

COMMUNICATIONS DAY

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What's happening today in telecom business, policy & technology

ISSUE PTC1

Voice market now 'zero sum game', says TeleGeography

Despite the continuing growth of international voice traffic that market is now a "zero-sum game" according to Stephan Beckert, vice president, strategy at TeleGeography.

According to Beckert, wholesale traffic into the top ten destinations in terms of wholesale revenue in 2009 grew by 6 billion minutes, but that growth was accompanied by a US\$600-million drop in revenue.

"So a huge increase in traffic and a huge decline in revenue," he said. "Much of that is driven by two countries, Mexico and India. In India we saw an absolute collapse in wholesale prices despite an increase in traffic. In Mexico, we saw a decline in wholesale prices but also a decline in traffic volume, which resulted in a significant drop in wholesale revenue."

Overall, 2009 represented a negative inflection point for the wholesale voice business. While wholesale voice revenues have been growing at 7% to 10% up until 2009, with traffic growth outpacing what he called a "fairly modest decline" in wholesale pricing, that is no longer the case.

"That changed in 2009," he said. "We saw growth decelerate and we saw an uptake in the rate of price decline. And in 2009, wholesale revenue, by our estimated, wholesale revenue declined by about 3% globally."

Part of the reason for the decline is the global recession that hit key markets such as the US, he explained. Citing a decline in foreign remittances from the US to Latin America, Beckert noted that the collapse of the US housing market in 2009 can be linked to the decline of voice revenue between those two markets as foreign workers in the US no longer have the means to call home.

At the same time, the impact of computer telephony such as Skype is now having a significant impact on the wholesale voice market. Beckert estimated that in 2010, Skype added a total of 45 billion cross border Skype to Skype minutes, which equalled more than twice the international minutes added by all the international carriers combined.

"What we are seeing is that demand for international communication hasn't declined - people still want to talk to each other, they just don't see why they need the help of the phone company," Beckert said. "I think it is not accurate to say that all Skype's traffic is a lost to carriers, clearly it is not because it generates genuine new traffic that would not have taken place otherwise. But it's hard to imagine that Skype is not taking some business away from carriers."

Concluding his presentation, Beckert said: "Traffic growth is still happening, we are still seeing an increase in international traffic volumes, just not at the pace that we've seen in the past. Certainly, the international long distance market is not going to disappear, it is not going to go away any time soon. The international carrier is not going away any time soon."

At the same time, price declines are often the result of cost reductions by carriers, so they should be able to maintain margins, he added.

"The bad news is that there is a lot of competition and new competition as well. I mentioned Skype, but Skype is not the only company offering international computer-based voice services. Taken collectively, these companies will have a very significant impact on the international voice market," he said.

"In summary, while the business is not falling, we are seeing increasingly that international voice has become something of a zero sum game, where the only way a carrier can grow is at the expense of another



carrier. So in the coming years, we are going to see continual challenges and I don't see any way around consolidation in this business.”

Tony Chan

No capacity shortage in sight for international bandwidth

The international bandwidth market continues to grow in excess of 50% per year, but the available capacity on the global subsea cable infrastructure is more than keeping pace with the emergence of new transport technologies, says Tim Stronge, vice president, research at TeleGeography.

“You would think that the percentage of lit capacity would be going up over time, and if the potential capacity were a fixed amount, that would be the case, and that was kind of how we were looking at the market three or four years ago,” he said. “But beginning in the past two years, people have been doing trials and now the potential capacity is far greater than what they thought. As a result, the percentage of lit capacity on the trans-Atlantic route and the route between the US and Latin America has actually been going down.”

His findings are more surprising given the fact that the two cited routes – trans-Atlantic and intra-Americas, are often cited as the two segments that are facing capacity shortages.

According to Stronge, only 16% of trans-Atlantic capacity and only 13% of US-Latin America capacity is currently lit. For routes between Europe-Egypt and between India to Singapore, only 18% of the capacity is now lit.

The only route that has large portion of lit capacity is the trans-Pacific, where his research shows 31% of the capacity already lit. However, he added that the trans-Pacific figure may not reflect the true situation as he is still in the process of upgrading the information from one trans-Pacific operator.

