

## Chairman's AGM Report 2019

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

In the past year BT/Openreach have upgraded the Achmore exchange and installed a fibre cabinet.

If you live within 200 metres of the new cabinet speeds of 80 Mbps download and 20 Mbps upload are possible. However if you live any further than 1km from the BT cabinet your download speed be less than 30 Mbps and your upload speed less than 7 Mbps. I.e. slower than CMNet. The drop off in performance is due to the limitations of copper wire and its connections. Distance is not a restriction for CMNet; we have a link to Plockton of 6.2 Km which delivers the full 80 / 20 Mbps available from our BT line at the school.

CMNet is the only provider that can deliver Next Generation Broadband speeds to all the premises in the area.

We hope that we will not lose any subscribers to BT as it is important that CMNet maintains its subscriber base and keeps volumes as high as possible. CMNet operates on a cost recovery basis with minimum overheads thanks to everyone volunteering to offer their services for free. As the number of subscribers and the volume of data grow our unit costs drop which means everyone benefits from cheaper broadband.

In the past year the number of subscribers has increased by 4 to 44 however three accounts appear to be dormant and are not showing any usage making the number of active subscribers 41.

There has been no need to increase backhaul capacity in the past year. The average usage of the active accounts is 88 GB per subscriber per month. This year has seen a 50% increase in volumes over the previous year. Total monthly usage by year:-

2019 - 3,600 MB  
2018 - 2,400 MB  
2017 - 1,100 GB  
2016 - 500 GB

The year five tariff came into effect on the 1<sup>st</sup> December 2018 and we saw another large surge in demand. This meant an emergency tariff update was required in April to reduce the variable rate from £1 per 20 GB to £1 per 50 GB. Even with the reduction in the tariff we made a healthy surplus this year and the directors decided it should be distributed to subscribers as a rebate on their subscriptions. All live subscribers received a credit of £60; subscribers waiting for a connection benefited from a £60 reduction in the new joiner's premium which has been reduced from £156 to £96.

We expect that volumes will grow significantly in the next year and so have started the process to install another high speed VDSL line in Achmore Hall.

A year ago we had net assets of £6,500; by the end of August 2019 this had risen to approximately £7,077 (as in previous years this figure is liable to change after the final accounts have been reviewed and the deferred income pool has been calculated and apportioned). As some equipment has been in use for five years we have set aside ~£3,647 50 contingency in case it fails and needs to be replaced.

For once we did not have to divert time to any government initiatives. However in October 2018 the Argocat gearbox failed on a descent from the top of Creag Mhaol. It took until the middle of August

2019 before it was fully repaired and we were able to restart work on the Creag Mhaol relays. Replacing the worn out parts of the Argocat gearbox was only part of the story. It took a considerable amount of time to dismantle the gearbox internals as each of the gear shafts seemed to demand a new tool be researched and purchased before its removal could be completed. In addition a small number of tools had to be specially made for specific jobs.

### **Other topics:-**

#### **Long term support plan**

We have not made much progress on this topic in the past year other than to start work on software that will automatically backup and restore configurations of all the devices we use. It remains our goal to increase the number of people that can support the system. Our new software will give volunteers a simple mechanism to replace any equipment that fails should a CMNet director not be available. To ease the support burden the new relays on Creag Mhaol have been designed to be fault tolerant and will automatically switch to a backup unit should the primary unit fail. Our intention is to extend this to the "old" Achmore relays in due course.

This year we relaxed support from directors and it is no longer the case that we always have one director "on site" available for support.

#### **Electricity supply**

Our new electricity supplier went bankrupt involving us in a long and tortuous series of telephone calls with the administrators and new suppliers.

#### **Directors:-**

There have been no changes to the directors in the past year.

#### **Here is a breakdown by area:-**

**Achmore** - Two new subscribers were connected this year.

**Ardaneaskan** - Two new subscribers were connected this year. A survey vessel in Lochcarron using the same frequency as our dishes (probably illegally) caused problems with the link to Creag Mhaol.

**Braeintra** - We have experienced problems with poor signal strength. When the access point failed we took the opportunity to upgrade the unit to a later version of a NanoStation which gave a marginal improvement in signal strength. Subsequently this was upgraded to a PowerBeam dish which has given a marked improvement.

**Craig** - No change

**Creag Mhaol** - As soon as the Argo was "hillworthy" work restarted on the new relays, the network plan is finished and the new installations have been designed to utilise automatic fallback devices. The new relays are complete, enclosures have been installed, around 700 metres mains power cable has been laid, with all joints made and tested. Work has started on the installation of the electronic equipment.

**Fernaig** - No change

**Lohcarron** - The line has been kept as a backup should Plockton be unusable.

**Portchullin, North Strome, Leacanashie, Strome Ferry and Ardnarff** - No progress at these locations this year but the new relays on Creag Mhaol will be used to provide access points for subscribers in these locations.

**Backhaul** We have agreed with the Achmore hall committee that we can use the hall for our next installation. We are working with Zen to get a new line installed.

**False RADAR** - There have been several incidents of false RADAR detection on various access points - mostly Braeindra. This causes the unit to switch to another frequency interrupting the service for a couple of minutes. In some cases the units have switched to a poor frequency which reduces the signal strength. This has been mitigated by restricting the available frequencies so the unit always stays within the better frequencies. There is no obvious cause but we continue to monitor the units via a central log.

**Subscriber's Bandwidth** - Bandwidth remains unchanged at 29 Mbps download and 14 Mbps upload.

**Equipment** - The hardware continues to perform well with few failures. As mentioned above the Braeindra access point failed, in addition we have had two exterior antennas fail and two interior routers. Last year we reported an ongoing problem with apparently random spontaneous reboots of a few internal routers. This appears to have been fixed by Ubiquiti in later firmware.

**CMNet Software** - We have had a few problems with our server PC. This was traced to some new backup software which has been removed from the server.

#### **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 to Roger Hornby, Dave Whittingham and Beccy Smith, Ken Hopper and Robin Blamey for their help in Ardaneaskan. Thanks are also due to Andrew and Emma MacKenzie who are hosting equipment which allows us to connect to the BT exchange in Lochcarron.

I would also like to thank all our potential subscribers for being patient. We are now very close to powering up the new relays on Creag Mhaol and expect to be able to start to connect new subscribers in the near future.

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.