

SECRETARIAT OF THE PACIFIC COMMUNITY

**THIRTY-EIGHTH MEETING OF THE
COMMITTEE OF REPRESENTATIVES OF GOVERNMENTS AND ADMINISTRATIONS**
(Noumea, New Caledonia, 13–16 October 2008)

Regional Policy Agenda

**AGENDA ITEM 3.7 – REACHING OUT TO RURAL AND REMOTE COMMUNITIES
THROUGH THE PACIFIC PLAN DIGITAL STRATEGY**

(Paper presented by the Secretariat)

EXECUTIVE SUMMARY

1. Of all the Pacific Plan priorities, the digital strategy has achieved the highest level of implementation across all three technological initiatives coordinated through SPC
2. The Pacific Rural Internet Connectivity System (RICS) proved itself in Niue by providing the communication backbone for the recent Forum Leaders' meeting. We now have 13 active RICS sites in 13 PICTs, eight of which are pilot sites with another eight expected to be active by December 2009. In addition, there are seven active RICS sites under the commercial arm of RICS. We anticipate that over 100 sites will be active by December 2009.
3. The Oceania One Laptop Per Child (OLPC) initiative has received a boost with the planned roll-out of 5000 OLPC units – a gift from OLPC, Boston, USA. Each of SPC's 22 island members will receive a minimum of 50 of the laptops to trial. Some members have shown keen interest in obtaining additional units themselves to extend the roll-out. Papua New Guinea is leading the way, looking to acquire a substantial number of OLPC units. The Secretariat will coordinate bulk procurement of OLPCs with interested PICTs.
4. The new east-west submarine cable initiative, the South Pacific Information Network (SPIN), has been put out to tender and we are waiting for the outcome.
5. SPC member countries and territories now need to embrace the technological solutions offered through these initiatives and invest in them for the future of their children and people.

RECOMMENDATIONS

6. CRGA is requested to:
 - i. note the Secretariat's achievements in implementing the digital strategy;
 - ii. note the progress on the SPIN initiative to date,

- iii. commit to facilitating the wider roll-out of the RICS and OLPC initiatives in their respective countries and territories; and
 - iv. endorse the Secretariat's efforts to secure additional funding to ensure the current pilot roll-out plans for both RICS and OLPC can continue in 2009.
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REACHING OUT TO RURAL AND REMOTE COMMUNITIES THROUGH THE PACIFIC PLAN DIGITAL STRATEGY

Purpose

1. This paper provides an update on progress made during 2008 in implementing Initiative 2.2 of the Pacific Plan – *Implement a regional digital strategy for improving information and communications technology (ICT)* – to bridge the communication divide between urban and rural and remote communities in the Pacific Islands region.

Background

2. At their 2007 meeting in Tonga, Pacific Islands Forum Leaders (i) endorsed the proposed new east-west submarine cable, the South Pacific Information Network (SPIN), which will potentially connect 12 Pacific Island countries and territories (PICTs) south of the equator to the global communication backbone; (ii) launched the new pan-Pacific low-cost rural internet connectivity system (RICS); and (iii) asked SPC and PIFS (Pacific Islands Forum Secretariat) to pilot the OLPC as an educational tool in several PICTs and report back to the 2008 Forum meeting.
3. The 5th Conference of the Pacific Community held in Samoa a month later in November 2007 urged:
 - a. all members to consider making use of RICS to increase internet connectivity, particularly for rural and remote schools, health facilities and business centres, by investing in more sites to spread the benefits further;
 - b. the 12 countries who could benefit from the submarine cable project to seriously consider becoming part of the project;
 - c. PICT Ministries/Departments of Education to assess the usefulness of OLPCs as an educational tool and a medium for disseminating information in sectors such as health, agriculture, forestry and fisheries to rural and remote communities;
 - d. national telecommunication regulatory authorities to make provision for issuing licenses to schools and health facilities in rural and remote areas, and also to make direct use of the dedicated Pacific hub by purchasing their own bandwidth at lower rates so that they could pass on cheaper services to rural and remote communities.

Major achievements since the 2007 Conference

4. Of all the Pacific Plan priorities, the digital strategy has achieved the highest level of implementation across all three of the technological initiatives coordinated by SPC. Below are brief updates on each initiative.

