Bridging the ICT Digital Divide (in the Pacific)

Environment Assessment

- 170 Million Sq Km
- 46% of Earth's Water Surface
- 1/3 of Earth's total Surface area
- 50M Population

Source: Wikipedia

Challenges

- **Investments are made on sound business goals** – ROI's which leads to addressing certain portions of the markets while leaving the rest. This is one of the causes of the divide.
- The other being the **adoptability of the technology**. Technology has transformed the society. Societies are suddenly given access to medium which they had very limited knowledge or awareness of. Great learning curve creates the challenges of adoptability. Literacy level needs to be aligned.
- These are the 2 facets of the divide and this has to be addressed to bridge it.

The Remaining 3 Billion (R3B)

The Broadband Commission for Sustainable Development co-chaired by ITU and UNESCO in its new report (launched this week) highlights digital divide is shifting from basic telephony to internet. It estimates US$450B to bring the next 1.5 Billion people on-line.

TELECOM TV

Wednesday 14th September

BREAKING NEWS

powered by TRACKER

Amdocs splashes its cash to acquire Silicon Valley's Vindicia; Dublin's Brite:Bill and Pontis, based in Tel Aviv

Many refugees regard a connected device as being as vital to them as food, water or shelter, according to UNHCR

EC's spectrum proposals win GSMA thumbs-up: will help provide the consistency needed to underpin investor confidence

China shipped 9.54 million wearable devices in the second quarter of 2016, a quaterly increase of 13.2%

Sprint's iPhone 7 sales soar by more than 375 per cent over the sales recorded at last year's iPhone launch

Apple's Swift Playgrounds iPad app which teaches coding is now available on the App Store

TODAY'S NEWS ANALYSIS

Technology Challenges in Bridgingthe Gap – Bluesky GroupPerspective.

Bluesky is a quad player in the markets that we operate in. Under our product portfolio we offer

- Fixed Telephony Service
- Mobile Voice and Broadband
- Internet (Broadband)
- TV (CATV/IPTV)

We are at the cross roads to 2 International standards – European (Samoa/Cook Islands) and American (Am Samoa).

Convergence of Technology to fill the Gap

Challenges we face are:

- High consumption rate on internet bandwidth. This has constrained the infrastructure designed for voice telephony payloads. The undersea cable is now stressed to it installed limits.
- Demands for high local loop bandwidth
- Demands for low latency/real time experiences
- Inclusion of different user groups/activity types/demography in the ecosystem – Universal Social Obligations (USO).

- Single technology type not adequate to meet those demands. There needs to be a convergence.
- Need to identify and select the right technology mix to address the expectation and customer user experiences.
- Fixed/Mobile convergence is one area where the focus is. This has been evident from the LTE deployment plans around the globe.

- Major Telecos adopting LTE to address Broadband space with high spectral efficiencies are now challenged on the backhaul space. They are looking at Fiber backhaul to strengthen this weak link.
- Off island bandwidth appetite are not fully address by the growing demands and the user experiences expected from the consumers.

