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## Tech change confounding regulators, warns former FCC chairman

Governments and regulators are under mounting pressure to keep up with the increasingly rapid pace of technological change. Former US Federal Communications Commission chairman Kevin Martin told PTC'12 how regulators could adjust their approaches to keep up with the times – and to handle particular issues like the explosion of mobile technology and the rural-urban market divide.

“Traditionally, countries have had very sector-specific or technology-specific regulations, and I think the governments are trying to keep up with convergence on the technology side and convergence on the service side. They’re trying to keep up by changing their rules, but I think they do struggle with it,” said Martin. “What’s probably most important from a government’s perspective, from a regulatory perspective, is to try to change the dynamic of frameworks so that they’re not technology-specific any longer, but service-specific sets of rules; you’re not regulating cable vs. telco vs. wireless, but instead trying to adopt... a broad culture for what broadband services should mean from a consumer perspective, that applies equally across all the different technologies.”

“I think it’s helpful, as we’ve seen in the US and around the world, where various governments adopt very specific goals...so [for example] the current Commission said they wanted to make 100 million homes have access to 100Mbps by 2020. I think that kind of technology-neutral framework, along with very specific goals, is probably a better framework.”

But should governments subsidise industry to achieve these goals or leave the onus on market competition? According to Martin, most countries are actually employing a combination of both strategies – even though subsidies might not be explicit in some cases. “The US is usually held up as the example where there isn’t as much subsidy but they’re reliant on competition between cable and telco – [with commentators] not realising that the US spends about US\$5 billion a year subsidising broadband deployment!” he noted. “They’re paying for rural areas to be connected, schools and libraries to be connected... there is some combination of both in most places.”

**RURAL-URBAN REGULATORY SPLIT:** Of course, one headache facing many regulators pursuing national broadband goals is the very different economic and competitive challenges posed by rural and urban areas. The answer, believes Martin, is correspondingly different regulatory approaches – not a ‘one size fits all’ solution.

“You really have to think about [different areas] in very different ways. So you think about how to make sure, in those urban areas where you see competition developing or already more robust, you’ve got a regulatory environment that recognises that and removes a lot of the service-specific regulations that we



normally have applying,” he said “That’s very different from a rural area in which you might only have access to the one incumbent telephone company, you need [to be] subsidised. And I think that we need to make sure that we try to remove those regulations on one standpoint, there’s other areas where you are going to be subsidising... and that calls for a different approach. It’s an intriguing balancing act.”

**MOBILE REGULATORY CHALLENGES:** Another particular challenge for regulators is the dramatic explosion in mobile broadband technologies. “The most important thing they can do is try to make sure that you’ve got access to the necessary inputs; from a spectrum standpoint, spectrum’s going to be necessary to deliver the next generation of services, so I think that you see in the US and globally everyone struggling with that,” said Martin. “Whether it’s the US talking about how we can reclaim spectrum from those who are under-utilising it in terms of efficiency, like getting it back from the broadcasters to be able to move it into next-generation broadband services... I think everyone’s trying to figure out how you can take better advantage of that necessary spectrum.”

“But I think there are some technology changes that can help; the advent of picocell technologies, small-cell technologies allow you to use that spectrum more efficiently... I think that trying to make sure you’ve got regulations in place that allow for those technologies... will help you ease that usage.”

Isn’t it difficult, though, to pry spectrum away from current holders, even when they might be underutilising the scant resource? “One of the reasons why people think about it that way is that, oftentimes, there’s no compensation if you say you’ve got extra spectrum,” said Martin. “Whereas if you try to change the models so that people can monetise it... to there are times when, if you have enough flexibility and allow people to monetise it, you can get it back! But the challenge is that nobody wants to give it up for free once they’ve got it.”

Petroc Wilton

## **Wireless and wireline: competition and complementarity**

The debate continues to rage over how far next-generation wireless will make incursions into traditional fixed broadband territory, with participants at a PTC’12 panel highlighting areas where the two technologies will remain complementary – but also where wireless is carving up fixed territory.

