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AGRICULTURE: New survey maps Australian ICT usage

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What it means when
86% of NBN customers
account for 50% use

COMMUNICATIONS DAY

2 November 2018

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ISSUE 5750

Bevan Slattery slams ACCC for lack of action on peering 'cartel'

Superloop executive director Bevan Slattery has sounded off against the Australian Competition and Consumer Commission for its decision to preserve the status quo on internet peering practices in Australia. **EXCLUSIVE**

In a decision announced last month, the ACCC said it saw no need to regulate peering in Australia, which effectively sees Telstra, Optus and TPG exchange internet traffic with each other but charge access for others to interconnect with them.

The regulator said it would keep a watching brief over peering while welcoming the decision by the big three to publish their access criteria as well as Telstra's decision to peer with Vocus.

But in an email sent yesterday to six senior ACCC managers including Michael Cosgrave sighted by CommsDay, Slattery said "you've blessed a cartel to continue to charge cartel prices and put everyone else behind the eight ball. Your position is that you want to keep the status quo that has provided Australia with the highest internet wholesale pricing for the past 20 years in the hope that they will change."

Slattery went on to say that "domestic traffic costs the same as international as it has been for 20 years and you're fine with that. Seriously? So when someone invests international capacity to Australia they have one hand behind their back in trying to compete."

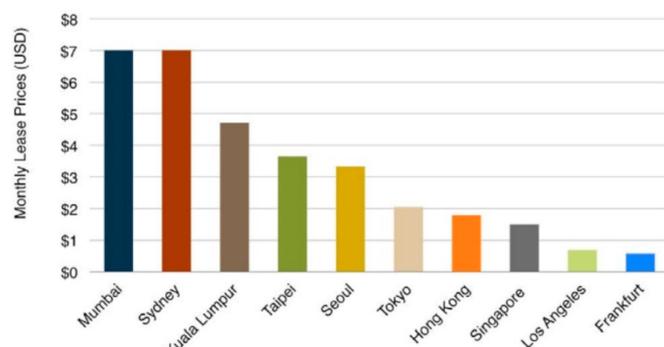
"Australian consumers have the most expensive broadband in the G20 and this is entirely due to the ACCC not understanding our industry and approving monopolies and oligopolies," Slattery added.

Slattery says that a recent Telegeography survey found Sydney to be equal most expensive in the world for IP transit with Mumbai in India. Sydney was between three and ten times more expensive than hubs such as Los Angeles, Hong Kong and Singapore.

BLESSED AN OLIGOPOLY? Slattery

told the ACCC "I have submitted to each of you evidence that the domestic IP price is 10x the cost of domestic transmission and now more expensive than international.

Broad variance among cities..
Weighted Media 10 GigE IP Transit Prices in Selected Cities, Q4 2017



Source: Telegeography.com

You have now made it impossible for anyone to compete effectively, because unless you can peer, you cannot buy domestic-only IP for anything that is close to a cost basis. You buy on a basis in which everyone in your newly blessed oligopoly have agreed to lift pricing to international blended rates.”

“As an IP wholesaler, we have to sell domestic IP at or slightly above cost so we can look to make margin on international IP connectivity. Twenty years and three reviews and you’ve not changed a single thing. Twenty years and Australia still has some of the highest transit pricing in the world.”

Slattery also argues that Australia’s high domestic transit pricing will prevent the nation from fully capitalising on the explosion of new international cable capacity coming into the country, from entrants such as Google’s JGA Cable, Tasman Global Access, Hawaiki and Indigo.

REVIEW OF PEERING: The ACCC decided to revisit the peering question in its 2017-8 Communications Sector Market Study, released in April this year.

At the time it suggested “Telstra, TPG, Optus and Verizon collectively appear relatively unconstrained in determining their price level and structure in the supply of transit services and appear to enjoy a degree of market power in relation to access to their networks. Australia’s geographic isolation, which makes international transit an inferior substitute, is likely to be one reason for this.” Vodafone, Vocus, Macquarie Telecom and MNF were all said by the ACCC to have expressed concerns over the peering arrangements.