The bandwidth figures become even more significant when actual used capacity is entered into the equation.

For example, while 11Tbps is lit across the Pacific out of an estimated total potential capacity of 34Tbps, only 8Tbps is purchased, and only 3Tbps is actually being used – discounting restoration capacity, he highlighted in his presentation.



Tony Chan

Ka band opens door to market expansion for satellite operators, says industry panel

The advent of Ka band satellite's 100Gb+capabilities represents an opportunity for the sector to break the shackles of its perception as technology-of-last resort and dramatically increase its market universe, according to sectoral CEOs speaking at an industry panel at PTC'11.

ViaSat CEO Mark Dankberg said that the satellite industry has generally seen itself as special and oblivious to the trends of the mainstream telecom industry which has seen a rapid reduction in cost per bit. “We have gone for the market which will pay anything to get connected,” he observed.

But with Ka band promising an exponential increase in capabilities, he said the industry could now target a wider market. He pointed to the success of satellite TV in the United States as an example of what could now be applied to the Internet: of the 30m satellite TV households in the US, only 4-5m have no other choice of multichannel TV service.

Dankberg said an example of this paradigm shift came in the form of ViaSat's planned in-flight broadband service with US airline JetBlue, scheduled for deployment in 2012. “Ka broadband is so cheap that you can give it away,” Dankberg intimated, contrasting the planned service with today's in-flight satellite communications services which are expensive to use and max out quickly when actually

used.

Gilat Spacenet CEO Andreas Georghiou reinforced Dankberg's argument saying that the lines between satellite and telecoms services were now blurring as everything moved to IP. He said that two important trends for the satellite sector going forward were the proliferation of bandwidth-hungry mobile applications and the increased need for mobile communications for areas such as disaster recovery and emergency. A major opportunity lay in provision of satellite backhaul for cellular base stations, he pointed out, citing Northern Sky Research which forecasts exponential growth in this arena.

However, Georghiou said that despite the reliability and ubiquity advantages of satellite there was still considerable resistance to the platform from IT managers. "The satellite industry should embark on an education project for IT managers as they are woefully uneducated about satellite," he said.



ATCi CEO Gary Hatch weighed in with a left-field observation: that it was time for the satellite industry to get to grips with the rise of social media and what he termed the "attention economy" - and specifically, its insatiable need for data about how, when and who was using it. Pointing to such Internet economy requirements such as the need for locational information about Internet users so as to effectively target and serve advertisements, said there was a need for "everyone in our sector to look at how they empower the cloud." Along these lines, the Arizona-based ACTi recently launched Mesh TV, a provider of "end-to-end transmission via satellite and production services to the global broadcasting industry."

Riffing off the satellite industry's focus on market geographies, Hatch quipped that Facebook was now effectively the third largest country in the world.

Grahame Lynch in Honolulu

NewSat's Kenneally sees a sea-change for satellite

The advent of high-throughput satellites - Ka or Ku-band spacecraft using multiple spot beams to massively increase capacity and cut cost per bit - is set to shake up not only the satellite arena but also terrestrial broadband market, says Mike Kenneally.

But in his address at PTC'11 Kenneally, COO of NewSat's Jabiru project, also warned that it would take some time before satellite business models outside broadband were proven, with as much as a three-year lead time before the impact of HTS could be clearly evaluated.

"There are some really interesting things that are shaping what's happening in satellite broadband... and they are moving in a direction that in some areas is going to make satellite very competitive with terrestrial, and in some areas is going to shake out some very new business models for satellite services in general and broadband in particular," said Kenneally. "We're going through a period of innovation and speculative investment in the satellite industry, and all of it focused on a new technology area and a frequency band that traditionally hasn't been used for a lot of these markets."

Kenneally noted that while acquisitions and consolidation had left the post-GFC global satellite markets dominated by two major players, the onset of spot-beam technologies was opening up opportunities for new business models, new alliances and new entrants - or existing suppliers making the leap to provider status, such as Hughes and Viasat. But he said that the impact to the satellite sector was currently only really clear in a single area of the market.