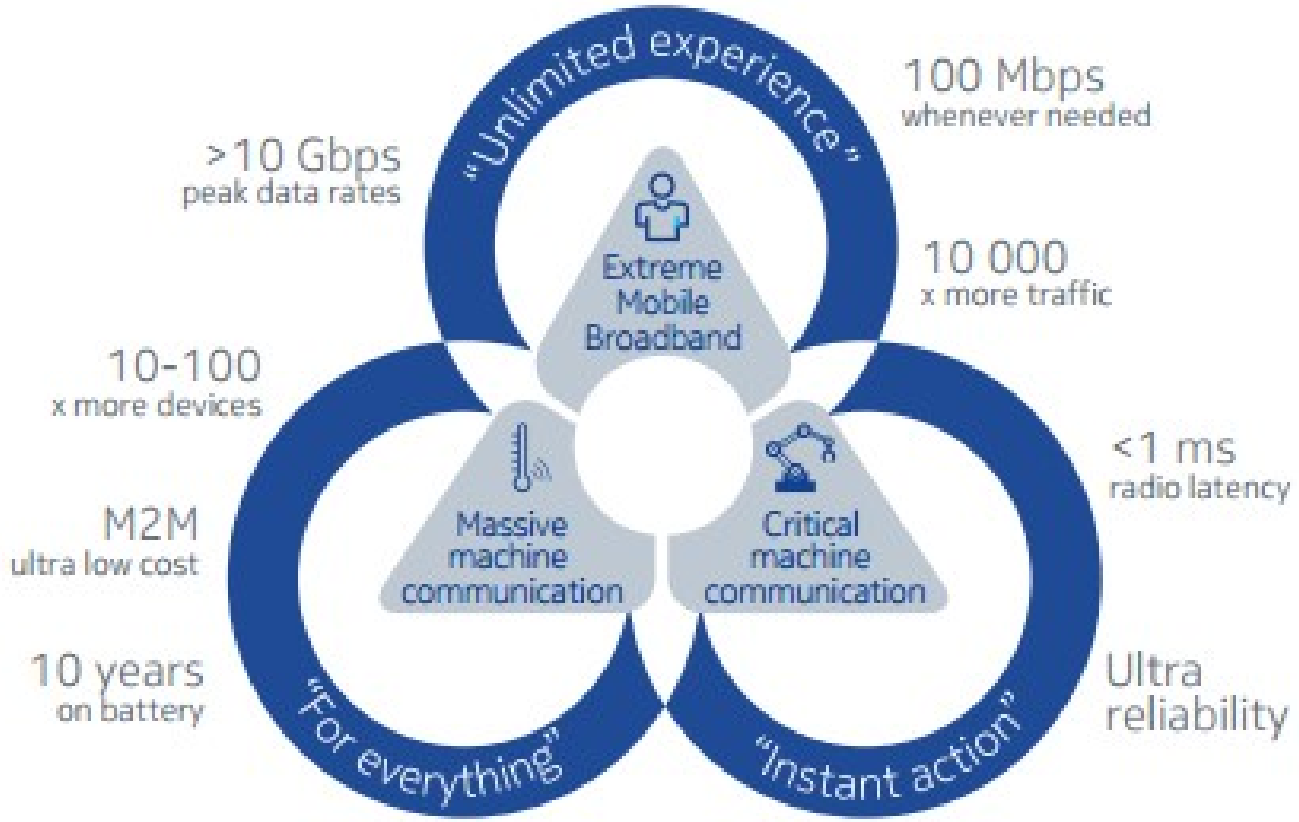
LTE Advanced: Deutsche Telekom and Huawei have achieved 1.2 Gigabit per second transmission using a mix of four sending and receiving LTE network channels (4x4MIMO) and five carrier frequencies deployed live for the first time - pre
possible under laboratory conditions, it claims.

- Satellite backhauls are now sitting on the reserve benches as a substitute. They are and will still be the integral part of the ecosystem. We need both!
- Undersea cables are given the new lease of life.
- Southern Cross has been rejuvenated, the Tui Cable, and the initiative of the Pacific Connectivity Program are strong testimony of this drive.

- The Tui Cable landing in Apia around end of next year will shift the focus from off island bandwidth limitation to local loop bandwidths for a change.
- Local loop bandwidth will become a key differentiator

Revisiting the Local Loop Space

- As the market penetration moves beyond the hotspot areas (into peri-urban and rural areas) and consumer's expectation to port the same experience with it. The challenge is to invest in the infrastructure on local loop front
- The key drivers are **Speed(>), Capacity (>) & Latency (<)**.
- Wireless medium presents a favoured option as it offers flexibility to the operator.
- The evolution of mobile technology from **GPRS → EDGE→HSPA+ → LTE → LTE+ →5G** are to achieve these key drivers.



Source: Nokia Networks white paper 5G masterplan

Architects of the Bridge

Like any infrastructure development it starts from the blueprint….

(A) Regulator

- availability/release of resources. Setting/establishing guidelines, level playing field
- and equal access.

(B) Government – stimulating and encouraging uptake (literacy level, incentives)

- Government with the help of private sector to drive eCommerce/eLearning/eGov initiative to create critical mass
- Cyber security challenges and on-line crime needs to be addressed to give comfort and credibility.
- Tax incentives on ICT (Devices etc)

Extracts from the Speech by The Prime Minister of Fiji when Launching TFL's 4G+ on 15 Sep2016

"I'm talking specifically about the detrimental effect that new, advanced technologies can have in widening socio-economic gaps in Fijian society or the digital divide. The gaps between the rich and poor, between the uneducated and the educated and between those in urban centres and those in isolated areas — gaps that my Government is committed to eliminating.

"When only certain groups obtain the advantages of new technologies, they leave our more vulnerable people behind.