Broadband Forum CEO Robin Mersh said that any suggestion that wireline was dead was “so far off the mark.” “We do broadband subscription numbers every quarter; in Q3 2011, our last reported quarter, we were up to 581 million [wireline] broadband subscribers worldwide,” he said, having opined earlier in the session that most statistics produced for broadband even today were based on a 132kbps benchmark. “That was a 13% increase year on year. I’d say most industries in this world, in this current recession, would kill for that kind of growth rate! So the idea that wireline has burst its bubble is, I think, just crazy.”

“Having said that, it doesn’t mean that there isn’t great competition from wireless,” he added. “And I think you will see more competition as LTE starts to roll out. But again, having said that, there is a very definite relationship between wireless and wireline – in fact, what you’re starting to see now is more and more convergence, particularly in core networks. You’re starting to see it in terms of operations as well; most converged operators want to see a rationalisation. So what you might start to see a lot more of is synergies – and I think particularly in the developed world. Maybe the developing world is different; there,

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you can see that infrastructure's at a much lower level, so maybe wireless makes more sense." Even there, though he suggested a model where wireline fibre rollouts could be used to provide mobile backhaul - 'fibre to the tower' would likely become more widespread.

Internode regulatory and corporate affairs GM John Lindsay, meanwhile, highlighted some areas where he'd seen wireline-wireless substitution at first hand. "Last year, Internode shut down its last dial-up modem access server; also last year, the provider of the wholesale service that we used to provide about a hundred ports nationally... notified us that they planned this year to shut the servers down," he said. "We've seen all those customers move to wireless, because it provides good coverage, it's portable just like a modem is, it's faster, and it's about the same price as a dial-up service."

"The other area where we've seen a loss of customers from fixed-line to wireless is the bottom-end users: the people whose downloads are 1GB or less per month. And that lines up quite closely with our experience with the mobile data service, which is that customers only use 1-2GB a month, whereas fixed-line customers might use 20GB - and we have a significant pool of them who use more than 200GB a month, and you'd probably need your own mobile base-station to achieve that with wireless!"

Lindsay also flagged some practical limitations for wireless expansion. "I can see a model in which there are, in fact, microcells or picocells outside the house on public infrastructure on telegraph poles providing wireless service. But I watch as, right now in Australia, the NBN's trying to deploy wireless services around Ballarat, and residents and the occasional politician have suddenly decided that this means more radio towers and that radio towers are evil!" he noted. "So yes, wireless is disruptive - but it's disruptive in areas where commentators and the general public don't really understand. At the end of the day, consumers make a choice; they know that if their use is modest then wireless is a perfectly acceptable [alternative]."

Petroc Wilton

## US to lose mantle as world's bandwidth hub?

The global capacity industry will need to face the reality that China and India will surpass the United States as the most important sources of Internet traffic. That's the warning posed by industry analyst Michael Ruddy of Terabit Consulting at PTC'12 yesterday.

Ruddy presented projections estimating that China's activated international internet bandwidth will surpass the United States' in 2026 with India following soon after. "It is the end of UScentric demand," he predicted.

He said that China, India and Brazil were already the "greatest sources" of new bandwidth demand. This was driven primarily by their economic growth, he added.

"The industry challenge is developing an infrastructure that takes account of the end of US bandwidth



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supremacy,” he said.

However, recent builds suggests that the sector is already beginning to meet the challenge. In the three years ended 2011, the overwhelming majority of new builds were in Africa and the Asia Pacific. This was a contrast from ten years earlier when the trans-Atlantic route was the main site of builds.

As part of his data on new builds, Ruddy also revealed that the submarine cable supply sector has become a virtual duopoly with Alcatel Lucent accounting for 43% of new systems and TE Subcom for 39%. NEC had just 8%, Fujitsu 3% and Huawei Marine 2%. But Ruddy said Huawei had momentum with new builds in 2012 and 2013 on the way.