But in its final decision not to regulate last month the ACCC said “We have not identified any clear evidence of anticompetitive conduct by Optus, Telstra or TPG in the supply of internet interconnection services.” It argued that with those large operators now publishing their peering criteria, more time was needed to see how this would play out in the market, citing Vocus’ new peering agreement with Telstra.

Grahame Lynch

What Bevan Slattery proposes to reform peering oligopoly

Superloop executive director Bevan Slattery proposes a relatively simple fix to what he sees as the “cartel” problem in Australian internet peering which he says addresses not just a cost issue but a national security challenge.

Slattery says that because Telstra, Optus and TPG place a relatively high cost impost on interconnection in global terms, Australia’s internet is not as resilient as it should be, especially in the instance of a natural disaster or a mass Distributed Denial of Service Attack.

He suggests a new regulatory definition of a “Nationally Significant Network” which would capture networks with a national network backbone reaching all state capital cities, at least 100Gb of capacity, diverse POPs, 100Gbps minimum international capacity with diverse destinations such as Asia and North America plus DDoS protection at international gateways. This would differ from current peering offers which, as their core proposition, usually require a balance of exchanged traffic, usually within a range of 25% to 50% or thereabouts. Designated national significant networks would be required to peer with each other.



Slattery believes that at least six operators would qualify as significant networks under his suggested criteria, namely Telstra, Optus, TPG, Vocus, Vodafone and Superloop.

He says that “Australia to date has unfortunately missed a great opportunity to be an internet hub for Asia in the manner of Singapore and Hong Kong, however with the latest round of submarine cables about to land in Australia there is an opportunity for Australia to be competitive both domestically and internationally.”

He says his idea “encourages investment in telecommunications infrastructure both domestically and internationally which is made on the basis of servicing wholesale customers (RSPs) and retail customers (corporate and residential).”

NATSEC DIMENSION: But by mandating relatively generous interconnect capacities, he also argues his concept provides a national security benefit.

“Interconnection between NSNs should happen with ports/interconnects that have scale to avoid congestion during burst events and be offloaded as locally as possible, as fast as possible, hence interconnection should ideally be at 100G and in each of the five major states and capital city. This fundamentally improves resiliency during attacks where 10G ports could become congested,” he argues.

“The more NSNs that meet this benchmark, the greater the resiliency of the nation’s telecommunications infrastructure and the greater emphasis and optionality on service. Without a fully competitive interconnection environment pushing pricing lower compared to peer countries within our region, less content will be stored, processed and transmitted in Australia,” he says.

Grahame Lynch

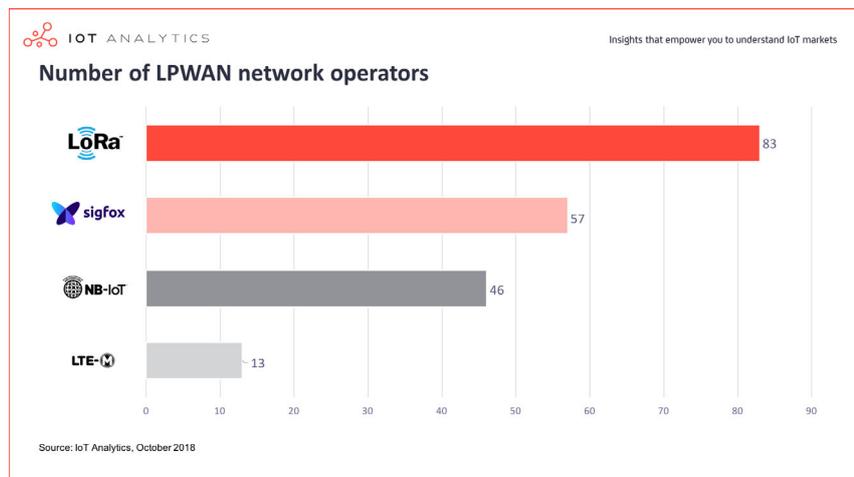
LoRaWAN winning the IoT standards network share race

Leading LoRaWAN IoT exponent NNN Co has lauded a new international study which shows the platform is winning the network share race against three competing standards: SigFox, NB-IoT and LTE-M.