"In the broadband area, it's quite clear that satellite - from being an expensive and sometimes unwieldy technology - is now adopting a telco model, and getting aggressive... as long as you've got a large subscriber base, you can come up with a low user entry cost and you can compete with a terrestrial service," he said. "[But] it's clear that the first dramatic impacts have only been in broadband access... the business models in [other] specific sectors won't really impact the market and won't be proven until three years from in-orbit testing... once the vehicle is in the air and it's being ramped up in terms of utilisation. That's when we'll know whether these business models are proven or not."

“It’s not clear how this sector is going to evolve in the business sense... for some of the areas that satellite is in – for example, backhaul and video distribution – there haven’t been a lot of inroads by Ka-band... the jury’s still out,” he continued. “In the meantime, the satellite industry is in a state of flux... [but] is in a very buoyant condition.”

Meanwhile, in its home turf of Australia, NewSat announced \$A2.8 million (US\$2.8m) worth of new contract wins including a \$2 million contract with Nixon Communications, providing services to four major camps along the new liquefied natural gas pipeline being built between Chinchilla and Gladstone in Queensland. \$800,000 of additional contract revenue will come from multiple Australian and international resource projects.

Petroc Wilton

Vodafone Fiji optimistic on money transfer prospects

Vodafone Fiji is confident it can enable a significant new revenue stream with its M-PAiSA money transfer service. CFO Divik Deo told a PTC’11 Pacific Islands telco session yesterday that the seven month old service has the capability of evolving beyond basic money remittance into a range of bill payment, casual wage payment, expense claim reimbursement, social welfare and micro health transactions.

According to Deo the service was adapted from a Kenyan offering and already boasts nearly 300,000 registered users from a total Fijian population base of 837,000 people. About 61% of Fijians lack bank accounts, exacerbated by the fact that half live in rural areas and often lack access to urban banking facilities. The service is offered in collaboration with ANZ Bank and uses the Fijian Post Office as a distribution network.

Deo explained some of the logistical issues in launching the service, specifically the need to secure photo identification of all its mobile customers. “This was a huge logistical nightmare involving time and effort,” Deo admitted, saying the problem was solved by hiring 300 casual employees deployed into the field with digital cameras and printers to each and every village where there were Vodafone customers. Vodafone also worked in close co-operation with financial regulators and the Fiji Reserve Bank to ensure regulatory acceptance of the service.

Interestingly, Vodafone decided not to implement the service via handset SIM cards—which would have required a complex replacement process— but via the USSD (Unstructured Supplementary Services Data) feature of the GSM protocol.

FTTH IN POLYNESIA: The Vodafone Fiji initiative was one of several up-beat presentations at yesterday’s session. OPT French Polynesia—one of the more affluent nations in the region— outlined a decidedly first-world corporate agenda for 2011: how to deal with new competition in voice and data, the need for 21st century spectrum regulation and, most interestingly, a plan to expand FTTH to 85% of homes in 7 years.

Chairman Moana Tatarata said that OPT had already commenced a trial of FTTH to around 2,000 homes in the nation, famed for its international tourism resorts at Tahiti and Bora Bora.

The initiative is backed by the new Honotua cable, launched late last year, which provides for 640Gb of capacity to Hawaii, of which just 14 is currently being used. Despite this plentiful capacity, OPT is already thinking about new cables, with Tatarata specifically name checking a potential Polynesia-New Caledonia link which could be used to provide a second path to the world via Australia.

“There are many cables in the north (Pacific) but not many in the south,” he observed, going on to speculate on how Pacific nations could benefit from acting as stopover points for potential new future routes such as Asia to South America.

However, providing connectivity to the remote Pacific still provides significant logistical challenges, according to Tonga Communications Corporation MD Timote Katoanga. He pointed to the difficulty of even getting network kit to remote islands which often lacked berths for large ships. Then there were the issues of powering networks. “We have to use solar, wind or field generation which is very costly,” he admitted. Likewise, maintenance and network support were difficult due to the issues of getting expertise on location. As Internet demand increases, backhaul was also becoming a major factor. “The most cost effective



tive medium is microwave, and then satellite and then cable but cable is overkill for small islands,” he said.

But the end result of connecting remote Pacific islands was worth it, he added, saying it helped stem the tide of economic migration and helped preserve communities.