Meanwhile, telecoms lawyer Kent Bressie of Wiltshire & Grannis warned that the global legal and regulatory climate was becoming more hostile to the sub cable sector.

Not only had trade liberalisation stalled since 2011, but the recent security environment had led to increased scrutiny of new builds and their suppliers, especially in the US and India. He said there were also increasing issues with international sea law. Submarine cable protection laws were over a century old in some major countries despite increasing competition from energy extraction, wind farms and the fishing industry for seabed use. And there were also aggressive territorial pushes from coastal states, such as moves by India and Malta to levy taxation on sub cable infrastructure in their exclusive economic zones.

Grahame Lynch

## **Cable sensors: a whole new revenue stream for subsea**

Subsea cable owners could net completely new revenue opportunities by exploring a new use for their systems, according to TE SubCom product management MD Dr. Ekaterina Golovchenko – gathering scientific data from the ocean floor. And it’s not just a pipe dream; TE SubCom already has the technology ready to go, and has revealed that it’s working with Pacific Fibre on the opportunity to add sensors to the latter’s planned new Australia-New Zealand-US route.

But following Golovchenko’s presentation at PTC’12, sub cable lawyer and Wiltshire and Grannis LLP partner Kent Bressie added a note of caution, warning that combining research sensors with submarine cables could introduce a host of legal and regulatory complexities.

Golovchenko cited globally increased demand for monitoring information around climate change and natural disasters, and said that one of the places where harvesting such data was most difficult was the ocean floor. “But undersea cables – that for over a century, if you go back to telegraphy, were used just to transmit communications data – are available on the ocean floor in a very safe environment, operate for many years, and appear to be a perfect vehicle to start gathering that information,” she said. “There is interest in private entrepreneurial systems, in the organisations that collect the information, to start using the undersea cables.”

“Being on the supplier side, our job is to start developing technical solutions. If all the other issues could be resolved, if funds come along, we should be ready to offer these solutions to our clients that would help them actually generate more money from their systems.”

To this end, TE Subcom has been working on a Subsea Power and Data Port, designed to provide access to reliable and cost effective broadband data and power at remote locations in the ocean once investment is forthcoming and any regulatory issues have been resolved. Suitable for deployment on new systems rather than retrofitting onto existing links, the SPDP would form a ‘blister’ plugged into a repeater and fixed onto the cable, without imposing any limitation on parameter such as armouring or cable burial. Potential measurands include hydrostatic pressure, temperature and seismic data.

“It’s rather mature right now, it’s ready for deployment if there is interest,” said Golovchenko. “We’re actually working with one very real project: Pacific Fibre. This will be the newest system with the newest information transmission technologies that will connect... Australia to Los Angeles via New Zealand. And we’re working with this client, who gave us permission to... talk about the opportunity to add sensors to their network.” In a later session, Pacific Fibre director Mike Constable confirmed it was looking at the



“value add of sensor monitoring for climate monitoring and disaster mitigation.”

The benefits for cable owners and operators are obvious: being able to bring in an entirely new revenue stream from a given system, by offering a completely new standalone function operating alongside standard data communications. But what's the business model? “For us to develop [this] in the future we'd need commitment from the cable owner,” explained Golovchenko. “We'd work jointly with them and with [their] customers and we'd build data sensors from the investments we'd get from the customer groups, and we'd have full support from the cable owner, because the cable owner would own the sensor system and would be selling these functions to their customer groups. From the supplier side... we just need extra investment to make this a reality.”

**LEGAL, REGULATORY COMPLEXITY:** However, Bressie – a leading lawyer in the submarine cable space – came in on a cautionary note regarding the complex legal and regulatory issues around sensors on sub cables.

“There's been a lot of controversy and a lot of fear, frankly, regarding what a sensor might do or introduce into the mix; and this is due to the fact that international law treats different activities in the marine environment very differently in terms of rights and obligations,” he explained. “Undersea cables have a lot of freedoms that are not granted to any other activities in the marine environment; that's very different from regulation on marine data collection.”

