

# Leveraging ICTs for Development: USPNet to Knowledge Hub

**PICISOC-PACINET 2012 ICT Conference  
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[www.usp.ac.fj](http://www.usp.ac.fj)

# Presentation Outline

1. Welcome to the University of the South Pacific/Fiji
2. ICTs as Central to Our Future/ Dramatically Changing World
3. ICTs in the Pacific Islands
4. ICT a Key Priority of the new USP Strategic Plan 2013-2018
5. USP as a ICT Pioneer in the Pacific and a Demonstrator
6. From USPNet to a Knowledge Hub @USP
7. Other Major Developments on the Horizon
8. Conclusions

# Welcome to the USP/Conference/Fiji



- Welcome to the University of the South Pacific/Fiji
- Special welcome to all delegates who have travelled from abroad
- USP is delighted to be part of the conference
- Increasingly, USP is becoming an umbrella under which various ICT organizations/initiatives can operate (eg ITU, PacCERT, PIRRC, PITA)
- Hope you will find time to know a little more of what USP does

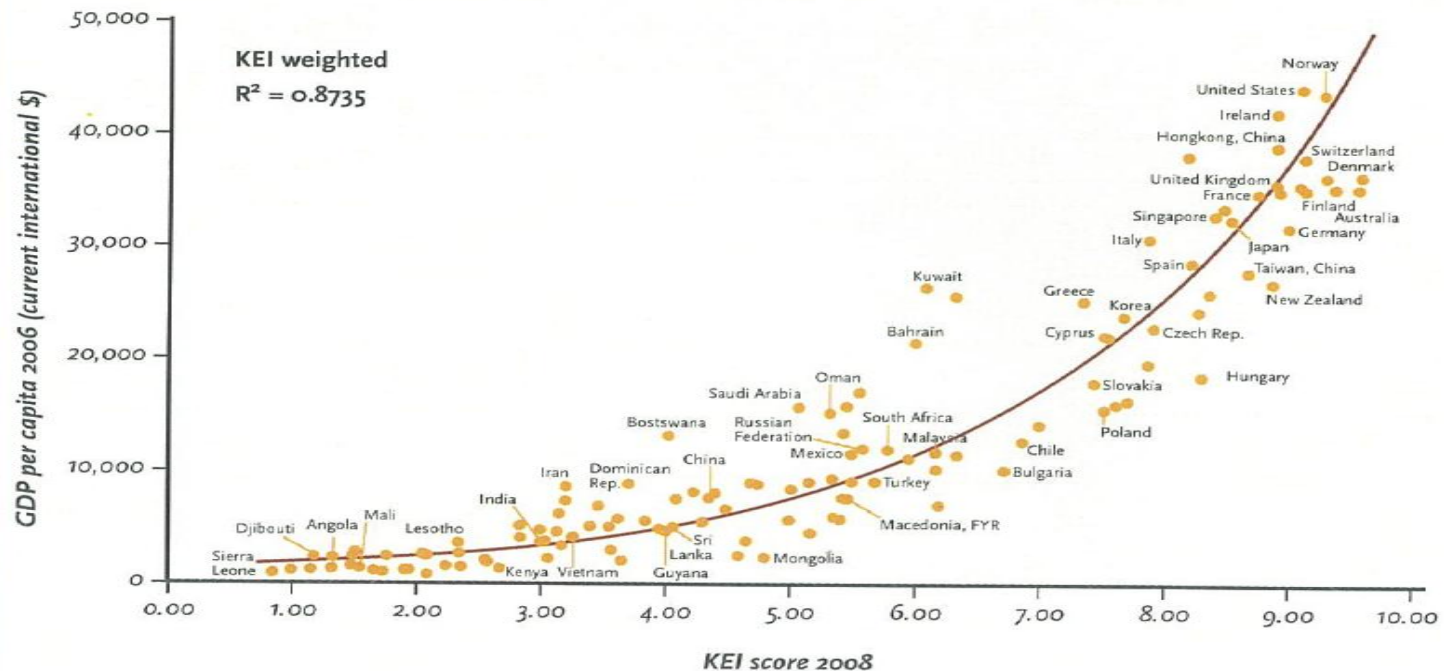
# The Knowledge Economy and Higher Education



