# COMMUNICATIONS DAY

# Mitch Fifield: the CommsDay interview



Federal communications minister Mitch Fifield has flatly ruled out any budget writeoff for the NBN despite growing industry concern around its capacity-based pricing, confident that the national network builder will ultimately find the right balance of maintaining its own rate of return without throttling retail customers.

Meanwhile, the minister is preparing to respond to a slew of key industry reviews – of the Australian Communications and Media Authority, the spectrum regulation framework, and the Universal Services Obligation amongst others – expecting to go public on at least two in the next couple of months.

**One Week to Go!!!**

# COMMSDAY
# MELBOURNE
# CONGRESS - 2016

## Tuesday 4 & Wednesday 5 October 2016
## Langham Hotel, Southbank, Melbourne

**FIRST TIME:** ACCC chairman Rod Sims

Regional comms minister Fiona Nash

Telstra group dir, corporate affairs Tony Warren

Shadow comms minister Michelle Rowland

Optus VP corp & regulatory affairs David Epstein

ACMA acting chair Richard Bean

Symbio Networks' CEO Rene Sugo

Comms Alliance's Christiane Gillespie-Jones

NBN chief engineering officer Peter Ryan

Vodafone Australia chief strategy officer Dan Lloyd

New Street Research's Ian Martin

ACCAN CEO Teresa Corbin

# COMMSDAY MELBOURNE CONGRESS - 2016

**Chair** Renee Bowker of TelcoTogether

**Day 1 Tuesday 4 October**

9.00    Australian Competition and Consumer Commission chairman Rod Sims
9.25    Symbio Networks CEO Rene Sugo
9.50    Telstra group director, corporate affairs Tony Warren
10.15   Cisco Head of Architecture, SP Cloud and Software Rada Stanic
10.40   Refreshment break

11.15   Macquarie Telecom national executive, industry & policy and OzHub chair Matt Healy
11.40   Equinix director Market Development, Asia Pacific Gareth Bridges on realising revenue growth with an Interconnection-First strategy'
12.05   New Street Research senior telecommunications analyst Ian Martin
12.30   Nokia Oceania head of mobile networks Mark Barnett

12.55   Lunch

## 2 NEXT GENERATION TELECOM STREAM
2.00    Ciena Senior Director, Blue Planet Division Abel Tong
2.20    TBA
2.40    Ericsson head of portfolio management, PA Cloud Systems Jonathon H. King on digital industrialisation and powering the network economy
3.00    FutureSumo's Skeeve Stevens
3.15    Mellanox ANZ country manager Sudarshan Ramachandra on 100GE and beyond
3.30    Break
4.00    **PANEL: HOW TELCOS CAN ENABLE THE INTERNET OF THINGS**

Telcos are an essential part of the IoT foodchain in terms of connectivity. But is existing fixed and mobile infrastructure fit for purpose or are new topologies combining current tech with dedicated platforms such as SigFox, LoRA and others necessary for IoT success? Does IoT offer sufficient economic incentive to encourage telco investment? How can telcos work with device, application and other providers to ensure IoT success? What legal and regulatory hurdles stand in the way? Panelists include Nokia Oceania CTO-Warren Lemmens, Cisco dir, engineering service provider, APJ Chia Tan, Optus Business IoT practice lead Anthony Stewart and KPMG national IoT leader Piers

Hogarth-Scott
5.00    Day 1 closing keynote: How To Save The NBN with iMediate Consulting's Robert James
5.30    Drinks
6.30    Close

**Day 2 Wednesday 5 October**

9.00    Federal minister for regional communications Fiona Nash
9.25    Shadow communications minister Michelle Rowland
9.50    Optus vice president corporate and regulatory affairs David Epstein
10.15   NBN chief engineering officer Peter Ryan
10.40   Refreshment break

11.15   Australian Communications and Media Authority acting chairman Richard Bean
11.40   Vodafone Australia chief strategy officer Dan Lloyd
12.05   Ruckus Wireless head of engineering, ANZ David White
12.30   Cyient Sr. Vice President - Communications BU & President – Asia-Pacific Sanjay Krishnaa
12.55   Lunch