(i) Pacific Rural Internet Connectivity System (Pacific RICS)

5. In 2007, Australia gave AUD 2 million which enabled the acquisition of a dedicated Pacific hub from the GE 23 satellite for the life-time of the satellite; financed 16 pilot sites in 13 PICTs – Federated States of Micronesia, Fiji, French Polynesia, Kiribati (2), Marshall Islands, Nauru, Niue, Papua New Guinea (2), Samoa, Solomon Islands (2), Tonga, Tuvalu and Vanuatu; and will cover bandwidth costs for up to 100 ‘public good’ (subsidised) sites until 31 December 2009, after which PICTs will pick up the cost for their own bandwidth.
6. At the time of writing, pilot sites are active in Kiribati (2), Niue (1+5), Papua New Guinea (2), Solomon Islands (1), Tonga (1) and Vanuatu (1). We expect to have the remaining eight pilot sites active by December 2008.
7. All active pilot sites currently operate under the licensing provisions of the regulatory authority in each PICT, as we expect will be the case for the other pilot sites.

Impact of RICS on internet connectivity in rural areas

8. **Communication backbone for the Forum Leaders meeting, Niue.** The recent Forum Leaders’ meeting in Niue was an important test for RICS. We are pleased to report that RICS passed this test and successfully and cost-effectively provided the communication backbone for the meeting. The delegate from Niue will brief CRGA on Niue’s own assessment of the benefits of RICS.
9. **Direct benefits to primary recipients and surrounding communities.** Since the installation of the first RICS pilot site earlier this year, the impact has already been seen in the provision of internet connectivity to the primary beneficiary, i.e. the school where the satellite dish was installed. In a number of sites, surrounding communities, schools, villages and businesses have gained access to internet connectivity from the primary dish, with signals relayed through relatively low-cost repeaters/transmitters to provide 360 degree coverage over a 50 km radius. For example, at the Patukae Community High School in Solomon Islands, one satellite terminal using a repeater installed on a high point provides connectivity to nine other schools, a health clinic, a resort, six small businesses and 16 surrounding villages (Fig. 1). The resort has offered to pay the bandwidth fees at the end of the pilot period and also to make an annual donation of laptops to surrounding schools as part of its community development support to RICS. The statement from the Principal of Patukae Community High School (see box) says it all.

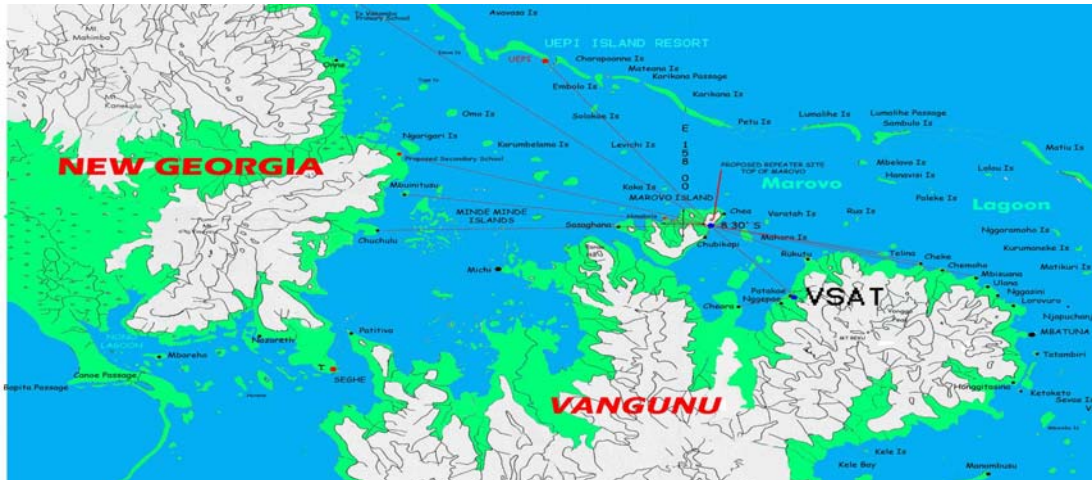


Figure 1: Pilot RICS site at Patukae Community High School supplies connectivity to numerous other locations.