- Knowledge society now dominates international competitiveness and long-term sustainability
- PICs need more knowledge-based industries, which are dependent on ICT development and a highly educated and skilled workforce
- All existing industries can become more efficient and competitive with ICTs
- *“The trend towards a knowledge-based economy has emphasized the importance of universities as repositories of valuable human capital. In particular, the accelerating shift to high technology and information technology economy requires sustained human resource development and training.. (2011, ICT for Higher Education: Case Studies from Asia and the Pacific, UNESCO).*

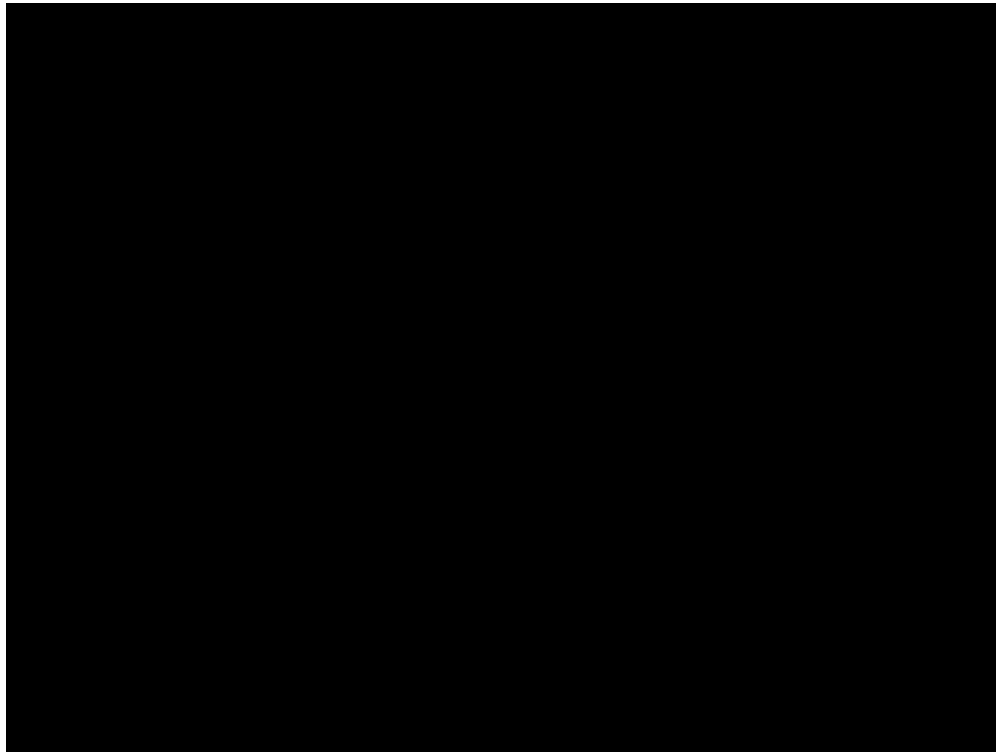
# The Knowledge Economy and Economic Performance

Figure 4. The Knowledge Economy and current economic performance



# Dramatically Changing World

[http://www.youtube.com/watch?v=vPO\\_HGafBsE&feature=youtu.be](http://www.youtube.com/watch?v=vPO_HGafBsE&feature=youtu.be)



# Access for who and why?

*“Helping developing countries build their citizens' access to the Internet is akin to giving them a tool that boosts their chances of achieving sustainable economic growth...The Internet offers a lot of potential and opportunities for sustainable development”.*

(Director of the Division for Public Administration and Development Management of the UN Department of Economic and Social Affairs (DESA), Haiyan Qian.)

# Digital Inclusion

*"In the internet age, we need to ensure that people aren't being left behind as more and more services and business move online. Promoting digital inclusion is essential for a dynamic modern economy and can help to make government more efficient and effective."*

(UK Prime Minister David Cameron)

# Importance of ICTs in the Pacific Islands

Apart from the obvious importance of ICTs in a knowledge society, ICTs are especially important to the PICs because:

- Scattered nature of the populations
- Isolation from main centres of production and consumption
- Leveling the playing field
- Accessing international markets and investment
- Meeting MDG goals, especially in education and health
- Potentially opening up possibilities of participating in the global system without moving from their countries through telework

