

# Broadband Steering Group

Minutes of the Meeting held on the 8<sup>th</sup> February 2017 @ 7:30 p.m. Fernaig House

## 1 Present and Apologies

**Present:** Kate Biss, Phil Game, Joe Grimson, Mary MacBeth

**Apologies:** Neil MacRae

Hamish has resigned. Hamish was one of the founding directors, present at the first meeting of CMNet (before it had a name) in April 2013. Hamish was responsible for setting up the initial chart of accounts and all things financial. He was instrumental in setting financial and general company policy in those early days and also got his hands dirty helping with installations. We would all like to express our thanks to Hamish for his valued contribution to CMNet.

## 2 Approve and adopt previous minutes

The previous minutes for January, were approved, proposed by Mary, seconded by Joe.

Copies of previous minutes are on our website at:-

<http://www.stromeferry-and-achmore.co.uk/index.asp?pageid=433827>

Email [cmnetcic@gmail.com](mailto:cmnetcic@gmail.com) if you would like to be put on the circulation list or you have any questions.

## 3 Chairman's report

### 3.1 Bandwidth

**Most subscribers now have superfast broadband; for the moment we have decided to cap speeds at 30 Mbps download and 15 Mbps upload. Download and upload speeds are now 60 times faster than the BT connection. A file that took 2 hours to transfer through BT will now take 2 minutes through CMNet.**

To prepare for increasing the speed a full review took place of all units and their configuration; practically all units were updated to correct or update previous configurations. Some subscribers were moved to an access point with a better signal strength to eliminate weak signals; some units need to be realigned or replaced to improve signal strength. All online units had their firmware upgraded to the latest version. A few units were not accessible as subscribers had powered them off; these will be updated when they are next online. A few physical upgrades are still outstanding but these are not impacting anyone's performance.

During the past month we slowly increased bandwidth limits and more monitors were added to AirControl to ensure that everything was performing satisfactorily. All subscribers with monthly quotas of 30 GB or more have been moved to the new high speed fibre line in Plockton; this group of subscribers now have speeds of 30 Mbps download and 15 Mbps upload. The remaining subscribers, who now go through Lochcarron, have download speeds of 12 Mbps and upload speeds of 0.9 Mbps.

Why increase speeds? Firstly, it was one of the main objectives of CMNet to design and build a system capable of Next Generation Broadband (NGB) speeds. NGB or super-fast broadband had a different definition when CMNet started but is currently defined as 30 Mbps download and 15 Mbps upload.

However quite a few facilities won't appear to work any quicker; for example streaming audio or video will work at the same rate as before. Although the software will download and fill buffers faster there will be no difference in speed to the listener or viewer. The problem in having slower speeds was that the restriction of 5 Mbps meant that once three people in any household watched a video at the same time the total load would exceed the bandwidth available and buffering would be seen by one or more users in the household. With speeds six times greater this will only become an issue in very large households where many simultaneous sessions are likely.

Video technology is also moving towards higher and higher resolutions. Recommendations vary from provider to provider but some recommend a bandwidth in excess 25 Mbps for 4K video streaming.

**However please note that 25 Mbps will eat quotas at a rate of 11.25 GB per hour.**

Data transfers that run at full bandwidth, particularly uploads, will register as much faster. A 1 GB file uploaded through BT would take about 9 hours, through CMNet 1 GB will take 9 minutes, downloads run at twice that rate so would take less than 5 minutes. However some data transfer programs do not use the full bandwidth available and if that is the case these programs will take longer than the theoretical minimum time.

Raising bandwidth to superfast broadband speeds has revealed a few interesting "features". We mostly use OOKLA to test bandwidth and have discovered that some of the time some of their host sites cannot support superfast speeds, OOKLA test results generally gives speeds of 25 - 29 Mbps download and 14.5 - 14.9 upload Broadband speed checker gives speeds of 30 - 32 Mbps download and 13.5 - 15 Mbps upload. The fibre line has been tested in Plockton

at 60 Mbps download and 20 Mbps upload however CMNet has capped individual subscribers' bandwidth at 30 Mbps download and 15 Mbps upload. Joe and Phil ran repeated speed tests whilst speeds were being increased and as they have amongst the worst connections (poor signal strength) to CMNet we are confident that every part of CMNet will be able to support superfast broadband when all the planned upgrades are in place.

