

Chairman's AGM Report 2015

CMNet is two years old and in the past twelve months we have moved from theory to practise as we started "live" operations. Today we have two ADSL lines in use and 25 subscribers. Since January we have seen a steady increase in usage and several subscribers have requested changes to their contracts to increase their monthly quotas. Our total usage has almost doubled increasing by 90% in the past seven months and now stands at an average just over 10 GB per subscriber. We are about to order our third ADSL line and expect to have over fifty subscribers connected by our third anniversary.

One year ago, last September, we had just completed the installations for the first nine subscribers who were to help run a volume trial of the system. We had a temporary power supply, temporary accounting software, and were waiting for delivery our first ADSL line so we could start the trial. We were still exchanging emails with our solicitor about all the documents we would need to run the company including our customer contract. We have learnt a lot in the past twelve months.

Our first surprise came when we discovered our ISP wanted three months line rental in advance, this meant we very nearly ran out of cash before we started. Fortunately Mary put forward a good argument to make us a special case for a grant from the Highland Council and with the help of Audrey and Robbie Bain we were awarded £1,000 to help with the first year's running costs.

The volume trial showed us that a simple tariff for a "standard" 10 GB a month would not suffice and we therefore decided to offer a series of packages for 10, 20 and 30 GBs per month. Our thanks to Calum & Kate Bulloch, Alan Fahy, Duncan and Catriona Ferguson, Bill & Anne Gillespie, Eric & Elizabeth Morrison and family, John Millar, and Dave Mockett and family without their help we would not have been able to run the volume trial and get the information we needed to set the tariff for the first year.

Good data from the volume trial about the performance of the first ADSL line gave us the confidence to press ahead with more installations and by the start of December we had twenty four subscribers connected and had installed a second ADSL line to provide the extra capacity needed. The statistics looked good as we prepared for Christmas and the holidays. Christmas came, relatives used to unlimited broadband visited, and our usage went through the roof. A handful of subscribers, or more accurately a handful of visitors to a few subscribers had used over 50 GB of the 200 GB available. By the end of December our usage had blown the 200 GB limit available on our two lines. Accordingly we hurriedly renegotiated our agreement with our ISP to give us "unlimited" usage on each line!

Joe was in charge in December when the system was out of action for most of a day in the middle of the month following a tremendous electrical storm. It seemed certain that some, if not all, the equipment on Creag Mhaol had been fried. However much to our surprise everything sprang back to life in the late afternoon. A closer inspection revealed that all the equipment was functioning normally and the problems were most likely caused by a series of power failures (caused by the storm) which appeared to have confused some of the links. We subsequently implemented additional self monitoring functions and since then have not seen any repeat of the problem. In fact the exterior antennas have been remarkably resilient and we have not had a single failure.

In December, shortly after the volume trial, one of the suite of daily statistics programs started to run for over 24 hours instead of its usual 30 minutes; this is rather unfortunate for a program that is run once a day. The problem was traced to an excessive number of websites being accessed from one subscriber, which was one hundred times the average number and almost certainly due to a computer

virus. The program was amended to cope with this situation and now is back to 30 minutes to do its work even with over 100,000 website accesses. The situation has recurred several times since December and the program has coped without any issue. Subscribers now receive an automated email to tell them if a virus has been suspected.

We have taken a very cautious approach to bandwidth and increases in subscriber quotas this year. We started with a limit of just 1.75 Mbps per subscriber at the start of the volume trial and after the line statistics showed no performance issues we increased the bandwidth limit in small steps until in March we were able to set the bandwidth limit at 5.5 Mbps, finally achieving our goal of 10 x the speed of BT for 10% less than the standard package cost. Once we had achieved the promised bandwidth we allowed subscribers to increase their monthly quotas and so far this year subscribers have requested and have been given increased quotas totalling 120 GB per month.