# Overall Low Level of ICT Development: USP member Countries

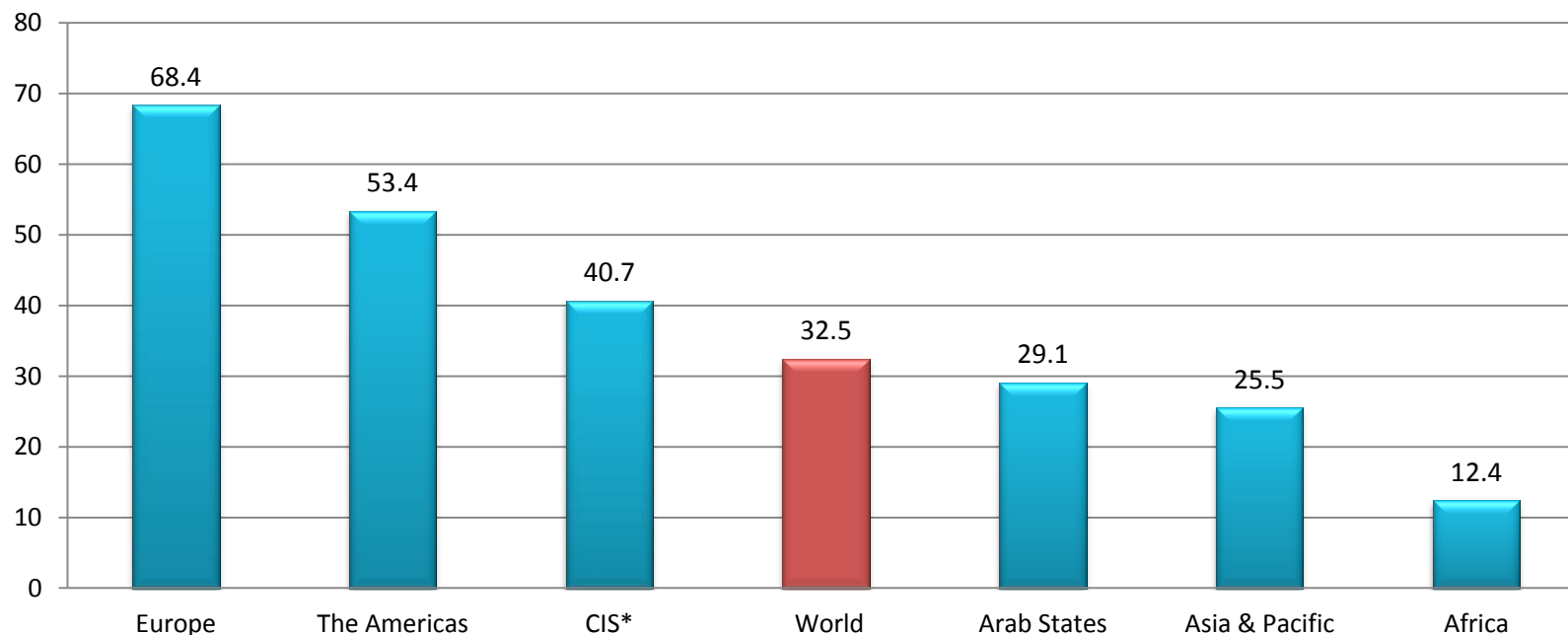
USP Member Countries	Fixed Telephone subscriptions per 100 inhabitants	Mobile cellular subscriptions per 100 inhabitants	Percentage of Individuals using the Internet	Fixed Internet subscriptions per 100 inhabitants
	2010	2010	2010	2010
Cook Islands	35.63	38.46	35.71	
Fiji	15.09	81.09	14.82	4.53
Kiribati	4.12	10.05	9	
Marshall Islands	8.14	7.03		
Nauru	0	60.46	6	
Niue	68.12			
Samoa	19.28	91.43	7	
Solomon Islands	1.56	5.57	5	
Tokelau	26.43			
Tonga	29.79	52.18	12	
Tuvalu	16.49	25.44	25	
Vanuatu	2.09	119.05	8	

Source: ITU - <http://www.itu.int/ITU-D/ict/statistics/>

(Accessed 15 February 2012)

# Asia-Pacific: Where we stand

## Individuals using the Internet per 100 inhabitants, 2011



\* Commonwealth of Independent States

Regions are based on the ITU BDT Regions, see: <http://www.itu.int/ITU-D/ict/definitions/regions/index.html>

Source: ITU World Telecommunication /ICT Indicators database

# ICT a Key Priority of the new USP Strategic Plan 2013-2018



- Use state-of-the-art ICT facilities to deliver high quality education
- Lead ICT developments in the region to help all regional economies to take advantage of ICT
- Provide innovative, sustainable ICT solutions adapted to the demographic and spatial nature of the Pacific region.

