnet Asia Pacific Sub-sea Network

- Pacnet's EAC-C2C sub-sea fiber network is the largest privately-owned in the region
- Over 46,000 km of owned sub-sea network with additional capacity on virtually every network to create redundant paths for maximum uptime
- Owning routes gives Pacnet the ability to provide low-latency connectivity
- Meshed network topology gives customers access to protected capacity
Main risks and problems maintaining a cable network
Fault Hot-Spot Areas

- Hong Kong, China
- Korea
- Japan
- Philippines
- Taiwan
- Singapore

Map Highlights:
- Fishing
- Seismic & Typhoons
- Ships Anchor

Legend:
- C2C
- EAC-1
- EAC-2
Fault Statistics

Note:
1. The 11% ‘blank’ are unscheduled repair
2. Man-made external aggression by fishing & anchoring activities make up ~60% of all faults and can be mitigated with continual protection efforts thru patrol, AIS & fisheries liaisons activities as well as plans for re-burial work.
Damaged cable by fishing anchor (SNF Stow net fishing)

Huge fishing anchor for stow net fishing – China/Korea waters

Damaged cable
Damaged Subsea cable
Singapore Strait is currently AIS-monitored 24hrs since Apr-2011 by Pacnet ANOC / Field Ops (HK, SGP, PHI) / Marine Ops. Ops team communicate with ship office, port authorities, P&I club office, etc. to keep ship anchoring at 500m safe distance from cable route and keep mariners conscious of our in-service cable nearby.
ASSET MONITOR

Event Information
System Generated

Severity: High
Zone: SG EAC2-S2B2 within TSS lanes (300m)
Rule: Anchor Risk (Low Speed) - High Severity
Vessel: GARUDA ABADI
MMSI: 525021185
IMO: 9682306
Begin Date: Monday, March 10, 2014 10:43:48 PM
End Date: Monday, March 10, 2014 11:05:07 PM
Lat/Long: Lat Long: 1.261750 104.0682 (DMS: 1°15'42"N 104°4'6"E)
### Daily AIS Monitoring Statistics Summary

#### Notes:
1. 73 ships were contacted and 68 moved.
2. 72 vessels communicated in Singapore and 1 in Hongkong
3. Alarms: consists of low, medium & high risks alert
4. High/Medium severity alerts require follow up
5. Ships: Total ships that cause high/medium alert daily

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The Problems of Repairing Cables
Asia Pacific Marine Maintenance Service (APMMS) – TESC & ALSN are joint providers

- 2 cable ships pre-loaded with strategic spares standby at base port Keelung in Taiwan and Taichung depot holds a balance of spares (joint kits auto backfilled).
- When in port, both vessels are on 12 hours notice to deploy and they are on call 24x 7 wherever located

Actions during emergency repairs

- Call – Out APMMS cable ship with fault notification (90 mins)
- Permit and Regulatory applications (initiated within first 24 hrs)
- Load system spares (cables pre-loaded / if multiple faults then additional spares loaded within 24 hrs)
- Establish communications with terminals (20 mins)
Permitting

• Real problem is that there as many different permitting regimes as there are countries.

• There can be significant delays for reasons that be quite arbitrary.

• 2 Recent examples.

• Malaysia. Lodbrog has been sitting idle for 2 days because the officer in Malaysia responsible for signing of the permit has been on study leave.

• Ship is now at the site but having to wait for the Port Authority in Johor to be allowed to commence work. Has said work must commence in daylight and now not expecting the permission until midday.
Also have a repair in Hong Kong Territorial waters.

Need permission from the Marine Department which involves a safety inspection. Been advised the processing may take up to 10 days.

Need temporary work visas for entire crew. This means having to comply with Hong Kong employment law.
PACNET Cables in Indonesian Claims

- **C2C Segment 7 / C2C Segment 6**
- **EAC-2 Segment 2A-1 / 2B-2**

**TS** – territorial sea's (12NM from Indonesian land)

**EEZ** – Economic exclusion zone (200NM from Indonesian Land)
Indonesia - Caobotage

Cabotage Issue

Regulation number 20 of 2010. Law Number 17 of 2008 on Shipping *Original cabotage regulation*.  

- Law designed to ensure only Indonesia majority owned /flagged ships can work in Indonesian EEZ waters. As cable ships are highly specialized Indonesian authorities allowed a system whereby waivers could be obtained to allow foreign flagged vessels to undertake such work.  

- This has resulted in a process whereby Indonesia National Shipping Association (INSA) will determine if a domestic vessel is available to conduct the work. If vessel requirement is sufficiently specialized, then INSA will recommend waiver. (point to note _ these rules apply to all industries)  

- This process of waivers was due to expire on 31 December last year. Both ICPC and Pacnet have written to Seacom (Relevant part of Indonesia Ministry of Transport) lobbying against this law. Pacnet has also followed this up with visits to Indonesian Embassy in Singapore and Seacom in Jakarta.  

- Officials in the Ministry of Transport have always taken the line that owing to the fact that no Indonesian vessel exists there will be no change to the existing process, although this has never been made official.  

- The most recent development is that the Indonesian authorities have indicated that they are willing to extend the waiver scheme. Although there does not seem to be any official guidance as to the timeframe for the extension, unofficially we have heard that the extension is only for a year.
Conclusions

• The permitting regimes in some countries create disincentives to repair a cable unless absolutely necessary and customers have been affected.

• It would be very helpful if the regimes could be more unified in their approach. ASEAN has cable protection as part of their master plan. APEC is also concerned with cable issues and had a recent workshop in Bali.

• Best Practice:
  – Taiwan. Permit in Principle. Authorities kept up to date on the relevant information concerning the vessel and permit is then possible in a couple of days
  – Singapore. Similar approach with an expedited process for obtaining the permit, subject to the repair not being in a sensitive area.