“The system is set up to regulate those activities largely separately – so it introduces some complexities and interesting issues when you combine things on a single system.”

Bressie went on to explain that undersea cables enjoyed very different treaty protections in different areas of the oceans, from coastal waters to the high seas; and that different types of research, from marine scientific research – which itself is not fully defined anywhere – to operational oceanography also fell under different national and international regulatory regimes.

“The real challenges are in the exclusive economic zones and continental shelf areas, depending on the countries,” he added. “One of the worries in these particular areas is jurisdictional creep; countries have an incentive to maximise their jurisdiction... and of course there are sovereignty concerns as well, worries that these kinds of sensors are going to allow for surveillance of military activities. One of the issues that's also been discussed is whether or not this just erodes treaty protections for undersea cables, which are unique and very much worth protecting.”

Still, despite the compounded complexities implicit in the merging of sensors with subsea cables, Bressie ended on a note of optimism for the industry. “Sensors on cables is an emerging issue and it's obviously enormously complicated, but that doesn't mean that there aren't opportunities or 'easy cases' for dealing with these kinds of issues and moving forwards,” he said. “Principally, on the high seas, I don't think that the deployment of sensors as we've described the concept here today, gathering information about ocean conditions, really raises many if any regulatory issues. It's not within the jurisdiction of any coastal state, the international seabed authority doesn't have the ability to regulate it, and the fact that [the sensors] might appear on the high seas portion of the cable doesn't render the entire exercise of installing and maintaining the cable, and the entire cable system, a research facility.”

“My view is that because this is at such an early stage, even though we're talking about important legal and regulatory issues, these should not be deal killers for the development of this technology. Technological innovations in the telecommunications industry and elsewhere have rarely fit well in existing legal and regulatory regimes, and that's not a reason not to innovate; it is a reason to proceed carefully to make sure that the rights and freedoms that are exercised are not compromised. And that's why I think it's important to look at these things on a project by project basis, and on a country by country basis.”

Petroc Wilton

## **Free space optics poised for a comeback?**

The nearly forgotten technology of free space optics—effectively laser-enabled communication through the air without a fibre enclosure—may be poised for a comeback.

Free space optics enjoyed a brief flurry of hype at the turn of the century when a former AT&T Wireless CEO, Dan Hesse, took the helm of Seattle-based start-up Terabeam with the promise of using the

tech to take on the established fixed telcos at broadband communication.

The promise of free space optics seemed great at the time. It avoided all the costs of fibre optic trenching and ducting as well as spectrum licensing costs because it used unregulated light waves.

But the tech had one major weakness in its propagation: constant laser light is affected by fog and other adverse atmospheric conditions as rain and snow. This held back adoption to the mass market and the technology was relegated to the margins, used only in niches such as primary service back-up and military applications.

Now New Jersey company Attochron claims to have a technological fix: the use of affordable and small-sized short-pulsed lasers. Company investor CJ Davies and adviser Matthew Lampros told CommsDay at PTC'12 that an ultrashort laser pulse – with a pulse duration at least a million times shorter than previous lasers – exhibits different behavior than previous FSO systems, even at the same wavelength of 1550nm. “Attochron and its partners have proven that unique ultrafast optical techniques will allow the signal to penetrate fog and clouds many times better than existing systems,” the firm says.

According to Lampros, the concept of pulsed lasers is not new. “But they were too big in size for communications applications. Now they are small they are viable.” Davies says that the laser units in development are about the size of a briefcase and can transmit gigabit levels of data at around three kilometres.

Lampros says the company is at pains not to over-hype its development, positioning the tech not as a fibre replacement but more a “bridging apparatus,” for example, in bringing gigabit capacities quickly to cellular backhaul or in providing fibre-type services where the terrain is too difficult to dig trenches.

