## **Customer Services AGM Report 2022**

Monthly usage and the daily averages for the year (GB = Gigabytes, TB = Terabytes):-

		Monthly Usage (TB)	Daily Average (GB)
2022			
	September	7.4	247
	October	9.4	305
	November	8.6	287
	December	10.7	345
2023			
	January	9.6	311
	February	8.0	285
	March	8.9	286
	April	9.3	309
	May	9.1	295
	June	9.1	302
	July	10.4	335
	August	11.4	367

The highest monthly usage recorded was 11.4 TB (August 2023) and the highest daily usage was 708 GB. Usage of 708 GB per day equates to 21.9 TB per month.

All three balanced fibre lines; Plockton, Achmore and Lochcarron are working satisfactorily each with download speeds of ~72 Mbps and upload speeds of ~18 Mbps.

As at the end of August 2023 there are 63 subscribers online, 8 subscribers are waiting to be connected.

Here are the major production issues tackled this year.

False RADAR (FR) - There continue to be incidents of FR detection on a handful of access points. This usually manifests as an interruption to the service for a couple of minutes. As in the previous year there has been a considerable effort to address this problem in that past twelve months. Our software that produces a daily log of units that have "jumped" to frequency has been enhanced to provide a matrix of radios and their primary and secondary frequencies. This data has allowed us to reconfigure units to reduce the number of false RADAR events considerably. It is now possible to home in on the radios that have the most events and look for solutions. The link from Creag Mhaol to Achmore Hall was identified as the unit suffering from the most FR events and this link was upgraded to 60 GHz which as well as eliminating all FR events has also increased the maximum theoretical throughput by a factor of 10.

**Enclosures** - To eliminate problems from corrosion we replaced one of the metal boxes with a plastic unit. However it appears that this may be causing some problems with the electronic equipment and so we will check if this is in fact the case before we replace more metal enclosures. As yet we have not reached a conclusion as to the best replacement for the original metal enclosures.

**Other software / Hardware issues** - We have configured the MikroTik router that connects to the Fernaig and Achmore access points to detect when they lose all their connection to subscriber's antenna. This happens very rarely only once per several months. When the fault is noted the router will reboot the device to correct the problem. We have planned an upgrade for these unit to the latest Ubiquiti technology which should offer a permanent fix.