The study by IoT Analytics into Low-Power Wide-Area Networks showed that LoRaWAN is now employed by 83 operators globally. SigFox is used in 57, NB-IoT in 46 and LTE-M in just 13.

NNN Co, which has developed IoT networks across Australia, lauded the findings. CEO Rob Zagarella told CommsDay that “LoRaWAN is winning because of its open nature and flexible network architecture.”

This is driving next generation telcos like NNNCo which co-invest with industry to deploy the right mix of public and private infrastructure to serve their specific needs within a national and global roaming-based network ecosystem, he added. “This model is driving the next stage of growth in IoT - the enterprise and industrial markets. Supporting that growth will be



the data layer infrastructure that simplifies how data is ingested and managed by multiple enterprise markets. NNNCo is building this data layer infrastructure with major local government and industry traction via its N2N-DL platfor,” he said.

The study said that if it also counted the open-source community of the Things Network and a few other entities that have deployed private LoRaWAN networks, the number of countries with LoRaWAN deployments grows from 49 to 95.

“Some of these operators are new companies that were formed specifically to be a LoRaWAN operator, but there are also many players coming from other IoT or telecom related businesses, such as wired broadband internet and telephony providers, radio and television broadcasters, as well as providers of various other telecommunication services and IoT end-to-end solutions,” IoT Analytics concluded.

“LoRa operator examples include ZTE, Tata Communications, Orange, and KPN. Overall, the range of LoRaWAN operators is the most heterogenous when compared to other LPWAN technologies.”

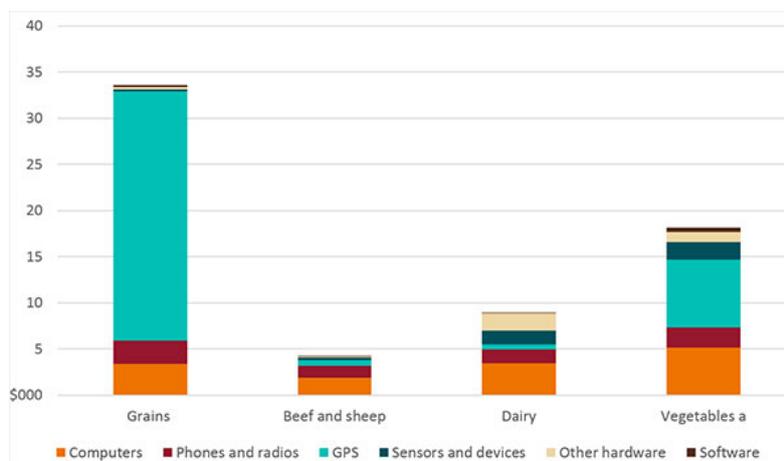
Grahame Lynch

How internet affects agriculture’s use of ICT

The cost, quality and availability of internet service have been identified as major factors affecting the take-up of technology on Australian farms, according to a new study by the Federal Department of Agriculture.

The study, by the department’s Australian Bureau of Agricultural and Resource Economics and Sciences division, ABERES, found that farmers reported that access to appropriate internet services ranked just behind the availability of skills as the main reason for their inability to adopt new ICT tools for farm management.

ICT adoption has clearly started to move closer to the centre of the department’s concerns for the future of the Australian agriculture sector. ABERES executive director Steve Hatfield-Dodds said: “It is evident that new equipment and the data it generates are changing how farms are managed. New ICT will be fundamental to the next wave of productivity growth in Australian agriculture. The use of digital agriculture in Australia has the potential to increase productivity through optimising input use, more timely decision-making, labour savings, and improved market access”.



Replacement value of ICT assets held, average per farm, by industry, 2016-17

CHALLENGES IN TELECOMS: At the same time, the department’s report sends a clear message that farmers are facing challenges getting the support that they need from the telecommunications sector.