## OBJECTIVE 13 | Ensure that ICT provision adequately meets the University's needs



### Initiatives:

- 13.1. Review and maximize the technical efficiency of the USPNet and IT infrastructure
- 13.2 Facilitate the utilisation of open source software for USP and region
- 13.3 Expand ICT to disadvantaged communities and groups.

# OBJECTIVE 14 | Take a lead role in the region's ICT development



## Initiatives:

- 14.1 Establish USPNet as the Regional Knowledge Hub
- 14.2 Assist in the creation of regional and country knowledge networks
- 14.3 Organise a new Pacific Regional Digital Review.

# OBJECTIVE 15 | Develop automation and business intelligence



## **Initiative:**

- 15.1 Upgrade Banner and automate major USP processes
- **OBJECTIVE 16** | Foster entrepreneurial activity in the region leveraging ICTs

## **Initiative:**

- 16.1 Develop a creative plan for ICT-Centre and implement incubation of businesses

# Despite shortcomings, Some Positive Indicators

- Pacific Islands Regional Digital Strategy
- SPC and USP working together with countries to implement the strategy
- Some good practice, such as Fiji's recent reforms and achievements; Vanuatu's e-Governance network; Chief Information Officer
- Full liberalization of the telecommunications market
- Commerce Commission
- National Bandwidth Plan
- e-Commerce; e-Governance
- USP is a demonstrator of a complete and successful ICT system that is being further improved

# Infrastructure and markets still problems

- Optic fibre is still not available other than to Fiji, PNG, French and American Territories and former territories (RMI)
- Tonga plans to have connection to Southern Cross through Fintel by mid-2013
- Solomon Islands, Samoa and Vanuatu actively looking at fibre with World Bank/ADB assistance
- O3B initiative, but yet to deliver

# Institutional Arrangements and Markets Still Weak

- Many countries still not liberalizing fully
- Institutional arrangements e.g. policy frameworks, regulatory and pricing mechanisms weak
- Human resources weak in leading ICT reform and development

# Not enough and not fast enough?

- In terms of the speed with which other countries are moving, the movement in PICs in ICT development is not enough and not fast enough
- When you have a lot of catching-up to do, you need to move fast
- Also, there are not many demonstrators of complete ICT systems/models in our region

# USPNet: Early Pioneer

- USPNet founded by USP in 1972 with audio conference via shared PeaceSat using applications technology satellite (ATS-1)
- Progressive upgrade by leased circuits into Cook is, Solomon is, Tonga, Vanuatu and Lautoka completed by 1997
  - For audio conference tutorials
  - For data network
- Major upgrades in 2000, 2005 and 2011