“Your organisation's touch to feel the heartbeat of the lowliest, the small and the least reached sets a new destiny and horizon for our communities – a historical moment, as this beam of technology picks out and enlarges the almost forgotten world, now given access to global connectivity.

Patukae CHS and the communities are together in celebration, expressing our gratitude for this visionary initiative to provide linkage and connectivity to the rest of the world. We can realise our potential and are committed to utilising this facility to the fullest. The benefits are overwhelming and are bound to bring about changes to all our communities. Thank you for helping us get beyond our inadequacies. This visionary commitment will remain an 'icon for making things better' in this part of the world.

We all salute SPC for taking the lead in making our communities better than ever.”

(Principal – Patukae Community High School, Solomon Islands (received Monday 12 May 2008, the day after RICS went live at the school).

10. **Demand for RICS.** We are already receiving expressions of interest from a number of PICTs who wish to provide this technology in rural and remote areas, in particular to rural schools and health facilities. For example, Niue has already procured five additional sites, and Papua New Guinea has requested quotations for 80 more sites.
11. **Private sector involvement in RICS roll-out – RICS Commercial.** RICS has provided an opportunity for private sector providers to expand their own internet connectivity services to rural communities under RICS’ commercial arm. Under this arrangement, Cook Islands Telekom has procured five units, Tonga Telecom has procured three units, and individual orders have also been received from Fiji and Vanuatu. We expect huge growth in this area over the next two to three years.

12. **Policy discussions and regulatory reform.** A number of countries have made landmark decisions within the context of their own regulatory environment to accommodate RICS. They all acknowledge that RICS adds value to their existing networks rather than competing with them. For example, (i) telecos in Papua New Guinea, Niue, Cook Islands and Tokelau have decided to operate RICS under their own licenses, thus enabling the roll-out of RICS within existing legislative provisions; (ii) Kiribati is currently revising its licensing arrangements to enable potential providers throughout the country to access RICS directly; and (iii) Solomon Islands is planning to table a bill in the next session of Parliament to deregulate telecommunication.

(ii) Oceania One Laptop Per Child (OLPC) initiative

13. Following the Forum Leaders 2007 request that SPC and PIFS work with the education sector in PICTs to pilot OLPCs as an educational tool, SPC secured a gift of 5000 OLPC units (worth approximately USD 1.1 million) from OLPC, Boston, for a Pacific-wide pilot project. This donation will ensure at least one pilot project in each member PICT. To date, pilots have been launched in Papua New Guinea, Solomon Islands, Nauru, Vanuatu and Kiribati.
14. Niue became the first country in the world to achieve 100 per cent saturation with OLPCs. The Niue launch occurred at the margins of the recent Forum Leaders meeting, with Professor Barry Vercoe, one of the architects of the OLPC, handing out the laptops to children. He also represented Mr Nicholas Negroponte, founder of OLPC.

Impact of OLPC

15. **Opportunities and threats.** Technological advancement brings both great opportunities and some threats. It is too early for a detailed assessment of the impact of OLPCs on the lives of Pacific children, but it may be useful to share some observations from the pilot sites so far:
 - a. *Immediate bonding between child, teacher and family based on the use of the laptop as a learning tool.* In all pilot sites, a new phenomenon is developing – a newfound sense of ownership and enhanced relationships between child, teacher and parents.
 - b. *Increased class participation/attendance.* This has been a winner. Even students with good attendance records have noticeably increased their participation in class.
 - c. *Intranet communication without internet access.* A major feature of the OLPC is its powerful ‘mesh-network’ within a radius of up to a kilometre. The mesh-network allows any OLPC within a 1-km radius of another OLPC or a server to communicate. Some schools do not have internet access, but if they have a server that holds educational content, OLPCs can access the server through the mesh network to download information.
 - d. *Increased communication between students outside school hours.* Another new phenomenon is that students living within a kilometre of each other can communicate in real-time. Some are already using the opportunity to work jointly from different locations.