A third of farmers reported that internet access was their main impediment to spe-

cialist ICT agriculture adoption with the problem being most pronounced among those reliant on mobile and satellite internet services. Farmers among that group said that mobile or satellite was in the mix of connection types they used in around 40% of cases. Fixed wireless was among the connection types used in about 27% of cases, and a combination of ADSL and other types was in use in about 50% of cases.

Notably, in 30% of cases farmers reported having no internet connection type at all, however, for context, the same study also found that 95% of farms have some form of internet connection.

The study found that 50% of farmers reported some form of business impediment arising from mobile or internet coverage, with the former being the most commonly reported issue (45% of cases) while internet access at the farms primary business or residential location much lower (34% of farms).

In the same report, the department said that farmers reported in 2016-17 that non-mobile internet coverage was adequate for their needs 54% of the time and that 43% of their properties were covered by some sort of mobile or wireless data network.

Farmers' primary concern about internet connectivity was speed and reliability with cost being the next biggest concern.

The department's report also provided a detailed breakdown of farmers' concerns with individual internet connection types. For instance, in the case of speed mobile and satellite were again standout underperformers with farmers' dissatisfaction with each hovering around 60%. Dissatisfaction with ADSL was also high at around 50%.

Dissatisfaction with cost and reliability of internet access was also highest for mobile and satellite. Nearly 50% of farmers were dissatisfied with the former's reliability and close to 40% with its cost. Cost was less of an issue for satellite (about 27% dissatisfaction) but concerns about its reliability were higher at over 40% dissatisfaction.

To put the entire report in context, however, it's worth noting that on average the value of ICT assets across broadacre, dairy and vegetable farms only accounted for 2.6% of plant and equipment capital in 2016-17 which was only around 0.2 per cent of all capital including land.

Andrew Colley

MNF launches Business Continuity product

MyNetPhone's business division has started its bid to deepen its share of the small and medium-size business market with an automated 4G/3G-based voice and data back-up offering.

Names "Business Continuity", the offering comprises a router with a pre-loaded MNF SIM card that reverts to 4G mobile broadband the instant that internet connectivity is lost in order to ensure business continuity. MNF said that the router supports DSL, Ethernet and NBN internet services.

MyNetPhone's newly-appointed Business and Channel Partners GM, Lee Atkinson, said that the service was particularly aimed at businesses that are sensitive to reputational damage.

"It is not just emails that are affected by internet downtime. Voice calls, payment facilities and access to Cloud-based applications and storage is at risk. Any downtime has a huge and lasting impact on a business's bottom line and reputation with clients," Atkinson said.

Businesses have the option to choose a monthly included quota between 5GB and 40GB for their 4G/3G back-up service based on the size of their operation and the frequency of dropouts they experience. Additional capacity is charged at \$10 per 1GB.

The system falls back to Telstra's 3G and 4G mobile network and the company said that the cut-over service would be able to support its virtual PBX phone system.

MNF said that it had more plans to increase share in the SMB space in the pipeline. Atkinson was appointed to his newly created role early last month in what the company said was a new focus on the SME market.

Andrew Colley

ACMA stops the illegal totes

The Australian Communications and Media Authority has cracked down on illegal offshore gambling operators, forcing 33 sites to withdraw from the Australian market after a 12-month targeted project to implement a new ban.

In September 2017 the Interactive Gambling Act 2001 was amended to "combat illegal offshore gambling through stronger enforcement and disruption measures." The amendments enabled the ACMA to enforce prohibitions on providing or advertising illegal interactive gambling services, enforce new deterrent and disruption tools and raise awareness of Australian gambling laws.

Between 13 September 2017 and 13 September 2018, the ACMA established an 'Interactive Gambling Taskforce, engaged with influential players in the offshore gambling industry to raise awareness of the changes to the Australian interactive gambling laws and "established key relationships with international gambling regulators" who worked with operators licensed in their jurisdiction on behalf of the ACMA.

Over the 12-month period, the ACMA dealt with 237 complaints and enquiries, 62 investigations concluded, 38 investigations with breach findings of which 68% who are now compliant and coerced 33 sites to withdraw service from Australia.