Grahame Lynch

A fresh look at the datacentre: greener, smaller and solar-powered

The developing world could be the perfect testbed for a new breed of data centre, eschewing the Western ‘big box’ model in favour of multiple smaller facilities closer to endusers, with vastly reduced energy and heat profiles.

That was the message coming from a panel session at PTC’11, where speakers also suggested that solar energy could play a key role in powering these smaller-scale datacentres.

Laura Hosman, assistant professor of Social Science at the Illinois Institute of Technology, noted the ‘triple threat’ of increased energy consumption, energy costs, and carbon footprints, and applauded the rise of green datacentre initiatives in response. However, she cast most of these as ‘band aid’ solutions “because we’re still following the big box model; the focus remains on bigger, better, faster, now, always on – so they’re always generating heat, and they’re always operating at 100% capacity.”

Instead, Hosman called for a reconceptualisation of the data centre, favouring small installations centred on low-energy technologies and on-demand functionality. These, she suggested, could be launched initially in the developing world where the cost of power and IT resources was a critical obstacle – and where solar energy was easier to capture. “If we do this, then solar power becomes not only viable but actually an attractive option,” she said.

Green Wi-Fi CEO Bruce Baikie delved into the technical details of how this might be achieved. To reduce power demand, he suggested leveraging netbook tech like the Atom processor, and even servers based on the ARM processors used in smartphones. “We’ve seen a lot of work done... to take these low-power processors and actually do efficient processing in the data centre with them,” he said, adding that while lower-power processors were not as fast as their conventional equivalents, they would be able to keep up with most data centre loads because high-power processors were often limited in practice by slower memory or storage performance.

Baikie also said that cloud computing technology could be used to increase or decrease power dynamically with compute loads – or, conversely, move those loads around based on local power availability. “It’s cheaper to move data than it is electricity – so we can move [to and] from small metro cloud computing centres to larger public ones; we have efficiency of scale from that standpoint,” he said. And he noted increasing interest in the use of DC power in datacentres, meaning less energy wasted on transformations. “If we can go directly from solar, which is already DC, and reduce it down to say 40V at the server input, we save efficiency, we don’t have that extra heat to get rid of, and we have safer power distribution within the datacentre and a simpler architecture.”

“We think that we can actually build an 80 compute node green cloud computing centre and, with good power management, power that with about 30kW... we’d have very low heat output and, if we could run it at a higher ambient [temperature] and do just spot cooling, we can then eliminate probably 90% of the cooling needs we have in a traditional datacentre environment,” continued Baikie. “And we can build these very small compact compute centres close to the endusers in the metro areas without building the big box datacentres... to take advantage of current buildings and rooftops.”

While confident that this new model could also find traction in developed economies, the panel also agreed that public-private partnerships would be key in driving this kind of conceptual change. “I think



L to R: Laura Hosman, Arthur Garbiso, Bruce Baikie

it's a lot easier... in the developing world, because the need is there, and because [power and IT] costs are so prohibitive," said Garbiso Enterprises president Art Garbiso. "Until you incentivise going green... we'll just sit here talking." "It's very much a policy solution, in many ways," agreed Hosman.

Petroc Wilton

Neutral Tandem networks its Ethernet exchanges

Neutral Tandem is aiming to evolve the current Ethernet exchange market place by adding regional and global connectivity into its offerings.

Jeff Beer, regional vice president, sales at Neutral Tandem, says that the traditional model of Ethernet exchanges, which only provides interconnection services within strategic locations, is no longer enough as the market evolves globally.

While he affirms the benefits of Ethernet exchanges in solving some of the critical challenges of interconnecting Ethernet networks, Beer also highlighted the fact that "not all networks are in the same geographical region," hence the connectivity that links them together across dispersed regions is just as important as providing a platform for interconnection.

"We still thought that they [traditional Ethernet exchanges] were missing something," Beer said. "What we did is we connected our Ethernet exchanges together and we have developed the first networked Ethernet exchange. We believe this solves the problem that networks are dispersed – they are all over the world. And now we, especially with the addition of our Tinet asset, have over 100 PoPs in 22 countries around the world, and now we can pick somebody up from anywhere in those locations and connect them to a partner. For example, somebody can connect to us in Hong Kong and we can deliver them to Los Angeles."