## 2 REGULATORY AND POLICY STREAM
2.00    Australian Communications Consumer Action Network CEO Teresa Corbin
2.20    Coutts Communications managing director Professor Reg Coutts on USO reform
2.40    Comms Alliance director of program management Christiane Gillespie-Jones
3       Break

## 3.20   PANEL: GOING SUPERFAST AGAINST THE NBN
A number of telcos have decided to resist the "natural monopoly" of the NBN and offer high speed broadband over their own infrastructure. This panel looks at the various business models that may succeed against the NBN as well the regulatory settings that distort the playing field. What will the ACCC to change the superfast regulatory regime, if anything? And what can the NBN do to discourage competitive bypass and attract back custom from the renegades. Panellists include Thomson Geer's Tony Dooley, Opticomm's Phil Smith and dgTek's David Klizhov.

4.00 Close

With Fifield just having passed a year in the job, he sat down with CommsDay group editorial director Petroc Wilton to talk about everything from NBN's contentious connectivity virtual circuit charge to recent calls for government to support a fourth mobile operator.

*Communications Day: I know that the CVC is [going through] a continuous review process... and there are ideas to scale it down with usage, with number of connections etc. But the fundamental issue is that NBN has to get a certain quantum of revenue from the industry each year, and that has to keep going up because it has to keep making that commercial rate of return. Do you think that industry, ultimately, can bear the costs that NBN has to exact? Would you, at this stage, completely [rule out] the idea of going back and writing off a certain amount of NBN cost on the budget just to ease that top-down pressure on the industry?*

Mitch Fifield: That isn't in contemplation. It's a fairly modest rate of return NBN is seeking, 2.7-3.5% in the Corporate Plan. As I've said, I don't think the CVC arrangements have ever been set in stone; it's always been NBN's intention that they will come down over time. We already have industry-wide dimension-based arrangements in place, which was a reduction on what was before; NBN has added that it wants to start consulting with RSPs about moving to an RSP-specific discounting arrangement. And their intention is that will be in place in the second half of the financial year.

> *The key is for NBN and the RSPs to work together; I think NBN has demonstrated that it's prepared to do that.*

The key is for NBN and the RSPs to work together; I think NBN has demonstrated that it's prepared to do that, it continues to be prepared to do that, and I hope the RSPs are more comfortable after NBN has reiterated its willingness to continue to talk, and continue to refine the pricing arrangements.

*CD: We have now had [senior executives] from three of the Big Four fixed-line players talk, on some level, about problems with the CVC construct as it currently is: TPG CEO David Teoh, Vocus CEO Geoff Horth, David Epstein at Optus... are you concerned at the idea of industry feeling throttled in the NBN speed tiers that they can sell, because they can't afford to dimension enough capacity?*

MF: NBN wants to work with the RSPs; NBN wants to have a good takeup; NBN wants to have happy endusers, that is in its interests. It's a matter, as always, between wholesaler and retailers to find the balance.

*CD: What about alternate revenue sources....  for NBN to find some other way to mon-*

etise its existing assets, something like the Qantas in-flight Wi-Fi, or the mobile tower backhaul offering they were talking about? The instant NBN talks about any kind of off-mission operation like that, there are cries of mission creep... do you think that might be an option to ease the commercial pressures?

MF: I don't want to open up on a particular issue that's really a matter for NBN as a commercial entity; certainly, I recognise that the sensitivity in terms of what is the core business for NBN, and NBN moving beyond that. But I know NBN is always keen to look for what it can do, revenue that it can raise within its mandate.

*CD: On funding for the NBN; are you confident that once the government equity for NBN runs out, NBN will be able to secure the funding it needs from the debt markets? Have you had any conversations, or spoken to [NBN CEO] Bill Morrow about any conversations, with potential funders? What's the process if government needs to top up funding?*

*Interim support is something that could be looked at – but government hasn't addressed what that might be, if that circumstance arose*

MF: The expectation, per the 2016 Corporate Plan, is that NBN will seek to raise from external markets. Our equity is capped at A$29.5 billion, as you know. But as is set out in the Budget papers, if NBN was initially unable to raise, on acceptable terms, interim support is something that could be looked at – but government hasn't addressed what that might be, if that circumstance arose. Our expectation is as per the Corporate Plan.