In future, the ACMA will continue to focus on enforcing the act to non-compliant services, deepen its engagement with overseas regulators, disrupt advertising and promotional activities by illegal offshore gambling services and monitor the Australian wagering industry.

"We've made it clear that Australia's laws are unambiguous," said ACMA chair Nerida O'Loughlin. "If you provide prohibited or unlicensed gambling services to customers in Australia, you are breaching Australian law and we will take enforcement action."

"We've received valuable support from overseas gambling regulators and third parties such as software providers and payment processors to change behaviour in the offshore gambling market, she continued. "We expect the combination of clearer laws, an active regulator and stronger enforcement measures to continue to disrupt the provision of illegal interactive gambling services to Australians."

Persons who are found breaching the act could face up to \$1.6 million in penalties and nearly \$8 million for a body corporate.

Jessica Taulaga

MEF to introduce SD-WAN service specification

The Metro Ethernet Forum has announced the availability of an approved draft technical specification for MEF members that, for the first time in the industry, defines a software-defined wide area network service and its various attributes.

According to MEF, the MEF 3.0 SD-WAN Service Attributes and Service Definition standard has the “strong support” of its service provider and technology vendor members. MEF now plans to introduce a pilot version of the certification for SD-WAN services early next year, which will serve as a test for the set of attributes and their behaviours.

MEF added that it is currently on track for formal ratification and public release in the first quarter of 2019. Once ratified, the MEF SD-WAN specification will enable a wide range of ecosystem stakeholders to use the same terminology when buying, selling, assessing, deploying, and delivering SD-WAN services, MEF added.

“MEF’s groundbreaking work in standardising an SD-WAN service addresses one of the biggest obstacles impacting SD-WAN service market growth,” said MEF president Nan Chen. “In a recent joint MEF and Vertical Systems Group survey of service providers worldwide, nearly 80% of respondents identified the lack of an industry-standard service definition as a significant challenge for service providers to offer or migrate to SD-WAN services. MEF’s SD-WAN service standardisation will undoubtedly accelerate sales of SD-WAN products and services like MEF accomplished with Carrier Ethernet service standardisation.”

Further, MEF added that its work on SD-WAN is part of the MEF 3.0 Global Services Framework, which encompasses a complete family of dynamic Carrier Ethernet, IP, optical transport, SD-WAN, security and other virtualised services.

On the implementation side, MEF said its member companies are now working on multiple fronts, including the MEF 3.0 multi-vendor SD-WAN implementation project, as well as conducting several SD-WAN proof of concept demonstrations at the recent MEF 18 event in Los Angeles.

MEF’s SD-WAN initiative is backed by a number of major operators, including AT&T, CenturyLink, Colt, Comcast, Orange Business Services, PCCW Global, Telia, TELUS, Verizon and others. The initiative also has the backing of vendors, including Cisco Systems, Ericsson, Huawei, Nokia, VeloCloud (now part of VMware) and others.

Tony Chan

AAE-1 TO GET 200G UPGRADE

The consortium behind the Asia-Africa-Europe-1 cable has announced its intention to upgrade the system’s technology from 100G per wavelength to 200G. The upgrade comes 18 months after the cable entered commercial service. The AAE-1 cable connects Asia, the Middle East, East Africa and Europe. The consortium counts 19 global service providers as members.

SPARK’S NEW HSBC FACILITY

Spark’s finance unit established a new NZ\$100m committed revolving facility with HSBC which will mature in three years. It replaced a similar facility which expired this week.



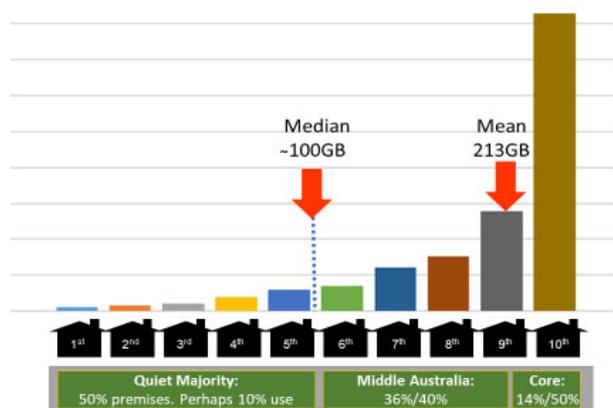
Why little users are big for NBN

NBN Co's Ray Owen revealed at Broadband World Forum last week that it has some prodigious users – just 14% generate half its total demand. One percent consume over 1 terabyte per month - with one reaching 24TB.

