



Satellite Infrastructure in Tonga

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MEIDECC

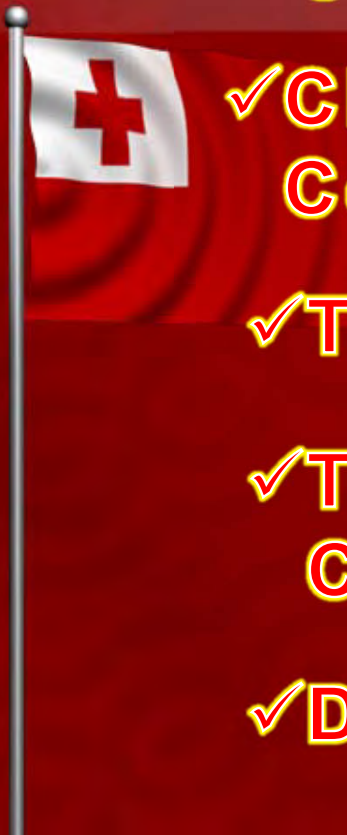
Connecting Tonga to the whole world



PRESENTATION OUTLINE



- ✓ About Tonga
- ✓ Satellite Communication in Tonga
- ✓ Benefits of Satellite Communication for Tonga
- ✓ Challenges of Satellite Communication in Tonga
- ✓ Telecom Operators in Tonga
- ✓ Tonga Communications Corporation
- ✓ Digicel Tonga



Where is Tonga?



About Tonga



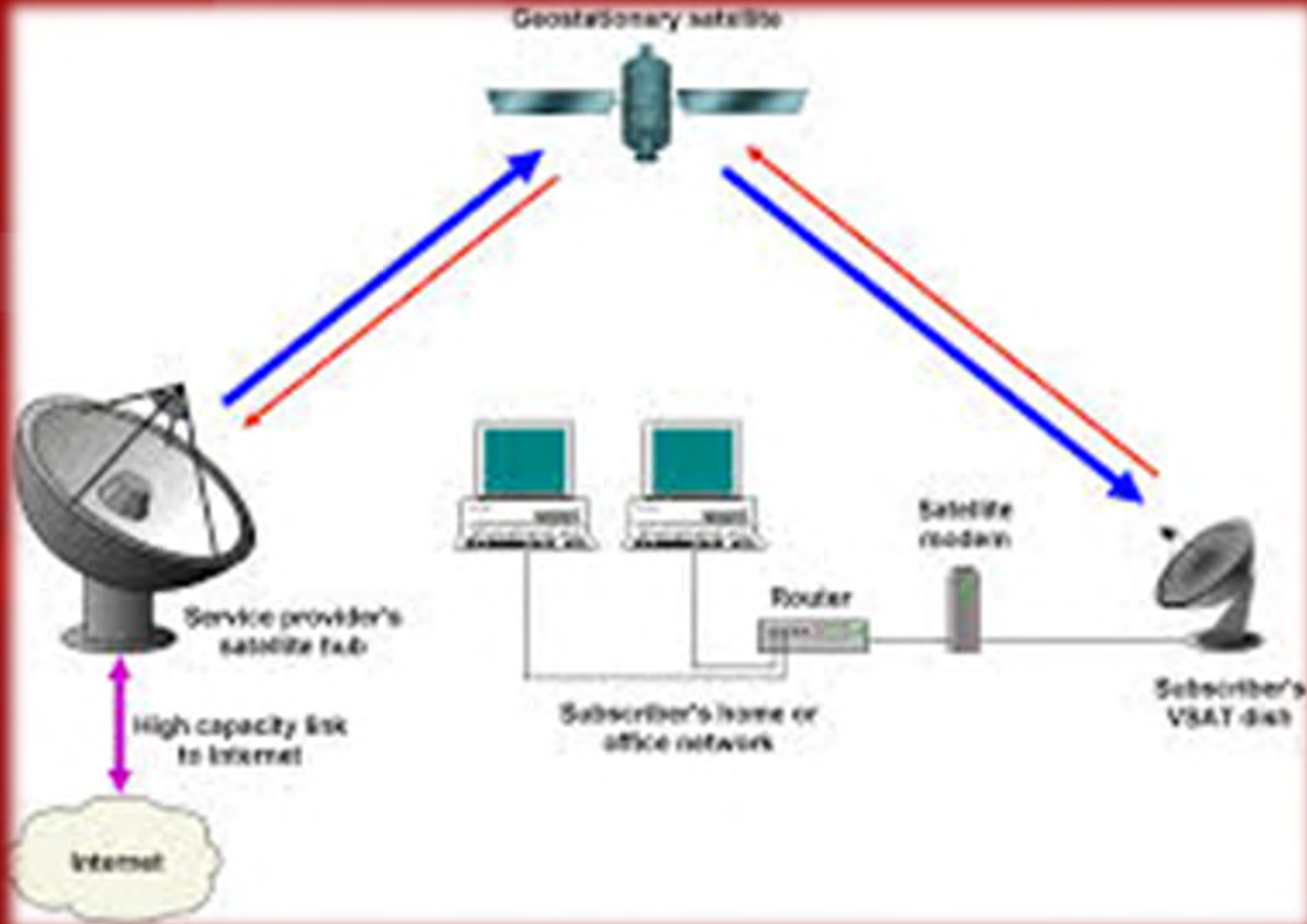
- Total number of islands : 171
- 3 main islands are, Tongatapu, Vava'u Group and Ha'apai Group.
- Total population: 105,323
- Total land area in sq kms: 750
- Capital: Nuku'alofa
- King: Tupou VI
- Currency: Tongan Pa'anga
- Continent: Oceania