*CD: When it does come to debt funding, it seems like you're taking a – well, not hands-off approach, but [leaving] the commercial aspects to NBN and Bill Morrow. Of course, you're a stakeholder minister. Is there any concern that, when it does go after debt funding, NBN might start to become independently minded, pursue its own financial agenda – perhaps at the expense of its original mission to get broadband to all Australians at a cheap price?*

MF: The Statement of Expectations ensures that NBN's strategic direction aligns with government objectives, and that's something that will continue even after the A$29.5 billion of equity has been provided.

*CD: How often do you talk to Bill Morrow?*

MF: At least every week – often several times a week!

CD: Let's get off the NBN. There are a few key comms policy areas that have dropped off the public radar during, and since, the election – though I know a lot of them you're still working on. Like the Australian Communications and Media Authority review – do you have a timeline for that?

MF: Our response to the review will be in the near future – it's relatively imminent.

CD: The Copyright Code – is that essentially dead now?

MF: Well, the two sides have essentially reached agreement on the structure of a Code, but they've got to have further discussions on the issue of funding arrangements… they've advised the ACMA that they will revisit it in 2017.

CD: Will you be actively pressing to make sure that happens, or is it fundamentally something for them?

On an NBN levy: "We've got more consultation to do; more thinking to do. But there'll be more to say on that later."

MF: It's fundamentally something for them to resolve.

CD: The NBN non-commercial services; the last thing on that was the second discussion paper from the Bureau of Communications Research. The idea of this industry-wide levy to fund NBN satellite and wireless; obviously there's been an interesting controversy there, with players like TPG saying it should be levied on wireless players as well as fixed… what's the state of that?

MF: We're still considering the work of the Bureau.

CD: Okay. But it's still the plan to deconstruct that original implicit NBN cross-subsidy and replace it with an overt levy model?

MF: We're still considering the Bureau's work.

CD: So are you 100% married to the levy idea, or is there literally everything to play for with that study still?

MF: We've got more consultation to do; more thinking to do. But there'll be more to say on that later.

CD: And radcomms [spectrum regulation] reform?

MF: The exposure draft will be available later this year; that's the game plan.

CD: Universal Services Obligation reform. That's currently sat with the Productivity Commission... which will report next year. It's notable that a lot of stakeholders, and notably the Shiff regional telecommunications review, have called for a complete rework of the USO... [but] as it currently stands, it does have that tie-in to NBN and the Telstra deal, via what used to be the Telecommunications Universal Service Management Agency. Obviously your response will depend on what the PC recommend – but would you be open to the idea of unpicking that TUSMA agreement, as complicated as it is, and inherently linked with the NBN deal?

MF: TUSMA is the vehicle that gives effect to the USO contract; that contract has a way to go, there's a review I think in 2020... but it'd be premature, before we have the work of the PC, for me to speculate on what future USO arrangements might be.

*I know the ACCC have in the front of their mind the importance of a regulatory environment that fosters investment.*

CD: Regulated domestic mobile roaming. Clearly it's excited some quite divisive industry debate; you've got TPG and Vodafone on one side, Optus and Telstra on the other side. I'm not asking you to pick sides, but what are your thoughts on the process in general, or the concept of regulated domestic roaming as a boost to competition?

MF: There are strong-held views on both sides of the debate amongst the telcos; it's important that I take the opportunity of the declaration study to make sure the arguments for and against are well-ventilated with the ACCC. I know the ACCC have in the front of their mind the importance of a regulatory environment that fosters investment; as the minister, obviously, I want a regulatory environment that fosters investment as well! But ultimately, this is a matter for the ACCC; they're independent, it's been a number of years since they've looked at this area, and I know they're keen to conclude their declaration study very quickly in the interests of certainty.

CD: In a similar vein... [TPG CEO] David Teoh has been urging government to encourage a fourth mobile player... [ACCC chair] Rod Sims has said that in principle, a fourth mobile player would be good for competition... in general terms, do you think a fourth mobile player would be good for the Australian market, could the Australian market support one?

MF: Ultimately, it's up to the commercial entities themselves as to what line of business they want to go into; we've never had a government policy that stipulates a certain number of mobile phone carriers. So I'll leave it to the telcos to determine the businesses that they themselves want to be in.