Speeds tested through Wi-Fi vary enormously even if tested in exactly the same place. To get superfast broadband speeds you may find your Wi-Fi device needs to be very close to your AirRouter / AirGateway, probably in the same room. This shouldn't actually be too much of a problem as the high speeds are more about the total capacity of all devices combined in a household rather than individuals units' bandwidth as explained above. However if you are concerned about data transfer speeds to individual units then an Ethernet cable connection will give the highest and most consistent speed.

### 3.2 *Cyber Attack*

A new stable version of the Ubiquiti software has been tested and loaded onto all available units; any that are currently off-line will be updated when they next come online.

### 3.3 *Admin Overhead*

We continue to encourage subscribers that exceed their quota to upgrade their contract quota rather than pay an excess charge. It was agreed that we would always make sure that there is a financial advantage to increase quotas rather than pay an excess charge for a given month. If the excess charge is less than the quota increase charge we will waive the excess charge and increase the quota from the following month. If the excess charge is greater than the increase quota charge we will backdate the quota increase and replace the excess charge with the increased quota charge.

Our aim is to get everyone on the correct quota, so that they rarely exceed 90% of their monthly quota. This will eliminate the need to produce invoices for excess charges and reduce our admin overhead.

### 3.4 *WHAN*

There have been no WHAN meetings since the last minutes were issued.

### 3.5 *CBS*

Nothing received from CBS since the last meeting.

### 3.6 *Subscribers*

#### 3.6.1 *Existing relays*

Live subscribers	- 34
Subscriber installation pending	- 0

#### 3.6.2 *Live relays but waiting for backhaul*

Kit installed	- 0
CMNet installations pending	- 0
Subscriber installations pending	- 0

#### 3.6.3 *Waiting for new backbone relays*

Waiting for surveys	- 4
Waiting for installations	- 33

#### 3.6.4 *Others*

On live access points but requested a delay	- 2
No response when asked for an installation date	- 2
Withdrawn from CMNet since the last minutes	- 1
New joiners since the last minutes	- 2
Total	- 74

One subscriber has left CMNet.

### 3.7 *Terms of Reference*

Deferred

## 4 *Secretary's report*

### 4.1 *Risk register*

No change this month. **Action: Mary**

### 4.2 *Long term support plan*

No progress this month. **Action: Mary**

### 4.3 *Update Bank Account details*

The forms are complete and ready to submit. **Action: Mary**

#### 4.4 Zen Refund

After making no progress with Zen we informed them we are going to take up the matter with BT directly. We asked Zen to confirm in writing the action they have taken so we can pass this information on to BT. In response we have obtained a refund from Zen of £3,133.97 but we still do not have the accompanying invoice / statement. **Action: Mary**

#### 4.5 Terms of Reference

Deferred

#### 4.6 Ofcom license

Mary has renewed our Ofcom license for a year to operate a wireless broadband service. **Completed**

### 5 Finance Director's Report

#### 5.1 Monthly Statistics

Capital expenditure claimed against our grant of £37,538:-

Brought forward	- £24,985.75
This period	- £ 0.00
Carried forward	- £24,985.75
No Change	

Revenue:-

Brought forward	- £4,062.94
Income this month	- £611.90
Expenditure this month	- £515.30
Carried forward	- £4,159.54

Liabilities

Estimated Liabilities	- £377.00
Estimated balance after liabilities	- £3,782.54

Provision for replacement of Electronic equipment

Total value purchased to date	- £9,000.00
Balance after provision	- £-5,217.46

All loans have been repaid and our only liabilities are the remaining periods to run on our ISP contracts.

#### 5.2 Outstanding subscribers' debt

The total outstanding debt as of the date of the meeting was £3; reminders to pay have been issued.

Some subscribers are in credit as they have not reduced their monthly standing orders, reminders have been sent out. It was agreed the best approach will be to issue refunds once subscribers have settled on their final desired quota and amended their standing orders accordingly.

##### 5.2.1 Next three month's budget and cash flow

Mary has assembled her claim for outstanding payments over the past few months and will arrange a separate meeting to go through the items in detail with Kate. **Action: Mary, Kate**

##### 5.2.2 Housekeeping

A small number of changes have been made to the accounting and reconciliation package for subscriber payments. More work is required to automate the reconciliation of suppliers' payments. **Action: Phil**

#### 5.3 Payments for installations of subscriber's equipment

All payments are up to date.