In July and August we have seen bandwidth drop at times of peak usage. This may be partially due to our own increase in usage but it is noticeable that we are no longer achieving the quoted ADSL maximum speeds from our ISP. It therefore seems likely that most of the problems are coming from the Plockton BT exchange. No doubt a massive influx of tourists and the wettest summer for many years will also have contributed to the exchange being under stress. We expect that the new ADSL lines in Lochcarron will alleviate the problem in the short term.

In the longer term the Plockton BT exchange is scheduled for an upgrade in the first half of 2016 and Lochcarron should follow in the second half of 2016, both of these upgrades should give us additional capacity and increased bandwidth. Our ultimate goal is still to migrate to a leased line when we will have exclusive use of capacity and will not be affected by issues in the exchanges.

In the first three months of 2015 progress on new installations was affected by effort having to be diverted to day to day administration; and our administration workload is still unacceptably high. When CMNet was proposed we stressed to subscribers that their part in making the community scheme a success was to make sure they were on the correct tariff and to keep within their quota, if necessary moving up to an increased quota band. If everyone stays within their agreed quota and pays monthly promptly then financial administration can be kept to one man hour a month, this is acceptable for non paid volunteers. If one person goes over their quota then typically this involves three directors and the workload goes up to over a man day a month, this is not acceptable for non paid volunteers. All too often subscribers' additional charges are not paid on time and this increases the workload further. In the past eight months there have been twenty three instances of subscribers exceeding their quotas. Now we have all had experience of using CMNet for several months I hope that subscribers will make sure they are on the correct tariff and stay within their quotas.

In April we were featured on BBC Alba; Hamish doing a very good job explaining why Community Broadband Groups are required in areas BT and the other major ISPs have ignored.

In May we received a request from BDUK (Broadband Delivery UK) for information about CMNet and our potential to provide Next Generation Broadband speeds, which are defined as 30 Mbps or faster. The minimum for NGB of 30 Mbps led us to test our network to look for the weakest links. Our slowest link is 45 Mbps and the fastest is 100 Mbps. We thought this would mean BDUK would recognise us as a NGB provider and were surprised when we were subsequently informed we would not be given NGB provider status. The reason given by BDUK was that we didn't have access to sufficient backhaul as only ADSL lines are available in Plockton and Lochcarron. Of course backhaul is controlled by Openreach a subsidiary of BT. More public money (your taxes) will therefore go to

BT who may provide a “rival” service to CMNet. It has previously been stated that the BT network will cover no more than 50% of the properties in the area and CMNet will now have to factor in the possible losses of some subscribers if the BT proposal does in fact proceed.

During the past few months an alternate route for increased backhaul has become available through Peter Buneman’s initiative for a leased line to be shared by a group of community broadband groups. Peter has already ordered a 1,000 Mbps leased line in Mallaig due for delivery in October this year and this will be connected through high speed radio links at least as far north as Applecross and probably further. Sharing capacity in this way will make speeds in excess of 30 Mbps a real possibility for CMNet. However CBS have told us we will not receive any additional funds to upgrade to a 30+ Mbps service; as explained above the money will go to BT instead.

The exterior antennas Nanostations and Nanobridges have been remarkably resilient and we have not had a single failure. However the mains power supply from SSE is a concern; on average we have had two power cuts a month in the past year. At times this can cause problems with the network server and if I am away then Joe has to visit Fernaig House to encourage it back to life. We will review the need for our own backup power supply when we have finalised the location of all the relays. One AirRouter failed out of warranty and three AirRouter power supplies failed and were replaced under warranty. Throughout the first year of operations several subscribers reported other problems all of which turned out to be with their own equipment.

Now we are able to consolidate what we have learnt in the past year we are in a better position to monitor costs. Hamish produces detailed monthly spreadsheets showing our financial position and using this information we can home in on costs; for example Mary has been able to reduce our insurance charges by 80% and next year we will see what can be done about our ISP and bank charges. It is worth noting that the broadband radio equipment we use is following the general IT tradition that the next generation of equipment is cheaper and more powerful than what went before. Today the replacement for our Nanostation (the original external antenna used for subscriber installations) is 15% cheaper. The current replacements for the dishes that we use to bring the signal from Plockton to Creag Mhaol include options that are rated at three times the speed of the original equipment at 450 Mbps rather than the “old” 150 Mbps.