CD: *David was of course referring to the Singapore example, where you had the regulator offering spectrum at a 50% discount to new players.... is that something you'd consider, or would you leave it, again, to a policy that wouldn't mandate how many players you had in the market?*

MF: Yeah, again, I'm not looking to mandate a certain number of players in the market.

CD: *[Let's say] you've got your chance to start all over again. You're comms minister, Stephen Conroy was never minister, the NBN was never dreamed up; what would you do differently?*

MF: It's not any luxury incoming government ever has, to start with a clean sheet of paper; you've always got to start with that which you inherited, that which was left behind. So what government's got to do is deal with what's before it, and make the best of it. And as you know, there was a lot of work to be done to make the best of, and to turn things around with, the NBN in the state that we found it, that Malcolm Turnbull found it, with what was essentially a failed project – and [he] brought order to bear where there was chaos.

> *You seek to control what you can control, there's a lot beyond your control, so there's no point worrying about that*

CD: *Fair enough. And here we are now, you're a year into the gig – congratulations! – and the NBN is shaping up now, you can start to see its impact on the industry. What are the big issues keeping you awake at night, the big things in the policy space that really need urgent attention?*

MF: There's not a lot that keeps me awake at night! You seek to control what you can control, there's a lot beyond your control, so there's no point worrying about that. But obviously, making sure the NBN remains on track [and] achieves its ambitions, but achievable, rollout targets; that's something that's absolutely front of mind. And I do have to give a heck of a lot of credit, not just to Malcolm for the path that he set, but the board and management of NBN; who really, I think, effected one of the major corporate turnarounds in Australian history. It's going to be important in the short term to land the review of ACMA; to also land the spectrum radcomms legislation; to make

sure that we have that regulatory certainty, and the rules of the game, clear for the players in the sector. And in another part of the portfolio, obviously to get started with media reform, to address some of those glaringly out-of-date media laws preventing configurations for Australian businesses that best suit them.

<div align="right">Petroc Wilton</div>

# NBN ramps up FTTN activations to 60,000 per month in August

NBN is now activating on average around 40,000 FTTN premises per month, hitting a peak of almost 60,000 premises in August. The surge has seen it tally around 745,000 premises ready for service in its first 12 months after commercial launch of the FTTN product, with 235,000 of those premises activated.

NBN launched its first commercial FTTN services in Belmont, NSW, followed by Victoria, Queensland, South Australia, Western Australia and Tasmania. The figures also don't cover its FTTB deployment, which NBN said brings the ready-for-service numbers to a total of 854,000 premises across FTTN and FTTB combined.

In the most recent corporate plan, FTTx technologies could serve as many as 6.4 million premises, with some HFC areas now being considered for FTTN. This would represent up to 54% of all premises covered by the network.

NBN chief network engineering officer Peter Ryan said over the last three months the network builder has made more than 100,000 FTTN premises ready-for-service. "We are delighted with the progress that we have made in the first year of our FTTN deployment," he said.

"There is still a long way to go but our great first year with FTTN gives us confidence that we can complete our mission of connecting 8 million homes and businesses by 2020," Ryan added.

The progress was also welcomed by prime minister Malcolm Turnbull and communications minister Mitch Fifield. According to Fifield, nearly two thirds of all premises nationally are in the design phase, under construction or ready for service.

<div align="right">Geoff Long</div>

# Gov't looking to ease pit and pipe requirements in regional areas

The federal government has released draft legislation that would exempt some greenfields developments in rural and remote areas from the requirement to install fibre-ready pit and pipe. The legislation is aimed at developments that would generally be serviced by direct buried cable, wireless or satellite services that do not need pit and pipe infrastructure.

The Department of Communications and the Arts said the draft instrument was in response to concerns from stakeholders about the cost of providing fibre-ready pit and pipe in areas where it is unlikely to be used. It will also require developers to provide

written notice to the DOCA secretary of development projects for which an exemption is claimed. The legislation states that it does not cover developments that are already in a current or announced NBN fixed-line network rollout area. DOCA is now seeking comments on the draft exemption instrument, with the consultation closing on October 14.