But the economics of free space seem more compelling than that: free space optics installations cost around US\$30,000 per mile compared with up to a million dollars per mile for fibre installation, says Davies. Attochron claims to have thoroughly tested the technology at the Picatinny Arsenal military facility in New Jersey and demonstrated it to Lockheed Martin, the US Airforce and JDSU. Now, says Lampros, the company is ready to approach manufacturers for licensing and investors for more capital. Additionally, Australian submarine cable consultant and former Telstra executive, John Hibbard, has signed on as a company director.

Grahame Lynch

## **Mobile operators well positioned to exploit social media: mig33**

The founder of a social media service currently serving some 50 million users mostly in Asia and parts of Eastern Europe says that it is not too late for operators to try to capture the social media wave.

In fact, Steven Goh, the Australian CEO and co-founder of Singapore's mig33, says that operators are actually in the best position to drive further penetration of social media.

“I think social networking represents a substantial failure for the network operators to move with the structural changes going on in consumer behaviour,” Goh said at PTC'12. “I think the best example is if you look at MMS. If you look back 10 years, network operators would have you believe that we would like to share photos through MMS. Ask anyone now on how they share photos, and it will be on Facebook.”

Despite that fact, it is not too late for operators to get in the game. On the one hand, the telecoms industry still has more total users than any social media company.

“I do think however that the verdict is still out. Facebook only has a couple of hundred million mobile users – there are 5 billion mobile phones out there,” Goh said. “I think the best challenger [to Facebook] will be the network operators. At the end of the day, there are 5 billion authenticated accounts out there – you need a profile to get a SIM, you handle authenticated users better than Facebook does, what is structurally missing is the application glue and collaboration system.”

On the other hand, Goh sees plenty of room for new services to enter the market, citing examples of social media services in China, as well as mig33.

“Facebook is incredibly successful, but I think the world will be much more pluralistic than that.”

Mig33 yesterday launched a miniblog service, citing the success of the app in China.

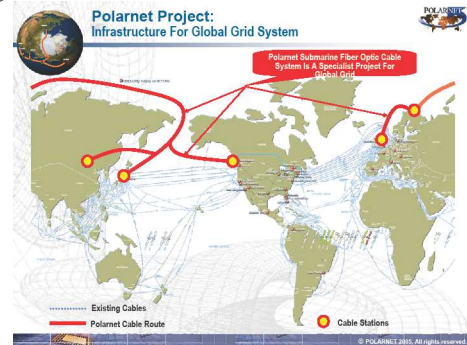
Tony Chan

## Second Arctic cable announced by Russian firm

An obscure Russian company called ZAO “Polarnet Project”, has put out a tender for a new subsea cable project that will transverse the Arctic between Europe and Asia. The system now joins Canadian firm, Arctic Fibre, in seeking to exploit the melting polar cap as a conduit for subsea cables between continents.

According to ZAO, the Russian Optical Trans-Arctic Submarine Cable System, or ROTACS, will use the geographically shortest path between Europe and Asia on a “unique trans-Arctic” route.

There is little information on the actual announcement of the tender, except that it will be based on 100G technology. However, ZAO claims that it has “completed unique and extensive marine survey operations in the Arctic region,” which the company says proves “the feasibility of a submarine cable system in ice conditions.” On the regulatory side, ZAO says the project was granted approval by the Russian Governmental Commission for Federal Communications and Information Technology in October 2011.



One description of the project, from a document dated 2005 available on the company’s website, describes the intention of the new cable as being part of a bigger “grid” infrastructure project, which includes the purchase of assets on Tata’s TGN subsea cables, the trans-Atlantic Apollo cable, and PC-1 across the Pacific, to form a global network connecting together computing resources. Budget for the project’s telecoms infrastructure is around US\$1 billion, with US\$850 million allotted for the cable build, according to the project description document.

Tony Chan

## Making a business out of pre-selling cable builds

American Eric Handa and his Australian business partner, Sean Bergin, have identified a new business opportunity in the cable business –outsourced pre-sales for new cable projects. The company founded by the two industry veterans, AP Telecom, is now providing a consulting service for new cable builds that includes bringing in new pre-build orders and anchor clients.