For Neutral Tandem, Ethernet exchanges now come in three flavours. The first is a single location offering traditional cross connects between networks. While this can be very effective for hub sites such as 60 Hudson Street in New York, where carriers have access to the majority of other carriers, it doesn't work for locations with less dense penetration. A carrier in a market such as Charlotte, Carolina, where Neutral Tandem launched its latest exchange, can connect into an exchange, but they might have trouble finding a suitable partners in another metro market – Seattle for example.

According to Beer, what is needed is something Neutral Tandem calls an Extended X-Connect model, which means that Neutral Tandem will include the backhaul connectivity between its exchanges for carriers looking to reach markets outside its immediate geographical coverage.

"This is really the next evolution in provisioning Ethernet services," Beer said, explaining that a carrier can connect into its Charlotte exchange and they access a partner in Seattle through Neutral Tandem's networked exchange model.

To be fair, there is nothing stopping single site exchanges from having the same capability as long as there are operators inside the sites that can provide the backhaul. Carriers inside these traditional exchanges can presumably interconnect with a partner that has a network to reach the distant market. However, this either adds complexity, as the carrier will have to negotiate two different interconnection agreements – one with the backhaul provider and one with the local provider at the destination – or will be more costly when the backhaul provider also supplies the local access at the termination end, hence adding its own margin on the local access service.

Neutral Tandem's Extended X-Connect model eliminates the need for such carriers to negotiate its own backhaul interconnect, allowing relatively seamless access to distant markets.

Beer added that Neutral Tandem aims to go a step further and provide a one-stop shop solution where such carriers will have to interconnect into its exchange and Neutral Tandem will provide the backhaul as well as the local access at the other end through its own interconnection.

Neutral Tandem's model certainly blurs the line between an exchange and the exchange as a carrier, but Beer argues that it is a matter of providing choice for its customers. Carriers, he added, can come to Neutral Tandem and select the best model that matches their needs.

Tony Chan

IN OTHER NEWS

NBN Co awards \$1.6 billion in contracts for fibre, passive network gear

Australia's NBN Co has announced A\$1.6 billion (US\$1.6 billion) worth of contracts over five years to three companies for the supply of fibre and associated passive network equipment. The deals will see all three companies – Corning, Prysmian and Warren & Brown Technologies – boost their Australian presence and manufacturing capability.

The largest contract was awarded to global fibre manufacturer Corning, which will supply up to \$1.2 billion worth of equipment over five years, with an initial purchase order of \$400 million. The deal will see Corning transfer the manufacture of ribbon cable to Australia in 2012.

Corning will also expand its cable sheathing operations as part of a commitment to manufacture a high proportion of its fibre optic cable for NBN Co in Australia, localise the manufacture of fibre distribution hubs and has committed to a recruitment and training program to ramp-up its Australian operations.

Warren & Brown Technologies is the only Australian firm to obtain one of the three contracts. It was awarded an equipment contract worth up to \$110 million over five years to provide optical distribution frames and sub-racks that will connect NBN Co's equipment to external cabling.

A third contract worth \$300 million over five years went to Italian-headquartered Prysmian, which will provide the underground cabling for the project. It received an initial purchase order of \$150 million.

Prysmian will invest in additional cable plant and equipment to manufacture cable locally and expand its cable sheathing operations as part of a commitment to source approximately 80 per cent of the value of its contract with NBN Co in Australia.

Speaking at a media event at Warren & Brown Technologies's manufacturing facility in Melbourne, NBN Co CEO Mike Quigley said that the contracts would create more than 400 new jobs and lead to \$45 million in new investments from the three companies. He also said that increased manufacturing in Australia had been part of the criteria in selecting vendors.

"It wouldn't be possible to fill the needs that NBN Co have . . . unless you really do have a substantial amount of on the ground expertise and manufacturing," Quigley stated.

Australian Innovation Minister Kim Carr also welcomed the manufacturing expansion, suggesting it was a good example of government procurement being used to help Australian industry.

"These companies have a significant global reputation for excellence with a demonstrable commitment to local manufacturing and skills development. All have strong local presences ensuring we will have supply chain opportunities to other businesses," Senator Carr said in an opening address to announce the contracts.