Look at the big end and you might think NBN looks invulnerable – at least for now. The 14% above the mean usage of 213Gb/m will be the “rusted on” users of the NBN and they may not consider wireless alternatives until dense small cell 5G networks become available – perhaps not for many years. Even then, modelling from Ericsson suggests about 5TB/premise/month might be the upper limit that is targeted by 5G – so at least one customer will remain on the NBN.

LONG TAIL OF LITTLE USAGE: We can estimate the overall distribution by combining the data provided by NBN with the characteristic shape of fixed broadband usage distributions. We now know that the top 14% of premises drive half the actual gigabyte usage - the “Core” NBN users. The next 36% of premises down to the median could be called “Middle Australia” and are likely to use about 100-213GB, the remaining 50% of premises are the “Quiet Majority”. They consume up to about 100Gb and may contribute as little as 10% of the total usage.

2018 Estimate of NBN Usage Profile



The cellular operators will see the long tail of smaller users as the big opportunity for the next few years.

The Optus Wireless Home Broadband plan today delivers 200GB per month for \$70, though only at speeds of up to 12mbps. Want full speed? Ovo provides 250Gb on the Optus network for \$99.95. You can't quite get all three of high speed, affordability and enough usage to address the bottom 86% in 2018. Another 50% to 100% improvement is needed and that will take a year or two at current growth rates.

But isn't fixed usage growing fast? NBN advised at the same event that NBN usage had grown “over seven-fold in the 2012-2018 period” (38% PA). This looks to be slowing. The 2019 plan recorded just 30% growth in the previous year with just 20-30% PA expected to 2025.

WIRELESS CAPACITY IS OVERTAKING FIXED USAGE: Telstra's mobile capacity has been growing 55% PA (“9 fold in 5 years”). Other operators will be similar. The capacity of Australia's mobile networks is growing at least 40% faster than fixed usage – and perhaps twice as fast.

Actual wireless speeds passed fixed speeds in Australia in 2015 after starting from 1/3 as fast in 2009, when NBN was announced. Wireless is now 65% faster according to Ookla. The arrival of 5G and new spectrum will provide the gigabyte capacity to address ever more of the bottom 86% from 2020.

How will wireless compete with fixed from 2020 to 2030? Wireless might simply

compete head-to-head with NBN offers in the window advertisements of operators. Or the operators, who are NBN's primary channel to market, might choose the battleground. What will they offer? To whom? Where? And when?

Telstra and Optus won't be in a rush while having PSAA (subscriber migration) payments at risk – it's truly serious money until about 2021. In typical cellular networks, 15% of cells carry 50% of the traffic during busy hour. Many cells are lightly loaded and provided for coverage rather than capacity. Operators can start targeting the light users in the lightly loaded 85% of cells. That's perhaps 70% of potential NBN users to get started with.

The NBN modems provided by operators often include a wireless SIM to smooth the connection experience and bridge network faults. The modem could provide a clear picture of available wireless connectivity and ready identification of the cells serving the customer.

TPG/VHA could identify who on their NBN services could be better served at a lower cost. Substitution will inevitably follow as operators seek better margins.

WHAT WILL THEY OFFER? Houses have needed water, gas, electricity, sewerage and communications. TransAct called its NBN proposal "The Fifth Pipe" in 2008 as it delivered the other 4 pipe utilities. It's ten years later and wireless broadband is cutting the umbilical cord. Broadband services aren't necessarily tied to a property.

When a 20-year-old animator of video games, who works from home, moves from the parental home into a flat in 2020, they might add a "home wireless broadband" service to their individual mobile account for a discount - as Verizon does today with its 5G service.