*Geoff Long*

# Newcastle to get free Wi-Fi as part of A$17.8 million innovation funding

The Newcastle CBD will get free public Wi-Fi as part of a A $17.8 million innovation project announced by NSW premier Mike Baird. Funding will also be provided for smart parking and smart street lighting technology as part of the Hunter Innovation Project.

Baird said that the NSW Government would invest A$9.8 million, with a further $8 million coming from project partners Newcastle City Council, the University of Newcastle, Newcastle Now and Hunter DiGiT.

"The Hunter Innovation Project will provide a significant boost for Newcastle and capitalise on its strong education and research sectors, the region's highly skilled workforce and diverse range of industries," Baird said.

"We want to ensure we are doing all we can to attract and retain the best and brightest minds in Newcastle, which is why this investment is so crucial," he said, noting that the project also includes an innovation hub that will support technology focused industries, researchers and students.

NSW planning minister Rob Stokes said the announcement built on the NSW Government's support for the NeW Space city campus and its direction to allow Hunter Development Corporation to negotiate directly with the university on securing additional campus space in the city centre.

The Hunter Innovation Project funding comes from the Hunter Infrastructure and Investment Fund via Restart NSW. Projects were nominated through an expression of interest process conducted by the Hunter Development Corporation on behalf of the fund.

*Geoff Long*

# Cloud adoption booming in Australia: Cisco & IDC

Cloud adoption in Australia has increased 86% from last year, with 58% of companies now pursuing a hybrid cloud strategy, according to an IDC study sponsored by Cisco. The report suggested that on-premises private cloud spending would increase by 47% over the next two years.

But despite the growth many organisations still lack cloud maturity, according to IDC - which cited obstacles including skill gaps, legacy siloed organisation structures and IT-line of business misalignment.

Cisco ANZ cloud GM Rodney Hamill said that 42% of Australian organisations were missing a hybrid-cloud strategy, while 30% have an ad-hoc strategy and just 2% have an optimised cloud strategy.  "Australia is consistently referred to as an 'early adopter'; however, despite growing global adoption rates of cloud solutions, Australian organisations face substantive challenges in optimising their hybrid cloud strategy," Hamill said.

According to the report, hybrid cloud adoption varies by country, with Korea and Japan leading in the utilisation of a mix of public cloud service and dedicated assets. The two countries boasted adoption figures of 55% and 54% respectively, with Australia trailing a number of countries including China, the UK and the US with just 41% hybrid cloud adoption.

The Cisco-sponsored study, now in its second year, found that over 68% of organisations globally now leverage the cloud to drive greater business opportunities. This represents a 61% increase from 2015.

However, the results also demonstrate that most organisations (69%) lack mature cloud strategies. IDC found that mostly "cloud advanced" organisations see an average annual benefit, per cloud based application, of US$3 million in additional revenues and US$1 million in cost savings. Revenue increases are facilitated by sales of new products and services, attracting new customers faster, or the accelerated ability to sell into new markets.

The study also revealed that 95% of these leading organisations, with optimised cloud strategies, have built a hybrid IT environment using a combination of multiple private and public clouds based on economics, location and governance policies.

Geoff Long

## Optus Business: collaboration between startups & established firms key for innovation

Both startups and established businesses will benefit from collaborating to meet their respective innovation aspirations, according to new research from Optus Business.

The telco has just released a report, 'Smart Disruption: a perspective on innovation for Australian organisations' aimed to dispel the notion that 'digital native' companies founded in the digital age are smart and growing, while pre-digital established companies are not. Drawing on interviews with 25 C-level execs and other decision makers from both types of organisation, the report highlights the similarities and differences in how each approaches transformation – and a desire in both camps to form collaborative, mutually beneficial partnerships.

"We found that digital start-ups and established organisations can – and want - to learn from one another. These groups need to embrace a new mindset of collaboration and partnerships, where learnings are freely shared," commented Optus Business MD John Paitaridis. "Established organisations have the systems, processes and scale that start-ups need as they grow; while the culture, agility and energy of start-ups is what es-

tablished organisations are looking for to drive innovation.'

"Currently in Australia, only one in 20 start-ups succeed. Start-ups need support from industry – mentoring, advisory and access to markets - and established organisations that provide this support will benefit from access to innovative methodologies, agile ways of working and exposure to a digital-first mindset," he added. "What our research showed is that both types of organisations know this, they want to partner; they're just not sure how to go about it."

