

Chairman's AGM Report 2017

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

A year ago we had three ADSLs and one VDSL (fibre line) with a combined bandwidth of over 100 Mbps today we have just two fibre lines with a combined bandwidth of 130 Mbps. The most significant increase being the upload capacity which has increased by 50%. The number of subscribers is unchanged at 35, each using an average of 31 GB per month. Our total monthly usage has increased from a little over 500 GB to over 1,100 GB, an increase of over 100% per subscriber.

The switch from four slow, expensive ADSLs to two fast VDSLs has also seen a significant reduction in backhaul costs which are down by 60%.

This has allowed us to reduce charges twice in the past financial year. A year ago the incremental cost per 10 GB was £9 today it is £1.50 and it will effectively be halved again when the year four tariff comes into effect in December 2017.

A year ago we had net assets of £2,330; by the end of August 2017 this had risen to ~ £5,700 (figure subject to change after review and discussions with our accountant). We will be paying tax around £900 this year. This surplus and any from future years will be set aside so we can replace or upgrade equipment as and when required.

The removal of the backhaul capacity constraint has accelerated CMNet's shift from expansion and development to a mature system with an increasing maintenance workload. Keeping the system up and running and responding to subscriber requests for increased capacity requires time and effort and this has had an impact on adding new subscribers to the system.

As we were unable to get agreement to install a relay in Ardaneaskan we had to rethink the link to the Portchullin relay. After much rambling and binocular work we were able to find a spot on Creag Mhaol above Strome Ferry that has line of sight (just) to the relay on the raised beach above Portchullin. We are very grateful to Fay MacKenzie who has agreed to more relays on Creag Mhaol to allow us to link the raised beach and North Strome and hence provide a link for all those who have requested a connection.

Directors:-

Hamish Howat Hurst who had been one of the founding members of CMNet left us in February 2017. Kate Biss started to attend meetings in November 2016 and formally joined the board in March 2017. Kate stepped down at this year's AGM. I would like to thank them both for their contribution to CMNet.

Georgie Grimson joined us in September 2017.

Here is a breakdown of "progress" by area:-

Ardaneaskan - We are part way through an installation in Ardaneaskan West, this has been delayed due to the need to re-align the access point.

Craig - The access point for Craig has been set up in Ardaneaskan.

Lochcarron - The line was upgraded to fibre in August but initial testing suggests either the BT configuration is not correct or the quality of the line is very poor.

Portchullin, North Strome, Strome Ferry and Ardnarff - No progress this year but the new relays on Creag Mhaol will be used to provide a signal.

Strathcarron - We have heard nothing from Strathcarron and expanding CMNet into this area is now not possible thanks to the demise of CBS.

West Coast Backbone (WCB / WHAN) - In the first part of the year we attended most of the meeting with a watching brief. However as very little progress was made we decided not to attend any more meetings in March although we remained on the circulation list for the minutes. Later in the year it became clear that to all intents and purposes WHAN had ceased to exist.

Backhaul capacity - The new fibre lines in Plockton and Lochcarron have removed the restriction on backhaul capacity. The increase in capacity coupled with the reduction in backhaul costs led to a 40% increase in quotas in just one month. The resulting increase in revenue meant a second decrease in the tariff could be introduced in April 2017.

In July we passed the 1 TB data threshold; 1 TB is 1,000,000,000,000 bytes (this is a lot of bytes).

Given the experience of the past year it is likely we will need a third high speed line at some point.

Subscriber's Bandwidth - The new fibre lines have allowed us to increase subscriber's bandwidth over the past year. This was done in small increments and currently stands at 29 Mbps download and 14 Mbps upload; i.e. 60 times the speed of the old BT Exchange Activate service. The single line in Plockton has enough capacity for all current subscribers and only on rare occasions do we hit the bandwidth limits.

As we increased speeds it became apparent that some subscribers' connections were below the standard required and we embarked on a programme of improvements. In some cases this meant a simple reconfiguration to increase the transmitted signal strength, in other cases subscribers were moved from one access point to another and in a few cases equipment was physically upgraded to obtain a better signal. This exercise took several months effort. We now have a minimum standard for all connections and subscribers in Braeintra who are the furthest from their access point are the closest to the minimum. Even so they can still sustain speeds of 29 Mbps. We plan to increase the threshold and improve links where required to allow for future speed increases. Different units have been tried in Braeintra with little success the next test will be to test swapping the Braeintra access point on Creag Mhaol.

