

Chairman's AGM Report 2016

CMNet is now three years old and in December it will be two years since our first subscribers joined.

A year ago we had had two ADSLs in use with a combined bandwidth of 16 Mbps and 25 subscribers each using an average of 10 GB per month. Today we have three ADSLs and one fibre line with a combined bandwidth of over 100 Mbps and 35 subscribers each using an average of 16 GB per month, a 60% increase. Our total monthly usage has increased from 252 GB to over 500 GB, near enough a 100% increase.

In the past year we benefited from a BT upgrade to the Lochcarron exchange where the new ADSL has doubled capacity over our existing lines at no additional cost. Very recently we have upgraded one of the Plockton lines to fibre which has given us a tenfold increase in capacity for a small increase in the line rental cost. Both these line improvements will reduce our running costs and have allowed us to reduce the bandwidth portion of our charges by 60%

A year ago we had two relays for radios and two further relays to distribute mains power. Today we have four relays for radios and three relays to distribute power. We will have to build more to connect the remaining potential subscribers and inevitably the rate we can add new subscribers will drop as the number of subscribers per relay decreases.

If we had been forced to wind up CMNet at the last AGM we would have had a shortfall of £4,300, today we would be able to pay all our debts and still have £2,000 surplus. This surplus and any from future years will be set aside so we can replace or upgrade equipment as and when required.

The last twelve months have been very frustrating here is a breakdown of "progress":-.

Ardaneaskan - In the summer of 2015 we planned to install a relay in Ardaneaskan to create connections for Ardaneaskan, Craig and Portchullin. By September last year we had built and tested a relay in Craig and were negotiating with the Forestry Commission for permission to install a relay above Portchullin. After a frustrating year we have given up on the original plan to install one relay to serve subscribers in this area. Fortunately two residents in Ardaneaskan have come forward and volunteered to host mini relays. These, in conjunction with a revised connection to Portchullin, will allow us to provide a connection to all subscribers in the catchment area. We have already installed the first of these mini relays.

It now seems likely that the effort expended to set up and test the Craig relay was in vain and almost certainly this relay will not be used and will be dismantled and recycled.

Lohcarron - We ordered the new line for Lochcarron in September 2015. We attended on numerous occasions for the connection to be made, time after time Openreach failed to turn up. After a series of delays in February we were told there would be yet another delay until May. We considered this delay unacceptable and so we ordered another line in Plockton. Initially Openreach suggested this might also be subject to a lengthy delay but in the end the line was delivered in April and went live in early May. Finally the Lochcarron line was delivered in June **nine months** after we placed the order. On testing the line we found it to be unstable and this was finally traced to the firmware version on the MikroTik router in Lochcarron. This was upgraded and since then there have been no problems.

We paid £5,000 for Openreach to dig a trench, lay ducting and connect the service. In the event all they did was to supply cable and connect the two ends - we are still trying to get a refund.

Portchullin - In November 2015 after waiting months for the Forestry to grant us a wayleave we were able to proceed and place an order for a power supply with the Hydro. We then discovered that the Hydro would also have to wait months for their wayleave from the Forestry. The relay and power was finally available in June 2016 **one year** after we first approached the Forestry for permission to erect a relay.

As we were not able to get permission to install a relay in Ardaneaskan we now have to find an alternate route to supply a signal to this relay.

North Strome / Strome Ferry - Our original plan was to use a site in Strome Ferry to “bounce“ a signal to North Strome and back to all the residents in Strome Ferry. Unfortunately all the sites we visited were unable to “see” the relevant relays or we could not get permission to install an antenna.

We are now looking at other routes to connect Strome Ferry and North Strome.

Strathcarron - We gave a presentation of CMNet services to residents Strathcarron in May and received a positive response. However since the meeting there has been no contact from Strathcarron.

The Glen - At the beginning of the year our priority was Ardaneaskan as installations in The Glen were delayed whilst we waited for the Hydro to install a transformer. However the delays getting permission for a relay in Ardaneaskan meant we were able to switch priorities to The Glen. We completed the installations in The Glen last September and applied for a new line to be installed in Lochcarron. As you might have read above we finally got the extra capacity we needed in May and all the residents of The Glen that requested a connection with CMNet are now live.

West Coast Backbone (WCB / WHAN) - In October 2016 the first subscribers in Arnisdale were connected to WHAN. However further connections are now not possible until the problems with the wireless link between Mallaig and SMO have been resolved.

All the other Community Broadband Groups hoping to join the WCB have severe performance problems which they believe will be solved by higher bandwidth. CMNet have always been sceptical that this will resolve the problem in the long term and so we have decide to make no further commitment to the WCB but instead maintain a watching brief. WHAN does not believe that networks need capacity management which is a fundamental component of CMNet. Until such time that WHAN or CMNet change their view CMNet will not join WHAN.

Backhaul capacity - The new fibre line in Plockton has removed (for the moment at least) the restriction on backhaul capacity. For the first time CMNet does not have to ration capacity and this has allowed us to make a considerable reduction to our tariff. We will now actively encourage subscribers to move to a monthly quota that suits the needs of their household.

Administration Overheads - We are still spending far too much time generating invoices, chasing subscribers for payment and reconciling accounts when subscribers exceed their quota. Currently the charge for going over quota is £2.70 per GB or part GB; moving up to a higher usage band is now just £3 per 10 GB. We will be taking action in the coming year to reduce this overhead and may introduce an administration charge.

Bandwidth - The new Lochcarron line is consistently showing download speeds over 17 Mbps and upload speeds of 1 Mbps. The new fibre line in Plockton has only recently gone live and we have only been able to do limited testing so far but the results are encouraging. Speeds at Plockton High School are 62 Mbps download and 20 Mbps upload. Initial testing shows that these speeds are not achievable

through the CMNet network, more investigation is required to see what is causing the bottleneck. Once the constraints are understood we will tune or upgrade the network as required.

The additional capacity available in Plockton and Lochcarron will allow us to start to increase speeds beyond 5 Mbps next year.

Equipment - The hardware continues to perform well, we had two exterior antennas fail in the first two years of operation. Unfortunately the software has not performed so well and the latest versions have problems with false radar detection that mean we cannot risk upgrading.

CMNet Software - We have made changes to our software this year to capture data from the Lochcarron gateway as well as the Plockton gateway. In the process we have also started to capture information about the performance of the network. This will allow us to predict future trends - e.g. network upgrades and bandwidth requirements.

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

I would like to thank Fay Mackenzie who has so kindly given us permission to use Creag Mhaol and The Glen for our relays. Thanks also 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, Dave and Beccy Smith and Ken Hopper for their work helping with coordination and installation of 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. In a couple of month's time we will be repaying the last of the loans and CMNet will be debt free.

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.

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 been joined by The Glen and West Ardaneaskan who have also managed to say goodbye to miserable broadband speeds.

I look forward to next year when Strome Ferry, Craig, Ardnarff, the remainder of Ardaneaskan and North Strome are also able to say goodbye poor broadband speeds.