“Everybody gets their Round A funding, and that usually gets them through the desktop study, and then they don’t usually have the opex to have a sales force, to get the presales to get to Round B funding,” company president Bergin said, adding that even companies that have sales staff are typically too focused on their own markets.

“You’ve got debt and equity for financing, but there is a third leg to that chair, and that third leg is pre-sales –helping someone to co-finance, to underwrite the system as an anchor tenant,” added Handa, who serves as CEO for the company.

AP Telecom, by leveraging personal and professional contacts of its two founders, as well as the company’s impressive Advisory Council, which includes PTC president and chair John Hibbard can now offer new cable projects global reach into a wide spectrum of potential customers.

The company charges a retainer fee for the service, as well as a percentage of any sale.

The message has gained traction in the market place. In the 12 months since AP Telecom was launched, the company has signed 3 consulting deals with new cable builds that include some component of presales, including the new trans-Atlantic cable, Emerald Networks and ArcticFibre, the Canadian cable close to the Arctic circle that potentially can extend to Japan to the east and the UK to the west.

Tony Chan

## Emerald Networks expecting price premium across Atlantic

Emerald Networks, the company that is building a new massive 40Tbps system across the North Atlantic, says the quality and path of its system will allow it to command a level of price premium when it launches

in the third quarter of 2013.

The company's network will span the Atlantic from just south of New York City to the west coast of Ireland at Belmullet, where it will be backhauled to London. The system will also have branching units that will bring fibres to Iceland and Portugal in its second phase. The entire system is configured with 4 fibre pairs operating 100 wavelengths of 100Gbps capacity.

Despite the fact that it will be bringing 40Tbps and up of new capacity into the trans-Atlantic market, CEO Ray Sembler sees no real pressure from existing pricing trends. In fact, he expects prices to be higher on his network than existing cable systems.

"As our cable goes in, and it is newer, we do expect to receive a little bit of a premium for the newer route, and a premium where we can give someone a 15-year IRU where the other cable providers just can't offer up 15 years when they have been in the water for 10-15 years. Basically, we feel that people can get 5 to 7 years out of their systems, so if carriers go and purchased new capacity on those systems, they will only get 5 to 7 years at most," said Sembler.

"It is not our intent to flood the market with capacity to drive prices down. I don't think our take is that the Atlantic is out of capacity, I think our take is that the Atlantic capacity is older - out of technology rather than out of capacity."

At the same time, Sembler revealed that wholesaling trans-Atlantic capacity won't even be the main focus of Emerald's business strategy. Instead the operator intends to take advantage of the emerging data centre clusters in Iceland and Dublin, Ireland.

"Basically we are going to have the Atlantic to help pay the bills, we are not trying to flood the market, we are not trying to give away capacity, but we will use the Atlantic revenue to then fuel what we believe is the real cornerstone of our business model, which is the data centre play with Iceland and Ireland," he said. "So a big chunk of our revenue model in 2015-16-17, is primarily focused on the data centre triangle (between North America, Europe and Iceland). The real premium that we will get will really come from the data centre market."

Tony Chan

## How to take costs out of operator networks

As demand continues to surge upwards and prices for services continue to decline, how can the industry sustain itself going forward? That was question posed to a panel of industry executives at PTC'12.

While there is no easy answer to the question, the executives from Level 3, Ciena and Cisco all point to strategies that combine innovation and technology evolution to manage costs.

"For us, as a telecom operator, we all buy the same equipment, it is a matter of how we use it... we have some special ways of using core data centre routers instead of other types of routers to do some of our network, we think there is a continual innovation curve for us that allows us to continual to drop our cost," said Jack Waters, CTO, Global Network Services at Level 3.

At the same time, Waters points to new technologies that can reduce costs for the network such as 100G, but warns against upgrading technology for technology's sake.