If the Lochcarron line performance cannot be improved to match the Plockton line we will probably have to introduce measures to balance throughput based on subscribers needs until a third line is installed.

Equipment - The hardware continues to perform well; we have had one exterior antenna fail and two interior routers. There is an ongoing problem with apparently random spontaneous reboots of a few internal routers. We are evaluating alternate units.

There have been more problems with software. When a new version is released it is tested on one unit and then migrated to a few more before being rolled out for general use. Some upgrades have caused problems and at times we have had to reverse out some versions on some platforms. The testing process then has to be repeated when the next release becomes available.

The additional monitoring introduced to help increase speeds showed problems with intermittent loss of connection to the Glen. After some effort this was traced to mismatched chips on the dishes in The Glen and Creag Mhaol. Since one was swapped so that both chips matched there have been no further problems. The mismatch occurred when we had to replace one of the dishes on Creag Mhaol that had been infected with a virus last September. The spare replacement dish had a new type of chip.

CMNet Software - We have had a few problems with our home grown software this year; the most dramatic example being the system's sudden and complete inability to send emails. After several days detective work this was traced to some security keys which had expired. Once these were updated normal service was resumed.

During the year we developed new software to analyse the ever increasing amount of equipment to ensure that everything has been configured correctly.

Distractions (why less time is available for new installations this year):-

Statutory Reporting - A considerable effort is required to produce the annual accounts and tax returns for HMRC and Companies House as well as the documentation for the AGM. This cannot be avoided and we are trying to streamline the process so it is less time consuming.

Subscriber accounts - In the past year far too much time was spent generating invoices, chasing subscribers for payment and reconciling subscriber's accounts. On average there are half a dozen changes or account errors every month. It was agreed that when the new tariff is introduced in December 2017 we would change the quota increment from 10 GB to 20 GB in an attempt to reduce the frequency of contract changes. If this does not have the desired effect we will look at other measures to reduce the overhead.

Please note - time spent on Subscriber accounts detracts from the time available for installations

Scottish Government and CBS - In January we received the first request from the R100 team asking for a response **in 48 hours**. In July we attended a two day workshop at which we were given **just over two weeks** to respond with a huge amount of detailed information to show whether we were able to provide NGA (Next Generation Access - 30 Mbps download 15 Mbps upload) this resulted in an emergency meeting of directors and many days effort to present the information to the community. We were subsequently told by CBS that we would not be given NGA status; this then appeared to be contradicted by the R100 team a few days later. In the end we decided not to attempt to apply for NGA status.

CBS is in the process of being wound down and the end date for our grant is getting closer. To ensure that we make full use of our grant we are compiling a list of all the kit required to complete installations for committed subscribers.

Please note - time spent on R100 / CBS tasks detracts from the time available for installations

"Subscriber Ghost problems" - Every problem raised by a subscriber is investigated and this can take a considerable time as we have look at the data captured from many devices. Sometimes we need subscribers to run tests to eliminate potential problems with their equipment or its location. It is beyond frustrating to then get no response from the person that raised the problem when hours may have been spent on the investigation.

Please note - time spent checking “ghost problems” detracts from the time available for installations.

Hacking - In March the dish on Creag Mhaol that connects to Lochcarron came under a sustained and deliberate attack. Although our security prevented the attack from succeeding the attack caused performance problems and required emergency changes to reroute all traffic away from Lochcarron and through Plockton. The attack lasted for several days and was reported to the police.

Daisy - In the spring of 2017 we terminated our contract for two ADSLs with Daisy. They ignored our emails and telephone calls until we cancelled our direct debit payment; this produced a response! A considerable effort was then required to confirm that the final bill was correct as there had been so many errors and corrections to previous bills.

Zen - After months of effort and innumerable emails we finally obtained a refund of the overcharged cost of installation of the telephone line in Lochcarron.

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 who has helped at Plockton High School.

Thanks to Roger Hornby, Dave Whittingham and Beccy Smith, Ken Hopper and Robin Blamey for their help in Ardaneaskan.

I would like to thank everyone who has given a loan to CMNet, without your funds we would not have been able to get CMNet off the ground.

I would also like to thank all our potential subscribers for being patient.

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.

I hope next year we will be free of the distraction of the demise of CBS and the R100 program and if we can reduce the administration overhead I am sure we can make good progress on installations.