ITU Asia-Pacific Centre of Excellence Workshop
Telecom strategy for the Pacific – Implementation Issues

The Telecom / ICT opportunities and challenges in the Pacific

What happened over the last 5 years in the Pacific ?

The environment

More competition introduced in Pacific Islands Market
☞ Severe battle for best voice / data packages
☞ However margins are shrinking

OTT wave:
☞ Change is telecom traditional business
☞ Traditional Voice revenues on the decline
☞ Pushing broadband Networks capabilities

Fixed / mobile networks expansions:
☞ Ongoing FTTH deployments
☞ The technology race 3G – 4G – 5G !!!
☞ Backhaul limitations for mobile networks

Quick adoption of technologies :
☞ Better Users awareness !
☞ Faster time to market new services
☞ More affordable devices

Consolidations being intensified to adress multi-countries
☞ DIGICEL / BlueSky Group / ATH

ICT is now part of our daily life

What happened over the last 5 years in the Pacific ?

Regulatory

Enhancing PIC regulators capabilities:
☞ PIRRC is active to support to regulators
☞ Strong support from funding agencies

Open access policy:
☞ WB / ADB promote competition in PIC when funding is provided

When regulatory environment is weak :
☞ Dispute resolutions are ruled by courts

Regulatory trends :
☞ Includes Consumer protection and Quality of service

What happened over the last 5 years in the Pacific ?

Networks

Fixed Networks :
☞ Extension of life for Copper network to deploy broadband
☞ FTTH deployments

Mobile Networks:
☞ Quick adoption of 3G then 4G
☞ More players with competition

Constant need for upgrades :
☞ High pressure on telecom operators to invest more and more

Scalability / affordability:
☞ vendors have tailored solutions for small networks
☞ Strong competition between vendors pushed innovative and affordable solutions

Limited cooperation between competitors:
☞ Lack of shared infrastructure

What happened over the last 5 years in the Pacific ?

Connectivity

Satellite Connectivity :
- ☞ More satellites covering the Pacific
- ☞ New technologies C, Ku , Ka band
- ☞ More isolated locations connected

Satellite Capacity pricing :
- ☞ Thinking Mbps no more Mhz
- ☞ Price per Mbps divided by more than 50 %

Submarine cable Connectivity :
- ☞ More cables connecting Pacific Islands both for International or Domestic
- ☞ Competition drove cable systems prices down
- ☞ WB / ADB funding support was critical
- ☞ Low activated capacity on most submarine cables

Internet capacity / IP transit wholesale prices:
- ☞ In Pacific islands markets dropped to under 50 USD monthly per Mb (Fiji, French Polynesia) to 1200 USD
- ☞ In major international hubs from under 0.02 USD to 10 USD (US, Hawaii, Australia)

Pacific Islands: Bandwidth and Cable

	International bandwidth capacity (in Mbps)	Submarine Cable	Number of international Cables	Wholesale price (US$ per Mbps)
Cook Islands	500	No	0	
Niue	48	No	0	
Marshall Islands	2500	Yes	1	50
Micronesia	4000	Yes	1	
PNG	15040	Yes	2	1200
Tuvalu	95	No	0	1592
Vanuatu	1418	Yes	1	
Fiji	20000	Yes	3	50
Kiribati	200	No	0	
Tonga	1210	Yes	1	100
Samoa	1500	Yes	1	500
Solomon Islands	785	No	0	
Tokelau	25	No	0	
American Samoa	1300	Yes	1	500

International bandwidth usage, in Mbit/s: '*Average usage of all international links including fiber-optic cables, radio links and traffic processed by satellite ground stations and teleports to orbital satellites (expressed in Mbit/s). All international links used by all types of operators, namely fixed, mobile and satellite operators should be taken into account. The average should be calculated over the 12-month period of the reference year. For each individual international link, if the traffic is asymmetric, i.e. incoming traffic is not equal to outgoing traffic, then the higher value out of the two should be provided. The combined average usage of all international links can be reported as the sum of the average usage of each individual link.*'

Geostationary satellites providing broadband connectivity to Pacific islands

Draft Report : Maximising availability of international connectivity in the Pacific

Operator (Satellite)	Launch date	Position	Transponder capacity	Countries with contracted capacity or interest
EUTELSAT (EUTELSAT 70B)	Dec 2012	70° E	48 Ku-band transponders	
APT (APSTAR 6)	April 2005	134° E	38 C-band transponders (and 12 Ku-band transponders providing coverage outside the region)	
APT (APSTAR 6C)	Planned (launching Dec 2018)	134° E	45 transponders in C, Ku, and Ka bands. Will replace APSTAR 6.	
Telesat (Telstar 18, aka APSTAR 5)	June 2004	138° E	54 C-band transponders	
APT (APSTAR-9)	Oct 2015	142° E	32 C-band transponders (and 14 Ku-band transponders providing coverage outside the region)	
MEASAT (Measat 2A)	Planned (launching Dec 2018)	148° E	C-band and Ku-band capacity	
SKY Perfect JSAT (JCSat 2B)	May 2016	154° E	26 C-band and 18-Ku-band transponders. Will replace JCSat 2A.	
ABS (ABS-6)	Sep 1999	159° E	28 C-band and 16 Ku-band transponders	Kiribati, Samoa, Tuvalu
Intelsat (Intelsat 19)	May 2012	166° E	24 C-Band and 34 Ku-Band transponders	Fiji, FSM, New Caledonia
SES (NSS-9)	Feb 2009	177° W	44 C-band transponders	Fiji
JCSat 18 (Kacific-1)	Planned (launching Dec 2019)		Ku and Ka-band HTS (56 narrow beams)	Tuvalu, Vanuatu

Sources: operators' websites, Satbeams SPRL

Additional : Intelsat IS 18 @ 180°E – O3B Constellation
- Eutelsat 172B@172°E

Where are we heading for 2018 - 2022 ?

The environment

Users in constant needs of more applications and services

Major worldwide players drives new usages of ICT

Globalisation is there :
☞ networks are to be fully interconnected to support high capacity usage
☞ Pacific islands are forced to collaborate

Telco changing business models :
☞A requirement to adapt to application driven market

Will Pacific Islands consolidation trend continue ?

Where are we heading for 2018 - 2022 ?

Regulatory

Opportunities for regional regulatory framework:
☞ Collaboration for efficiency

Cybersecurity :
☞**Protection of consumers is key**
☞**Worldwide trend and collaboration needed**

Encourage / enforce network infrastructure sharing
☞ For cost efficiency
☞ More eco friendly solutions

Where are we heading for 2018 - 2022 ?

Networks

5G a reality for the Pacific ?
☞ Telecom Fiji showing the way

Networks interconnection
☞ **To allow more volumes between Pacific Islands Countries**

Fixed / mobile evolution key to :
☞ **Fast broadband penetration**
☞ **IOT uptake**

Improved regional and international connectivty opens way for seamless multi-country network infrastructure

Where are we heading for 2018 - 2022 ?

Connectivity

By 2022 all Pacific islands countries connected by submarine cables

Is this the end of the satellite era ?
☞ **No** still in need for specific requirements
☞ Heavy investments in new LEO systems
☞ New technologies (flat panel antennas…)

New low latency solutions coming :
☞ LEO constellations (OneWeb, LeoSat..)
☞ High Altitude Platforms

Avoid digital exclusion for isolated populations:
☞Mix of submarine Cables and Satellite (PNG, Solomon, French Polynesia…)

Key factor of success :
☞Cable landing stations positionned as hubs needs to allow ¨ Open access¨

Bula Vinaka - Thank You