Hello, and greetings from the Central Office! Another issue brings another few continents. Since we were together last, I handed over the Beijing Central Office to local engineering staff. After that, I took a short vacation to Antarctica, traveling with a group of hackers on a Liberian-flagged ship from Ushuaia, Argentina. I finally breezed back through Beijing, winging my way on the Aeroflot skies via Moscow to my new home in Rotterdam. I’ll be here for the next year, taking some time off work to join a full-time course in sharpening my management skills.

Ushuaia is at the southern tip of South America, alongside the Beagle Channel near the Chilean border. It’s a bustling city of 50,000 and is not only the jumping-off point for Patagonia adventures, but is also the home of the Antarctica cruise industry. Telefonica (a Spanish company) is the primary service provider, and there is actually fiber to Ushuaia. Most hotels are equipped with a single ADSL link and share this out over Wi-Fi, so I went hunting for a SIM card. It’s actually hard to find a prepaid SIM card in Argentina with data service enabled on prepaid accounts, and only Movistar worked. Unfortunately, their service is oversubscribed, because they offer a “daily unlimited” plan. I was able to get online using EDGE (no 3G was available) at roughly dial-up speeds. Purchasing a SIM card requires no identification and international roaming is available. While voice calling and SMS were relatively expensive, data was very cheap. The cost was only about $1 per day for unlimited usage. There are two other providers, Claro and Personal, but their prepaid SIM cards only seem to work for voice and SMS. They do offer data service for monthly subscribers.

The southern tip of Argentina is probably a fitting introduction to bandwidth constraints on the bottom of the world. Once you leave town, your only option is satellite and it’s expensive. Our ship was equipped with Internet service from MTN Satellite. The ship offered a VoIP calling card system (running over the same backhaul as Internet service, but gated by QoS providing good quality) that was actually reasonable value. Calls back to the U.S. cost about 20 cents per minute, and rates were comparable to other developed countries (I called China and the Netherlands for around the same price). I played with the system a bit and found that the IVR for the shipboard calling cards runs Asterisk, but the administrator did a pretty good job and locked it down well. I was able to determine that outbound calls were being routed from the Dallas area via the AT&T network. Beyond that, I limited my phone. The ship was already on high alert since they knew they had a large number of hackers aboard (although by the end, they loved us).

Internet service was spotty and expensive onboard the ship. Satellites are very low to the horizon in Antarctica, so any obstructions bigger than a penguin would cause an interruption in coverage. Service is charged by the megabyte (at a rate of over $1 per megabyte) and the speed is really only suitable for using mobile versions of websites or for using console applications like SSH. People who went online with their mobile phones or iPads seemed to get the best results, since applications on these devices are designed for slow and spotty data connectivity. I personally opted to unplug from the Internet the entire time that we were aboard the ship, making only occasional phone calls and sending postcards. With no job responsibilities, I considered it a nice break from the usual firehose of email and phone calls. Two weeks later, after one of the most incredible experiences of my life, we were all back in Ushuaia, and it was time for me to make my way to Rotterdam, about the farthest point possible from Antarctica. After a journey via Buenos Aires, Santiago, Los Angeles, Seattle, Beijing, Moscow and Amsterdam, I finally arrived in my new home.
Of course, one of the first things I needed to figure out once arriving was how to stay connected. My room here was already equipped with Internet service, and the speeds are pretty respectable with a steady 10 Mbps. This provided a seemingly excellent platform for VoIP, so I set up my trusty netbook with MagicJack. Unfortunately, the quality of service was very poor. MagicJack routes you to various gateways based on your source IP, and they seem to route all European IP addresses to their congested New York gateway. OK, no problem, I've dealt with this issue before in Beijing. I dusted off my trusty Linksys WRT54GL, fired up my VPN, and armed with a Seattle-area IP address - my MagicJack was working beautifully.

MagicJack provides a surprisingly good-quality solution for calls to the U.S. and Canada, but their international rates are relatively high. Skype and Google Voice also charge relatively high rates to Europe. I use a VoIP provider called callwithus.com for my calls to other locations, and use a Linksys ATA with a separate telephone set for these calls. Callwithus.com has excellent pricing and you have your choice of quality (standard VoIP routes, premium VoIP routes, or PSTN), which is easily configured through a dialing code or on their website. This has been an excellent solution for my local calls in the Netherlands, costing much less than the pricing on my mobile phone.

Finally, it was time to figure out what to do for mobile phone service. There are only three facilities-based carriers here: KPN, Vodafone, and T-Mobile (although a fourth, Tele2, just won a spectrum auction in December and plans to build a new network to replace their MVNO operation built on the T-Mobile network). All operate GSM/UMTS/HSDPA networks on standard European frequencies. The majority of the market goes to these three carriers on subscription plans, which are always less expensive than prepaid options from each of these carriers. However, you can only activate a mobile phone subscription in the Netherlands if you have a BSN number (the Dutch equivalent of a Social Security number). This requires a long time and a lot of paperwork to get.

You can get reasonably priced service through MVNOs, though, and the Netherlands has a lot of them! Seemingly every establishment has its own MVNO. The furniture and household goods store HEMA has one, so do the grocers Albert Heijn and PLUS, and even the bank Rabobank has its own MVNO. I needed a number right away and didn't have time to shop, so I activated the SIM card that the MVNO LycaMobile gave me for free at the airport (planning to replace it later). To my surprise, it turned out that their plans are very competitive and offer some of the best deals on mobile phone service in the Netherlands. Every €20 recharge nets €60 of credit so you basically divide all the list prices by three to get the real price. The list price of a 1GB data package is €20 (€10 for 300MB). Calls to other Lyca-mobile subscribers are free, international rates are reasonable (although not especially low), and calling prices are considerably less than plans from the major carriers. Vodafone, the underlying carrier for LycaMobile, doesn’t offer all of the services LycaMobile does, and the ones they do offer cost about triple what I’m paying. I have to wonder whether the reason for the “double bonus” game that LycaMobile plays is due to a contractual obligation not to substantially undercut Vodafone’s published prepaid rates, although obviously neither Vodafone nor LycaMobile would comment.

Data is relatively cheap, but SMS pricing lists at 15 cents each and local calls list at up to 25 cents per minute with a 9 cent connection fee on top of it. As is the European standard, incoming calls are free. I use WhatsApp for SMS to get around the charges (virtually everyone does the same here) and use Skype where possible for calls on the go (Wi-Fi is typically fast and widely available). LycaMobile also offers some unusual features. SIM cards can be configured with a second number in Poland (and only Poland). This can actually be less expensive for people to call from the Netherlands than your local Dutch mobile number. They also provide free voicemail, which is not common for prepaid mobile phone providers in Europe.

And with that, it is time to bring this issue of the Telecom Informer to a close. 3D printing is a lot cooler in Antarctica, and a group of hackers was almost as much of a curiosity to the cruise-ship set as the penguins. It was certainly another incredible experience from the folks who bring us ToorCon and ToorCamp. The next WorldToor will take place in Turkey. If there is anything more fun than a group of hackers together in a faraway place for two weeks inventing stuff along the way, I’m not sure what it is. Until then, goodbye from Holland!