Satellite Communication in Tonga



1. Vsat



Satellite Communication in Tonga

2. Satellite Phone



Satellite Communication in Tonga



3. Satellite technology used in Tongan Election - 2014



Benefits of Satellite Communication for Tonga



1. COVERAGE

- Reach remote and underdeveloped islands

2. PORTABILITY AND MOBILITY

- Inmarsat Terminals & Satellite phones

3. SERVICE RESTORATIONS

- In emergency

4. LINK COST

- Regardless of geographical location link cost does not depend on distance

5. SCALABILITY

- Can be customized to Applications
- E.g VSAT for small islands vs Standard Base Earth Station for main island



Challenges of Satellite Communication in Tonga



1. COST PER MEGABIT

- Not Cheap compared to Fiber Optic

2. LATENCY

- Typically 500+ millisecond (Geo)

3. INTERFERENCE (C BAND)

- With Wimax (3.5GHz)

4. TROPICAL WEATHER

- Rain Fade attenuation (Ku & Ka Band)
- Cyclones



Telecom Operators in Tonga



1. TONGA COMMUNICATIONS CORPORATION



INTELSAT

Envision. Connect. Transform.

2. DIGICEL TONGA

Digicel™

Tonga's Bigger, Better Network.

SpeedCast 

Wherever You Are



Tonga Communications Corporation



1. Earth Stations (6)

- 2 in the Main Island (Tongatapu)
- 1 in Ha'apai Group
- 1 in Vava'u Group
- 1 in Niua Toputapu (remote island)
- 1 in Niua Fo'ou (remote island)

2. Capacity (UL + DL)

- Around 26 Mbits/sec (International)
- Around 7 Mbits/sec (Domestic)



Digicel Tonga



1. Earth Stations (3)

- 1 in the Main Island (Tongatapu)
- 1 in Ha'apai Group
- 1 in Vava'u Group

2. Capacity (UL + DL)

- Around 6 Mbits/sec (International)
- Around 34 Mbits/sec (Domestic)



Orbital Slot Filings



1. 1988 – Government established relationship with Tongasat (Friendly Islands Satellite Communications Ltd), formalized in 1994
2. Government Revenue – over US\$25m





THANK YOU and MALO 'AUPITO

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I kale Tahī