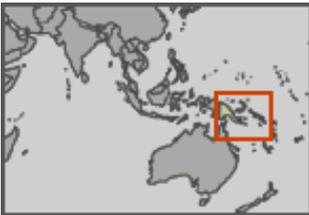# Case Study
# e-Education via Satellite in Oceania region

CLIENT PROFILE

The Papua New Guinea Academic and Research Network (PNGARNET) is a not-for-profit consortium formed by the six local Universities of PNG to provide high quality and cost effective broadband services to the academic community of PNG. PNGARNET was established in cooperation with two PNG governmental agencies, National Research Institute (NRI) and National Agricultural Research Institute (NARI).

BUSINESS AND SERVICE ISSUES

Papua New Guinea, situated in the Oceania region, has a population of 6.3 million widely dispersed over geographically challenging terrain, with less then 3% of habitants having access to the internet (2008).. The insufficient telecoms and IT infrastructure is a major obstacle in both the development of research and education and the widespread availability of Internet access in PNG.

The universities needed an IT network suitable for the delivery of basic data services such as email and Internet access, alongside more sophisticated applications such as hosting of students and staff websites, E-learning courseware, shared databases and online collaboration with other universities of the region. Additionally, the network should support advanced functions, such as real-time multiparty videoconferencing.

From a technical perspective the customer requirements included a need for secure connectivity TCP & HTTP acceleration with video and CIR QoS (committed information rate quality of service) prioritization.
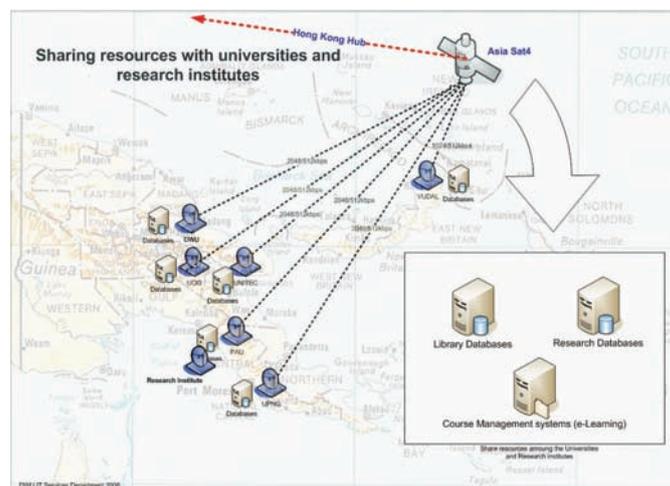
THE SOLUTION

PNGARNET deployed a satellite based system with a hub in Hong Kong and gateways in each university or research facility. The system is supported by an extensive program of training and skill acquisition in each university. PNGARNET owns the hub equipment and contracts external expertise as required. The Universities own the equipment installed on their sites.

The design of the solution, detailed network architecture and implementation was provided by Oceanic Broadband, a leading local integrator and solutions provider and a UDcast partner. Oceanic Broadband operates the service through its private iDirect hub and leases the transponder capacity on the Asiasat 4 satellite. The system uses C-band which is the most suitable and reliable in the tropical environment. Each university is equipped with its own VSAT antennas, iDirect CPEs and UDgateways. The UDgateways are coupled to each terminal and provide data transfer acceleration, cashing, SMTP relay, routing, IPsec encryption for secure Virtual Provide Networks and QoS management. The initial phase has seen the deployment of 21 sites from the different universities. Additional sites are planned for a roll-out in the second phase of the project.

WHY UDCAST?

UDcast's solution was selected for its proven high efficiency in office-to-office VPN configurations. UDgateways enable business grade VSAT technology to be coupled with high performance private networking and quality of service management. Tony Waters, Director of Oceanic Broadband, says that "UDcast technology has been proved in Europe to be secure and optimised for VSAT, ensuring high throughput capability over the VPN tunnel. Our customer in PNG additionally liked the features of the UDgateway appliance such as Caching and SMTP Relay to speed up their WAN access for the 300 to 600 student PC users per University. "

UDCAST

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