Wireless is preferred for its flexibility as the flat lease is only for 6 months. A legacy phone with a fixed line number might be connected to the provided modem in case grandma calls. On moving in with a partner in 2025, they might take their modem with them and upgrade to the "family broadband" service - add SIMs and identify a home location – perhaps by clicking on an app when there – to get discounted gigabytes for this zone. Home isn't a fixed address, but where the gigabytes are cheapest.

If grandma has died the fixed phone will likely have been left behind. Later in 2030, when they start using terabytes per month at a stable location, their operator advises that they will be linking the modem to the legacy fixed network as a temporary measure – just until the dense small cell network arrives. Such a family might not know they ever had an NBN service.

While the biggest users grab the headlines, it is the 86% whose usage is less than average who are immediately at risk of finding wireless a better alternative. The disappearance of these little users will have a very big impact on the NBN over the next 10 years.

The clouds are gathering today, but expect the perfect storm with 5G and the end of subscriber payments after 2020. Then expect generational change over the next 10 years. Fixed broadband may one day seem as quaint as the wired black telephone that sat on the "telephone table" in the hall of grandma's house.

Bob James

OVERNIGHT TELECOM STOCK PRICES (ASX)

Companies	Code	Last	\$ +/-	Bid	Offer	Open	High	Low	Volume
Telstra	TLS	3.020 ▼	-0.060	3.020	3.030	3.040	3.050	3.010	29,975,629
TPG	TPM	7.230 ▲	0.060	7.200	7.230	7.200	7.240	7.020	1,773,164
Vocus	VOC	3.270 ▼	-0.160	3.260	3.270	3.340	3.350	3.230	4,218,717
Spark	SPK	3.690 ▲	0.030	3.690	3.700	3.660	3.690	3.640	975,170
Chorus	CNU	4.390	0.000	4.380	4.390	4.330	4.390	4.300	370,817
Hutchison Australia	HTA	0.105	0.000	0.105	0.110	0.105	0.110	0.100	180,999
Amaysim	AYS	1.125 ▼	-0.015	1.115	1.130	1.140	1.140	1.100	60,497
Macquarie Telecom	MAQ	21.590 ▲	0.190	21.000	21.900	21.500	21.600	21.500	90,830
MyNetFone Group	MNF	4.210 ▲	0.090	4.200	4.280	4.160	4.280	4.160	55,390
Megaport	MP1	3.320 ▲	0.040	3.320	3.360	3.320	3.440	3.300	118,584
Superloop	SLC	1.755 ▲	0.015	1.750	1.760	1.740	1.795	1.740	167,397
Over The Wire	OTW	4.880	0.000	4.830	4.880	4.880	4.880	4.880	25,682
Netcomm Wireless	NTC	0.690 ▲	0.025	0.670	0.700	0.670	0.690	0.665	193,272
Vita	VTG	0.995 ▼	-0.040	0.995	1.020	1.030	1.035	0.980	320,074
Inabox	IAB	0.710	0.000	0.705	0.725	0.000	0.000	0.000	0
Spirit Telecom	ST1	0.170 ▲	0.010	0.170	0.175	0.170	0.170	0.170	31,582
NextDC	NXT	6.140 ▲	0.270	6.130	6.140	5.940	6.320	5.920	2,006,733
Speedcast	SDA	3.760 ▲	0.160	3.760	3.770	3.630	3.770	3.625	1,521,896
5G Networks	5GN	0.445 ▲	0.020	0.425	0.450	0.425	0.445	0.415	34,278

2008: TEN YEARS AGO IN COMMSDAY

Telstra CTO Hugh Bradlow shed light on the firm's plans for LTE – revealing that he envisaged the future mobile technology working in tandem with Telstra's HSPA network platforms, rather than replace them... the receivers of defunct telco Commander Communications announced the sale of a slice of the firm's managed service holdings and expected the telecoms business and assets to follow... Netcomm stepped up its global expansion with a new international sales and marketing campaign.

About Communications Day (including the Line of NZ)

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