- e. *Reach of internet connectivity extended by up to 2 km from the satellite hub.* Until five weeks ago, we assumed a 1-km reach for the OLPC's intranet capability. This assumption was blown away when an e-mail was sent from an OLPC laptop in a village located about 2 km from the satellite dish terminal. The OLPC has expanded the reach of internet connectivity, which will have tremendous impact in rural schools and communities.
- f. *Linking poorly resourced rural schools to information.* The following quote from PNG during the launch of the OLPCs at Gaire village, the location of the first rural RICS site, demonstrated that a rural school with few resources can now, with the help of OLPCs and RICS, get access to the world's largest information source.

"We have always struggled to have a good library at the school. Now we have the biggest library in the world. It is called the Internet."
(Secretary of Information & Communication, PNG.)

- 16. *OLPC – an important educational tool.* In practically all the five countries where we have established pilots, OLPC is seen by ministries and departments of education, universities (PNG) and civil society as an important tool that will revolutionise their education systems.
- 17. *Interest in countries involved in initial pilots.* Pilot countries have seen the potential of OLPCs and are now looking at acquiring OLPCs at their own cost to roll-out to more schools. In PNG, for example, various stakeholders are already working together to procure a substantial number of OLPCs (at the time of writing, in excess of 40,000 units). PNG's Department of Education is supporting the deployment of OLPCs in PNG schools and is looking at making a substantial budget provision next year.

Visit the Wiki/OLPC sites for updates on progress

- 18. David Leeming, the SPC OLPC Coordinator, has created a real-time web-based reporting system to track the roll-out of OLPC pilots. Please visit the site at http://wiki.laptop.org/go/OLPC_Oceania; <http://www.youtube.com/watch?v=mLIP7VVE9Lk> <http://www.youtube.com/watch?v=woS3wDpoMiU>

(iii) South Pacific Information Network (SPIN)

- 19. Pacific Forum Leaders endorsed SPIN at their meeting in October 2007 and asked SPC and PIFS to facilitate discussions between SPIN and participating countries on its implementation.
- 20. SPC facilitated the sending of a comprehensive brief from SPIN to all participating countries in May. The brief addressed all aspects of SPIN including the current World Bank funded study on Pacific connectivity.

21. At the time of writing, SPIN has been put out to tender with five PICTs confirming that they will join – American Samoa, French Polynesia, New Caledonia, Niue, and Wallis & Futuna. Samoa has confirmed that its long-term ICT need is linked to SPIN and the Fiji cabinet has agreed that SPIN can land in Fiji. Other PICTs have confirmed their interest, but are also waiting for the outcome of the World Bank study.
22. The Secretariat will provide further updates as relevant at CRGA.

Challenges

23. The Secretariat has been successful in expediting the implementation of the digital strategy across all three technological initiatives, RICS, OLPC and SPIN. Excellent progress has been made on RICS and OLPC. We anticipate a further update on SPIN will be available prior to CRGA.
24. The major challenge facing the Secretariat is one of resources. Rolling out the pilots projects (RICS in 13 PICTs and OLPC in 22 PICTs) is human-resource intensive and requires operational funding to ensure we can implement the pilots fully and set a solid foundation for members' engagement in the future. SPC has achieved a high level of success with only two staff and some volunteers, but we will need to secure resources to retain the services of our OLPC pilot coordinator for the whole of 2009 in addition to operational funding to expand our capacity.

Next steps and decision points for members

25. SPC member PICTs now need to make a decision on whether or not to embrace the new opportunities offered through RICS and OLPC and to procure additional RICS sites and OLPCs to increase the coverage and spread the benefits to all their rural and remote areas. RICS has the potential to revolutionise rural connectivity in the region, and OLPCs can revolutionize education in a way never before imagined in the Pacific. Together with SPIN, these three initiatives could unlock untold economic and developmental potential in our region.

Conclusion

26. The Secretariat has demonstrated the value and practicality of these communication technologies in a range of communities and settings. For the people in all member PICTs to benefit, we now need to go beyond the pilot phase. By investing in RICS and OLPC, PICTs will be providing tools that will empower their people and give them new opportunities to be productive and contribute effectively to nation building. To realise the full benefits of RICS, OLPC and SPIN members need to also address policy and legislative reforms in addition to making financial investments in technology and human resources. Many PICTs have already embarked on the necessary reforms, some as a direct result of RICS and SPIN.