"This is a very good example of where government procurement can play a critical role in our innovation strategies. It's not just a question of government procurement though, we also apply the same principles in the private sector – we try to encourage large-scale projects of all descriptions to facilitate the growth and opportunities for Australian industry," he added.

Warren & Brown MD Neil Domelow said it was a "great day for Australian manufacturing, particularly SMEs" and noted that the company was stronger now than a few years back.

"It was very difficult three years back, when the world economy was heading down," he said, noting that at the time it had still gone ahead with a \$5 million upgrade of its facilities. "Winning this contract proves that our belief in the future of telecommunications fibre technology was justified," he added.

Geoff Long

Floods not expected to dampen NBN rollout schedule: Quigley

NBN Co CEO Mike Quigley doesn't expect the recent floods across much of Australia to slow down the

rollout of the national broadband network. He also suggested that the company would cope with stronger demand for labour caused by the infrastructure rebuilding that will be taking place.

Speaking during a media event in Melbourne yesterday, Quigley said that while the heavy rains of late had affected construction at some sites, this would not alter the rollout schedule. "In terms of the time-frame we don't expect much of an impact," he said.

"Clearly we've had some water and rain affected construction right across the country. I've been asked whether it will change the design, but the only thing we're doing is probably emphasising that the box that goes inside people's homes, we may try to convince them to put the box a little higher," Quigley said.

He also recognised that there would be greater competition for skills, particularly in Queensland where much rebuilding of infrastructure will be needed.

"Clearly we'd be fooling ourselves if we didn't think the rebuilding exercise was not going to have an impact on the labour market but we will take that as it comes. We will obviously do all we can to ensure we keep going at the pace we have committed to the government, our shareholder," he said.

Geoff Long

Rival's use of Telecom NZ customer database potentially fraud

A marketing company working for Slingshot has been accused of tapping in to Telecom NZ's customer database according to a report in The Herald on Sunday. Workers selling Slingshot products may have had access to the details of more than two million Telecom NZ customer accounts.

In the report David Fisher, a Herald on Sunday journalist, said he accessed Telecom NZ's Wireline database using login details supplied by Power Marketing Limited.

Fisher spoke to former employees of the company - used by Slingshot to recruit new customers - who said this was common practice even though they knew they were not allowed to use the information.

In a statement posted on the Telecom NZ web site retail chief executive Alan Gourdie said the login in question was immediately deactivated when the company heard about the accusations on Friday.

Gourdie said: "If it is confirmed that an organisation or person has been fraudulently using login details to access unauthorised customer information, we will take all appropriate steps to pursue this matter." Slingshot has long been regarded as one of the most aggressive telemarketing companies in New Zealand and has long been a target of consumer bodies and journalists. TVNZ's Fair Go show investigated the company in 2009 following a series of customer complaints and in December Tuanz wrote to communications minister Steven Joyce saying the organisation had been fielding calls from disgruntled Slingshot customers.



Bill Bennett

PRIMUS, ARBINET ANNOUNCE STOCKHOLDER MEETINGS

Primus and Arbinet said that their respective boards of directors have scheduled special meetings of their respective stockholders for Friday, February 25, 2011 to vote on the proposed merger transaction announced by the companies on November 11, 2010. The companies currently expect the proposed merger transaction to be completed by the end of February 2011, subject to stockholder approvals and the satisfaction of all other closing conditions contained in the merger agreement.

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2011 events from CommsDay

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COMMSDAY SUMMIT 2011: Four Seasons Hotel, Sydney on 29/30 March 2011

Confirmed speakers include: Telstra CEO David Thodey, ACMA chair Chris Chapman, Optus wholesale MD Vicki Brady, Macquarie Telecom CEO David Tudehope, Internode CEO Simon Hackett, shadow communications minister Malcolm Turnbull, Comms Alliance CEO John Stanton, Allegro CEO David Waldie, TIO Simon Cohen + more

AUSTRALASIAN SATELLITE FORUM, Four Seasons Hotel, Sydney, 30 March 2011

ASIA SATELLITE BACKHAUL FORUM, M Hotel, Singapore, 1 March 2011

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