Petroc Wilton

# SpaceX planning for launch return in November

Satellite launch provider SpaceX says it could recommence its launch operations as early as November following investigations into the recent loss of one of its Falcon 9 rockets and its payload. Earlier this month an explosion destroyed the rocket and its AMOS-6 satellite, which would have provided capacity as part of Facebook's planned coverage in rural Africa.

According to an update from SpaceX, a preliminary review of the data and debris suggested that a large breach in the second stage liquid oxygen tank caused the explosion. However, it also noted that the cause of the breach itself remains unknown.

It said the accident investigation team – composed of SpaceX, the FAA, NASA, the US Air Force and industry experts – is currently scouring through approximately 3,000 channels of engineering data along with video, audio and imagery. The majority of debris from the incident has been recovered, photographed, labeled and catalogued, and is now in a hangar for inspection and use during the investigation.

The company said that manufacturing and production is continuing in at its headquarters in California, with teams continuing to build engines, tanks, and other systems as they are exonerated from the investigation.

"We will work to resume our manifest as quickly as responsible once the cause of the anomaly has been identified by the Accident Investigation Team. Pending the results of the investigation, we anticipate returning to flight as early as the November timeframe," the company said

Geoff Long

# Service providers scratching the surface in big data: NetScout

When it comes to taking advantage of all the data in its networks and customer base, service providers are only scratching the surface, according to executives at NetScout.

According to NetScout chief marketing officer Jim McNiel, operators are already looking at data analytics, but few are expanding their efforts beyond the immediate need to address network requirements.

"You have the operations team saying 'how do I reduce my costs, improve my service delivery, increased my bandwidth, get to 5G?'" he said. "That's what they are thinking

about – 'how do we augment our network with Wi-Fi deployment, how is that going to impact our business, how do we capacity plan for that and what traffic is going to be carried over it?'"

While there is some urgency for these applications, particularly given the growing complexity of service provider networks, there is another dimension that few operators are explored.

"The huge opportunity in the service provider space is not going to be driven by the VP of IT operations or the network operations in the telco, it will be driven by the chief marketing officer," McNiel said. "He needs all the information to say 'how can I monetise the fact that I know there's a bus of tourist going from LAX to Anaheim right now, how do I sell that to the digital signage business? How can I sell that to the hotels, and the service providers in that area?' That is the kind of stuff they have to be talking about."

The concept might be simple, but the execution is not, particularly given the sheer scale of the data within operator environments.

"Have you read all the emails in your inbox? Last year, wireless data increased 74% in one year, so these guys are getting a lot of data coming in their inbox," he said. "I don't think they are ahead of the curve in terms of their ability to use it yet. We have the ability for them to mine it and we record it, so they can go back in time to do trend analysis... the opportunity is there, they just have to seize it."

Tony Chan

# Latency matters for Gigabit broadband: US Ignite

The benefits of Gigabit-level access won't manifest itself until network operators find a way to reduce latency, particularly for next generation applications, according to the head of a US government-sponsored non-profit organisation dedicated to broadband development.

US Ignite founder and chief technology officer Glenn Ricart pointed to the importance of latency to the work of his organisation, noting that he has had to divert strategy towards network architecture in order to support US Ignite's mission to stimulate Gigabit-level broadband investment through the development of next generation applications.

The idea behind US Ignite was to develop applications in a Gigabit-level environment with the hope that such applications will be attractive and successful enough for communities and companies, leading to investment in Gigabit broadband infrastructure.

In the course of incubating such applications however, Ricart found that simply having a big pipe was not enough.

"It turned out that in Kansas City, where Google turned up its fibre network that people couldn't tell the difference between the Gigabit connection and 10Mbps, and that was because it wasn't the speed in the last mile that was making a difference in web apps, it was how long the response time was at the datacentre, on the backhaul and so on... it wasn't making any difference," he said.

Initially, Ricart tried to address the entire network ecosystem, but came up short against operators.

"I tried to speed up the whole path, but that didn't work because the Tier 1 providers are interested only in routing over least cost paths, they don't care about the latency," he explained. "They only provide so many megabits, not quicker or slower megabits."