"I've talked many times about this 'digital divide' and about the work my Government is carrying out to ensure equitable access to ICT technologies. We are subsidising the expansion of digital television services for low-income families. We are continuing the consumer-friendly agenda to keep the cost of mobile service low and competitive."

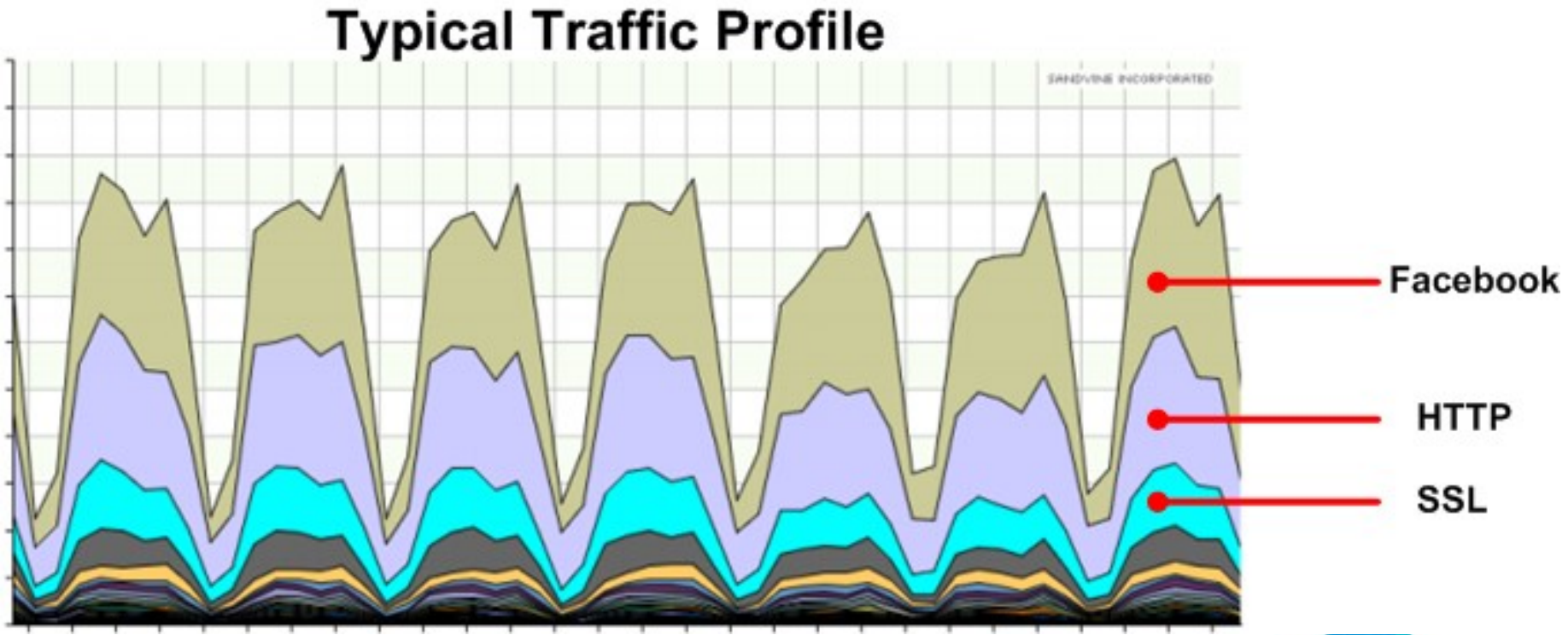
Source: Fiji Times On-Line 16 Sept 2016

(B) Supplier– They are part of the ecosystem. They need to innovate to make investment (TCO) in low ARPU markets viable. Cloud/distributed system are some of the initiative in this area.

(C) Operator – ARPUs are declining but cost of providing the bandwidth are not declining to maintain/sustain margins. Government initiative is key in maintaining business sustainability. Especially where such initiative boost the GDP. Tui Cable is a great example of the initiative by the respective governments.

(D) Consumer – Internet opens up lot of opportunities and its challenges. It's abuse can lead to disintegration of society. There is a fine balance between Internet as a tool for literacy/communication and mobile TV.

What the our Users are Doing on Internet?



Bridging the Gap

It is a delicate balance between the key stakeholders:

- Regulator
- Government
- Supplier
- Operator
- Consumers

In order to sustain the ecosystem each of these stakeholder have to play its part. Without one it will die out…..