This year we have established relays in Lochcarron, The Glen, at Craig and on the raised beach above Portchullin. We have agreed a location for a relay in North Strome and are working to establish suitable locations in Ardaneaskan.

The Glen was a particular concern due to the cost of installing a new transformer for our mains power supply. As we are spending public money (your taxes) we felt duty bound to look at every other solution we could imagine to see if an alternative could be found to reduce the costs. We are now happy that the installation of the transformer is the only viable option and have ordered the connection which we expect to be available in September.

Late last year we were approached by residents in Ardaneaskan asking to join CMNet. Although the links will not be straightforward as we have to find locations to “bounce” the signal around obstructions. Ardaneaskan is a good fit and should be able to provide relays for access points for Craig, Fernaig Shore and Portchullin.

We have had several requests for a tariff for unlimited usage and although these are often seen in adverts they are not always what they seem; the small print will often refer to a “fair usage policy” which will apply a limit to broadband usage by reducing the bandwidth and therefore limiting usage

by reducing speed. Given our current constraints of limited backhaul, exchange contention and relatively high prices we think it best to continue with our current policy that subscribers pay for what they use. It is interesting to note that some other Community Broadband Groups are experiencing severe performance problems in part caused by runaway individual subscriber usage of the order of 100 GB a month. It has also become clear that the West Coast Backbone will have to pay its provider by usage and it is therefore unlikely that an unlimited usage tariff will be available in the foreseeable future. However as we pay off debt and put aside cash to pay for replacement equipment we do expect that we will be able to reduce our tariff in the years to come.

One obvious area where we are deficient is our ability to monitor our combined bandwidth usage and relate this to the available capacity. At the moment our tools consist of historical graphs which show us bandwidth usage but do not show whether we have used everything that is available. We really only know we have no spare capacity left when performance drops off. We hope to find a way to address this in the coming year.

There are many people to thank for their efforts in the past year:-

My thanks go to Fay Mackenzie and Dolly Chisholm who have so kindly given us their permission to use Creag Mhaol and The Glen for our relays and to Jim Coomber for helping the best route for the power supply at the Glen. Thanks also to Ruth Fiskin and Ian Begg for their help hosting a relay for Ardaneaskan and to Crisdean MacRae and Willie Morrison have helped at Plockton High School and opened up the school when we needed access out of hours. Thanks to Roger Hornby and Beccy Smith for their work acting as coordinators for Ardaneaskan subscribers.

I would like to thank everyone who has given a loan to CMNet, we have been fortunate that our requests for support have always been oversubscribed thanks to the tremendous local support. My thanks also go to Robbie Bain and Audrey Sinclair their help getting us the grant which enabled us to overcome our initial cash flow problems. Thanks are also due to the Community Council for its support via two loans.

Thanks once more to everyone that volunteered to participate in the volume trial.

I would also like to thank all our existing and potential subscribers for being patient whilst we battled against "the system".

Once more I must thank Peter Buneman who has always provided his invaluable expert advice and guidance whenever asked and has worked so hard on behalf of the community groups to provide the backhaul we all need.

CMNet lost Geoff Harrington as a director this year Geoff has moved on to further his career on the bowls court.

Finally I would like to thank my fellow directors who have all freely given their time and expertise.

Please accept my apologies if I have missed anyone off this list.

In the past year Achmore, Fernaig and Braeintra have managed to say goodbye to the 0.5 Mbps cap imposed by our local BT exchange. I look forward to next year when Strome Ferry, The Glen, Craig, Ardnarff, Ardaneaskan and North Strome are also able to say goodbye poor broadband speeds.