The situation has forced Ricart to add infrastructure to the scope of US Ignite's mission.

"We are still about apps, but we are trying to do just enough infrastructure to allow those apps to happen," he said. "It got me onto this path to approach the city and see if the city can build a low latency network using existing stuff. What we do is we provide a switch and some instructions and ask for the cooperation and collaboration of the local access carriers to get them connected to each other over the local exchange."

So far, the infrastructure, which Ricart called the 'digital town square,' has been deployed in 2 cities with discussions already underway in another 15 cities, he added. With the digital town square idea, all traffic within the city is exchanged locally, ensuring the shortest distance.

"The digital town square concept gives you less latency... so what can you do? Well, you can now stream virtual reality... Another one is robotics, where we put the smarts centrally, so it remotely controls robotics in homes to see if you have left the stove on or the fridge door open – it's an app popular in senior facilities," he said. "For these apps, it's much more important what the latency is. So it is more like milliseconds instead of megabits and its more like microseconds instead of gigabits. So it's about 5 milliseconds for VR – total latency budget. For collaboration with people where they don't talk on top of each other, that's about 50 milliseconds."

Tony Chan

# Global cellular IoT connections to reach 1.2bn by 2021

A new report by Beecham Research projects more than 1.2 billion cellular Internet of Things connections by 2021, more than four times the 261 million in 2015.

While Western Europe and North America continued to lead cellular IoT connections, the new growth will be driven by rising economies in Asia, Russia and Brazil, as well as Arab States and Sub-Saharan Africa, the researchers said.

"The IoT market is certainly gaining pace across every part of the world, but despite this it is not on track to reach the rather over-optimistic predictions made by some industry commentators," said Beecham Research CEO Robin Duke-Woolley. "What is very interesting is the level of granularity across regions in terms of the different applications fuelling different markets."

According to Duke-Woolley, Mexico is driven by transport including connected cars and with strong attention on consumer technology, while in Argentina the focus is on

smart city projects and applications such as fleet management. Telematics along with public safety and security are common across the whole of South America.

"What is important for the IoT market at this stage of evolution is that companies can make informed investment decisions based on accurate market information and achievable growth targets and timescales," added Duke-Woolley. "We are already seeing some IoT start-ups close after getting carried away by the hype and large organisations are now looking more carefully at their IoT business plans, so we need to inject a degree of realism."

<div align="right">Tony Chan</div>

## VODAFONE HANDS OUT 2GB BONUS DATA IN APOLOGY FOR OUTAGE

Vodafone Australia has promised a bonus 2GB of data to all its mobile customers, by way of apology for an intermittent disruption to services over the weekend that the firm said was caused by a router malfunction. "During Sunday night a router malfunction caused 4G services to become unavailable. During the disruption, customers were automatically switched to 3G or 2G, however congestion meant some were intermittently unable to access voice, data and text services," said the firm. "By 1.35am... on Monday 26 September, 4G mobile services were restored nationally; however we identified a very small number of services that were still experiencing intermittent issues due to a related issue. Those services were restored by 11.30am."

## QPC WINS MANAGED SERVICES DEAL WITH TOOWOOMBA COUNCIL

UK-headquartered contact centre specialist QPC has won a deal to supply managed services to the Toowoomba Regional Council. The contract followed a competitive tender process. Under the terms of the deal, QPC will provide third-party support for future upgrades to the council's existing Interactive Intelligence customer engagement software suite, as well as consultancy support and regular checks to ensure that the council is using the technology to maximum advantage. Toowoomba Regional Council is the ninth biggest local government organisation of the 74 regions in Queensland and governs an expansive $4 billion asset portfolio.

## ON THIS DAY 10 YEARS AGO: FROM THE COMMSDAY 2006 ARCHIVES

A feud erupted between AAP and a number of its wholesale customers over access to its New South Wales, Victorian, Adelaide and Queensland datacentre... the meltdown of ISP Veridas took a new turn, with rumours that the Australian Federal Police might become involved and that individual players might seek apprehended violence orders... as many as 50 Australian telcos were considering the launch of mobile service offerings, according to fledgling mobile wholesaler M2.