# Recent Upgrade and New Capacities of USPNet

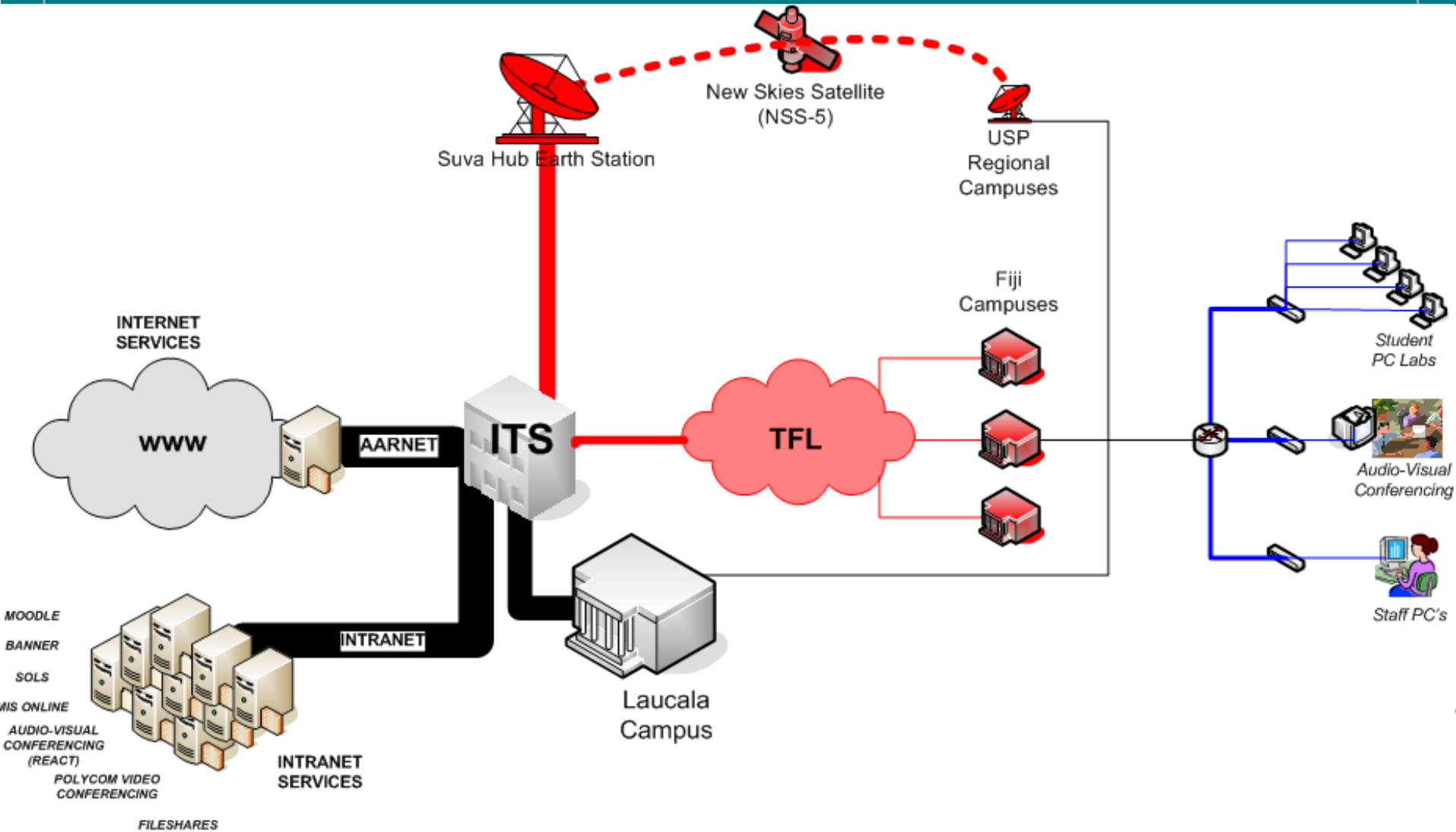


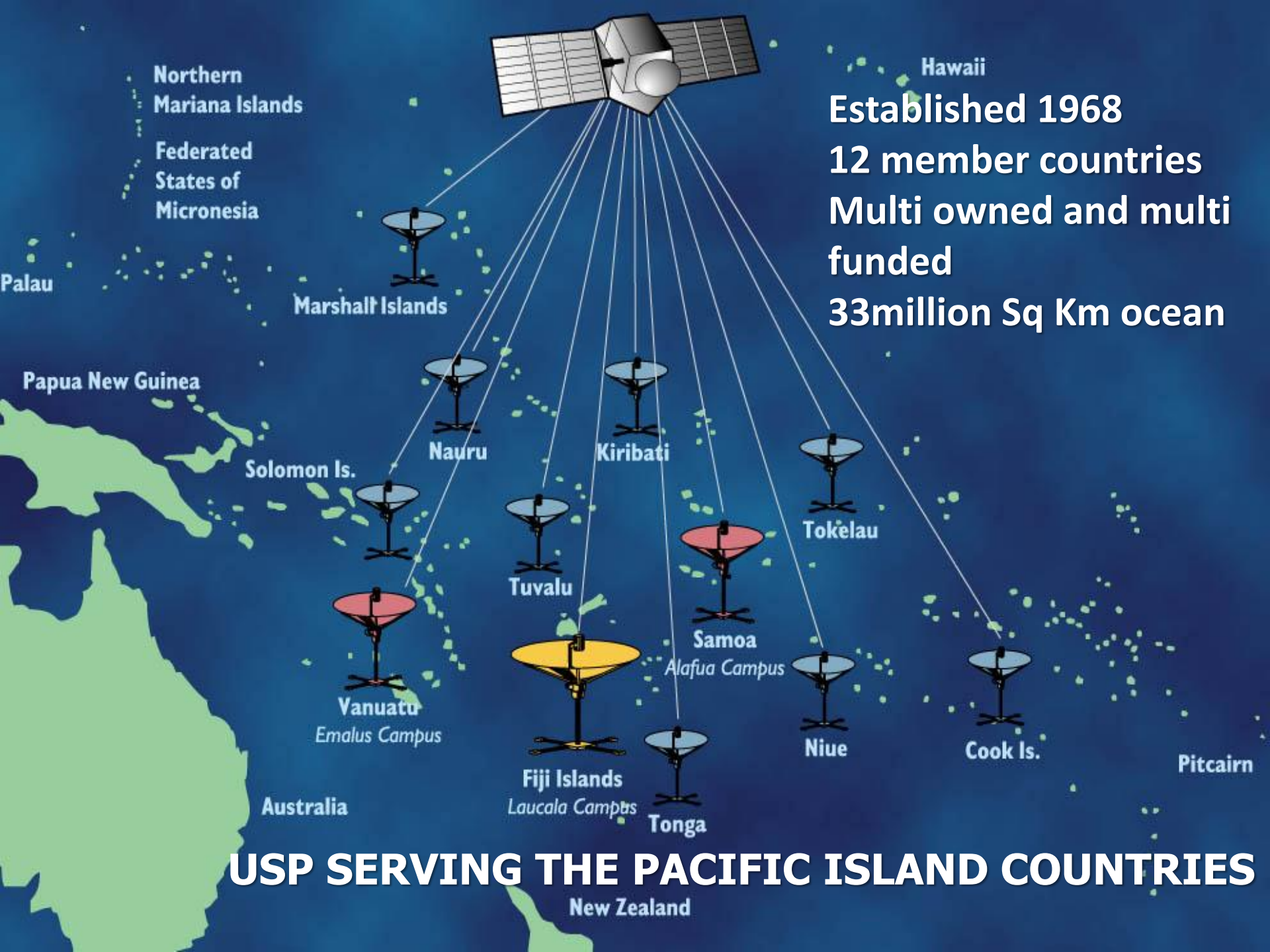
- USPNet was fundamentally changed and upgraded in 2011 – to 11 MHz
- Satellite system changed from Gillat to iDirect giving greater flexibility and quality control
- It also allowed the operation of both C-Band system that we had and the new Ku-Band that we needed for expanding our reach – 7 MHz
- Voice and video system changed from Click and Talk to REACT allowing videoconferencing with all our campuses simultaneously

# What is USPNet?

- A private educational telecommunications system based on a VSAT system owned and operated by the USP through educational licenses from member countries
- Integrates all technologies: satellite, PCs, high speed document readers, telephones, faxes, advanced control software, and various e-learning software such as Moodle

# USP IT Infrastructure





Northern Mariana Islands  
Federated States of Micronesia

Hawaii  
Established 1968  
12 member countries  
Multi owned and multi funded  
33million Sq Km ocean

Palau  
Papua New Guinea

Solomon Is.

Marshall Islands

Nauru

Kiribati

Tuvalu

Samoa  
Alafua Campus

Tokelau

Vanuatu  
Emalus Campus

Fiji Islands  
Laucala Camp

Tonga

Niue

Cook Is.