"We wouldn't really view 100G terrestrial as generally available because the underlying economics is not what we would view as that next step. What we want to see is unit cost compression. I think we are still a little early," he said. "We typically want to move to a new technology when the price sees a compression in the 50% range to get to that next technology, because there is a lot of work to deploy a new platform. That's historically been what we've seen as you adopt new generations of systems."

For Ed McCormack, vice president & general manager, International Accounts and Submarine Systems, at Ciena, the next breakthrough for networks is not just the higher data rates, but coherent detec-



tion technology, which will enable future capacity upgrades without whole system replacements.

“When we look at the 10G to 40G transition, it took a long time, it wasn’t introduced at an effective cost point to begin with, and I think that was partly down to the fact that there was a big transition to coherent. With 100G, you are really talking about plug-and-play,” McCormack said. “It is easy to do because you are using the same systems.”

Despite the ability for coherent gear to offer much higher capacity, McCormack says that simply upgrading today’s networks is not enough.

“The next step is to actually take real cost out of the network on an end-to-end basis,” McCormack explained. “Ten years ago, when we talked submarine, we were talking about beach to beach. The demand now is driven by consumers, and consumers don’t care about submarine networks... They care about end-to-end service, device to device, without interruption. I think you’ve got to look at development of submarine and terrestrial networks differently to accommodate that view.”

On the wireless side, Hany Gabriel, managing director, service provider, at Cisco Asia Pacific, says that one way to lower cost for mobile networks is to offload 3G traffic to Wi-Fi networks, which would reduce Capex on the radio component.

Additionally, effective use of CDNs to optimise content distribution, and building core networks that support multiple radio access technologies would also help reduce operator costs, Gabriel said.

Tony Chan

## **HIBERNIA SCORES TELEFONICA DEAL**

The international arm of Spain’s Telefonica, TIWS, has tapped Hibernia Atlantic for trans-Atlantic capacity. While details of the deal was not disclosed, such as the amount of bandwidth involved, the operators say the addition of Hibernia Atlantic will now add two new submarine routes to TIWS network. Earlier this week, Hibernia Atlantic was also selected by Atrato IP Networks to provide trans-Atlantic capacity.

## **HOWELL JOINS ITS BOARD OF DIRECTORS**

Brownyn Howell has been elected to the International Telecommunications Society board of directors. Howell is the general manager of the Institute for the Study of Competition and Regulation which is based at Victoria University of Wellington. She is a faculty member at Victoria’s management school. Howell’s research covers information economics and institutional governance.

## **KORDIA CLARIFIES POSITION ON OPTIKOR**

Kordia CEO Geoff Hunt said he is delighted Axin and Huawei Marine have signed a cable survey agreement as the two companies move closer to building their planned trans-Tasman cable. He said: “This is the next critical step in the process.”. The project will use the OptiKor brand which was originally the name of a Kordia-initiated project to replace the aging Tas2 cable. Kordia said it still believes a trans-Tasman cable is critical “to both increase the resilience of New Zealand’s connectivity with the rest of the world and to further bring down international bandwidth price by providing access to competing international cable networks.” The company said while it has collaborated with Axin on various aspects of this project over time, it has not signed a commercial agreement to operate the cable. Axin is managing all the commercial arrangements of Optikor.

## **GLOBENET, TE SUBCOM BEGIN BERMUDA LINK**

GlobeNet and TE SubCom have commenced construction for the replacement of Segment 5 of GlobeNet’s high performance subsea cable system. This new subsea cable will provide more than 30 times the current capacity between Bermuda and the United States and is planned for completion in the first quarter of 2013. The new segment will be approximately 1,350 km in length and is designed to support 150 wavelengths per fibre-pair at 100 Gbps per wavelength, giving the 2-fibre-pair system a total design capacity of 30 Terabits per second. It has the largest cross-sectional capacity per fibre pair of any system built or contracted to date. GlobeNet’s Segment 5 lands in St. David’s, Bermuda and Tuckerton, New Jersey.

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