

Customer Services AGM Report 2021

CMNet is about to enter year eight of operation. Although progress was impacted by the two COVID lockdowns we have still managed to connect around a dozen more subscribers in the past year. There have also been a few issues to resolve. Some old favourites like false RADAR and some new like the performance problems with the Plockton and Achmore gateways. We are fortunate to be able to either resolve or ameliorate most problems by developing our own software to automate the detection and recovery of a lot of issues.

The system is now approaching usage of seven terabytes per month. As well as the increasing number of subscribers the increase was also in part due to the COVID-19 lockdown.

Monthly usage and the daily averages for the year:-

		Monthly Usage (TB)	Daily Average (GB)
2020			
	September	4.4	148
	October	5.7	182
	November	5.7	190
	December	6.2	199
2021			
	January	7.1	228
	February	6.4	229
	March	6.8	220
	April	6.1	202
	May	5.7	185
	June	5.1	175
	July	5.8	188
	August	6.7	217

The highest monthly usage recorded was 6.8 TB (March 2021) and the highest daily usage was 367 GB (Friday 1st February). Usage of 367 GB per day equates to 11.4 TB per month.

The impact of the second COVID-19 lockdown is reflected in the increase starting in December. The new subscribers started to come online in July.

We now have both the fibre lines in Plockton and Achmore working satisfactorily and are in the process of upgrading the line in Lochcarron ready to connect more subscribers.

As at the end of August 2021 there are 53 subscribers online, 18 subscribers are waiting to be connected.

Here are the major production issues tackled this year.

Plockton performance - Poor performance through Plockton was traced to a tree that was blocking the connection to Creag Mhaol. The radios on Creag Mhaol and on the school were moved and performance was restored.

Achmore performance - Initially speeds were very good through the new line in Achmore Hall. However they soon deteriorated and along with other users routed through the new fibre cabinet we started to see major problems. At times speeds were so slow they could not be measured and it prompted Plusnet to volunteer to release us from our fixed term contract. As soon as the Plockton line was back to full speed we took advantage of it to reroute traffic and so bypass the problems in Achmore, this intervention was required on several further occasions. The problems with the Achmore fibre line persisted for several months. Although we were able to provide very detailed evidence of the problems Plusnet could do nothing other than suggest a visit from an engineer. This would not have been of any value as the fault was intermittent. Plusnet's support proved to be less than satisfactory and we concluded that we should move to Zen at the end of the contract; however Plusnet came up with a very low price for renewal and so it was decided to be cost effective to stay with Plusnet as performance had improved somewhat although still below the optimum.

This episode led us to install Raspberry Pi micro computers in Achmore and Plockton so that we could automate monitoring of the lines performance. In due course we will install an RPi in Lochcarron.

False RADAR - There continue to be incidents of false RADAR detection on various access points interrupting the service for a couple of minutes. There has been a considerable effort to address this problem in that past twelve months. Most of the "domino" effects (where one radio jumps to a frequency that causes a problem for another radio) have been eliminated by isolating the frequencies available to individual radios. We have developed software that will provide data to allow better use of frequencies by reporting when frequencies have been changed. This new software is providing valuable data and is still being extended to provide yet more information by email and by creating a central log.

Corrosion - One of the metal enclosures on the Portchullin raised beach has been replaced and a second unit has been purchased to replace the other. These two enclosures are closest to the sea and have the worst corrosion no doubt caused by the salt air. Installations at Portchullin are on hold whilst we replace the second corroded enclosure

We have seen some issues with corrosion causing Ethernet plugs and sockets to have intermittent faults. We are now using dielectric grease on these connections which appears to be working so far.

Other software / Hardware issues - We are still suffering from some minor issues with the Achmore access point losing its connection to subscriber's antenna. We have developed software to detect the problem and reboot the unit if required. There was a disk failure on "The Dude" server whilst is still in the process of being rebuilt.

It transpires that some MikroTik software upgrades are not compatible with older backups which means that some functions fail and the units backups cannot be restored onto another device. We will enhance our software to configure these units automatically.

Phil