Pitcairn

Australia

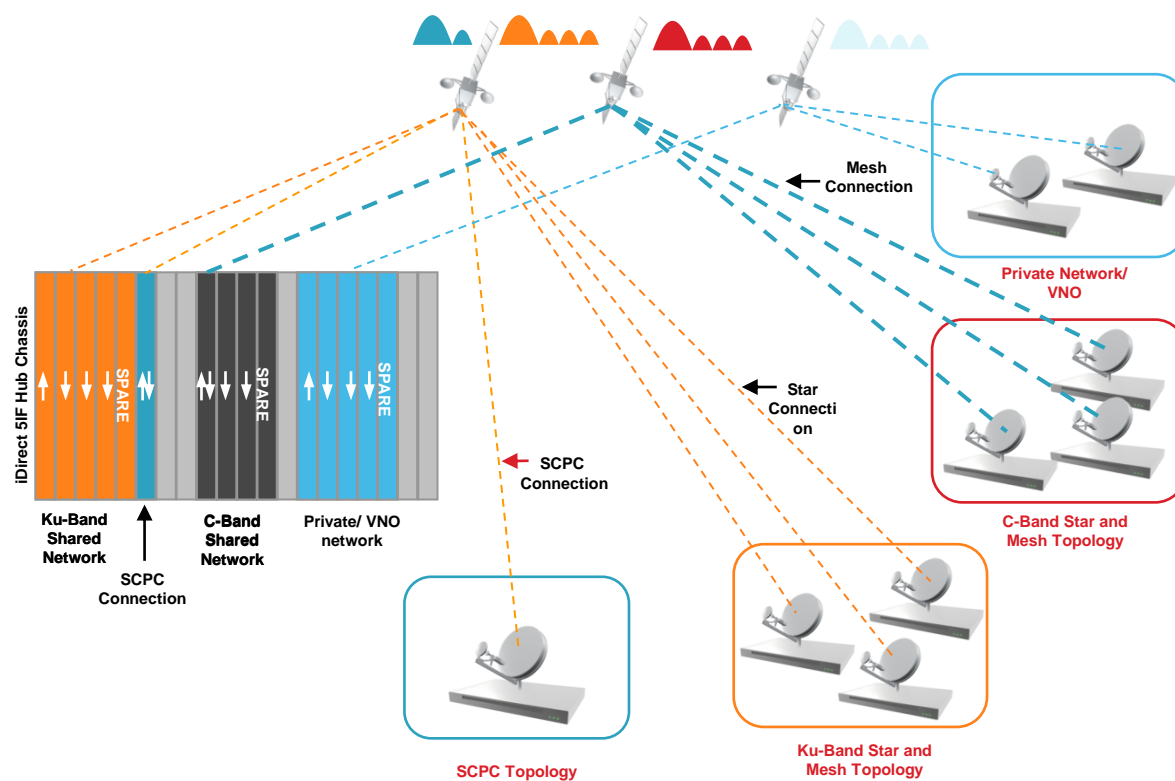
New Zealand

# USP SERVING THE PACIFIC ISLAND COUNTRIES

# USPNet Hub at Laucala Campus



# Regional ICT Connectivity



- Current Point of Presence (PoP) in 12 regional countries – to be extended to any South Pacific nation within commercial satellite footprints.
- Ku-band options for cost-effective VSAT deployments.
- Virtual Network Operator (VNO) capability – provides essentially a partitioned network for exclusive use.

# USP ICT Overall

- 3500 PCs and n-Computing around the 14 campuses and centres
- 250 Servers
- 23,000 (approx) Student User accounts
- 2000 (approx) Staff accounts
- Current Student per PCs ratio 12:1
- 21,000 simultaneous web connections a day, 30,000 email messages a day (staff)
- 5 km of fibre on Laucala and 2 km at Emalus and Alafua
- Private network that links 12 countries over an area of about 33 million square Km
- USP is possibly the best demonstration for the region of what can be done with ICT and how to do it

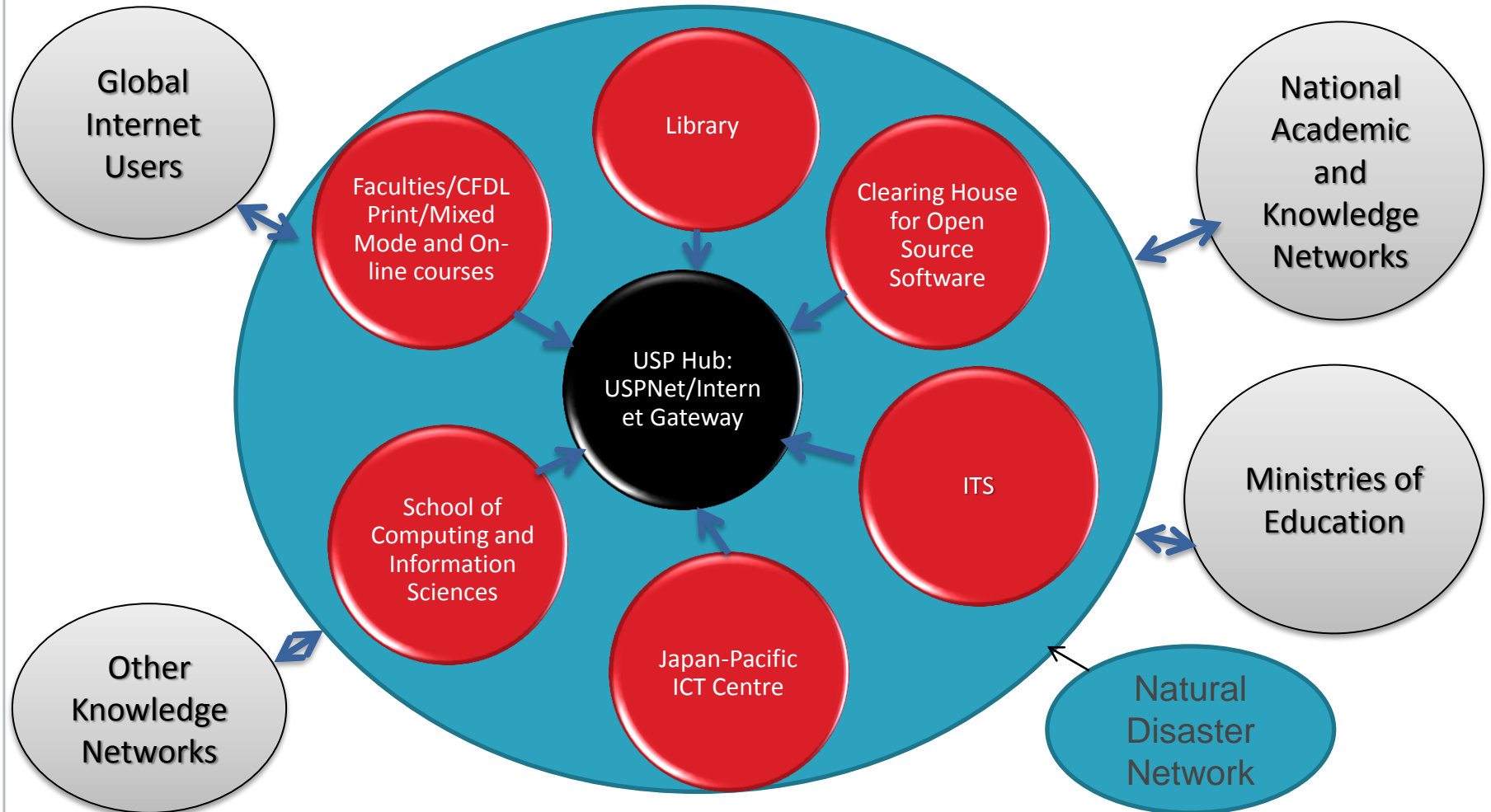
# Japan-Pacific ICT Centre, USP



# Independent Internet and STM4 Capacity

- Partnership with AARNET since March 2005 and now strengthened
- STM upgraded to STM4 in late 2011
- New deregulated market offers greater opportunity to deploy the new capacities much better
- USP willing to make it available to related stakeholders including CROP agencies, tertiary institutions, and Ministries of Education

# Knowledge Hub at a Glance



# So What is the Plan?

- A Knowledge Hub exists already in terms of the concentration of knowledge, infrastructure to make it available on-line, and the ability to create content as well as help the region
- But the dots have not been connected effectively, so the emphasis will be to link these; expand knowledge concentration; make it available to others EASILY, and to be inclusive in our approach

# Enhancing Access

- Enhanced connectivity – reaching further and reaching faster – through KU band to remote areas in PICs
- Use of the most pervasive ICT device – mobile and smartphones to empower
- 600 Tablets to be distributed in Feb 2013 to students throughout region
- Wireless upgrade to most campuses
- Promote ICT policies that enhance use of ICTs in education as well as flexible ICT regulatory frameworks in member countries

# Other Developments

- Australian Tertiary Sector Strategy Pacific Academic Broadband initiative
- EU/ACP commissioned study into possible knowledge network for the Pacific Islands
- Prof David Lassner NSF Study of Pacific networks
- Pacific Islands Forum Leaders' request for update from SPC/USP on marine cable options

# Conclusions and Opening

- ICTs are critically important
- USP represents an excellent ICT model and demonstrator
- Its USPNet and regional campuses offer an excellent backbone for a knowledge hub
- USP is open to making available its USPNet to perform important regional functions, such as knowledge network, disaster management, and for the dissemination of best practice and expertise

# Opening

- Interesting programme for the conference
- Very active ICT community in the Pacific and good interaction with the international community
- USP delighted to host this conference in association with other key stakeholders
- Delighted and honoured to declare this PacINET conference open and wish you all a very successful and fruitful conference
- Vinaka Vakalevu, Dhanyabad and thank you