#### 5.4 Standing orders

One subscriber has yet to decide on their final quota and update their standing orders. **Action: Joe, Phil**

#### 5.5 Additional access to the bank account

Mary will give Kate CMNet company details so she can contact the bank to get online access to the accounts. **Action: Mary, Kate**

#### 5.6 Revised tariff

Due to the unexpectedly large increase in subscribers' quotas since the year three tariff was introduced last December a need has arisen to review the charges ahead of the normal twelve month period. Phil circulated a note containing the current capacity and usage now we have some statistics for the new fibre line and the current monthly income from the new subscribers' quotas.

After considering various options it was decided to take a cautious approach and not rely on income from future growth in the number of subscribers or quotas sold. To make sure CMNet maintains a modest profit to fund future improvements to the system a new rate of £1.50 per 10 GB was set. The "standing charge" of £5 remains unchanged.

The new tariff is still in 10 GB increments; some examples showing the new rates:-

10 GB for £6.50, 20 GB for £8, 30 GB for £9, 50 GB for £12.50, 100 GB for £20, 200 GB for £35 etc.

The new tariff will come into effect on the 1<sup>st</sup> April 2017. The year three tariff premium for new joiners will increase to £132 but will be offset by the increased increment paid each month. A new joiner on the basic 10 GB tariff will pay £13.50 for the first 12 months and then £10.50 for 12 months before joining the revised third year tariff.

## 6 Internal auditor's report

It was agreed we would prepare a synopsis of our current practises, needs and areas of weakness to assist ourselves and the auditor. No progress this month. **Action: Phil**

### 6.1 Assets, bf, acquired, relinquished / written off, cf

No progress this month.

### 6.2 Liabilities

No progress this month.

### 6.3 Description of the Audit Trail

No progress this month.

## 7 Customer Relations

### 7.1 Production Environment

Most customers now go through the Plockton fibre line and have speeds of 30 Mbps download, 15 Mbps upload (superfast broadband). Lower usage customers go through Lochcarron where speeds have been increased to 12 Mbps download and 0.9 Mbps upload. When the Lochcarron line has been upgraded to fibre we will increase everyone's speed to 30 Mbps / 15 Mbps.

#### 7.1.1 Problems and complaints

Joe is still having problems updating firmware, this is not a high priority to fix and will be addressed in due course.

**Action: Phil, Joe**

There have been some issues with a small number of AirRouters rebooting themselves and this is currently under investigation. **Action: Phil, Joe**

There was a brief outage on the new Plockton fibre line, the Zen router was rebooted remotely and the service resumed.

We do not know the cause of this problem. We have put additional monitoring on the line.

#### 7.1.2 Usage quotas

The monthly total for January was 809 GB with a daily average of 26 GB, a 40% increase over December. We hit a new one day high with usage at 77 GB which equates to a monthly usage of 2,387 GB.

Five people exceeded their quota and four have opted to increase their monthly quota to the next band, one response is still outstanding.

#### 7.1.3 Possible virus infection

Although the automated monitoring system has reported some very high website access counts these appear to have just been intensive usage. The monitoring system will be amended to increase the reporting threshold. No progress this month. **Action: Phil**

#### 7.1.4 Installation of domestic equipment

No installations this month

#### 7.1.5 Customer Contracts

Due to the large number of subscribers increasing their quotas and the impending tariff rate change we will not issue new contracts until we are sure that the subscriber's final quota has been agreed. To save paper we will check with our solicitor if we can issue amendments rather than complete new contracts. **Action: Phil, Joe**

## 7.2 Changes for next month

### 7.2.1 Increases in quotas for existing subscribers

More quota increases have been requested and processed. To encourage subscribers to move to the correct tariff we are allowing quotas increases to be backdated instead of surcharging subscribers exceeding their quotas. New contracts will be sent out in due course. **Action: Phil, Joe**

### 7.2.2 Additional Management tools / reports

The software to check the configuration of different types of equipment has been enhanced to create a pro forma configuration for new equipment. This will be used periodically to ensure all equipment has the optimum configuration. **Action: Phil**

### 7.2.3 Potential personal safety issue

Changes are ongoing. **Action: Phil, Joe**

### 7.3 *Volume trial*

#### 7.3.1 Review of the trial

No progress this month. **Action: Phil**

### 7.4 *Terms of Reference*

Deferred

### 7.5 *Problem reporting procedure*

No progress this month. **Action: Phil**

## 8 **General topics**

### 8.1 *Documentation*

#### 8.1.1 Mast lease

Nothing from the Highland Council as yet

#### 8.1.2 Network Plan

No progress this month. **Action: Phil**

### 8.2 *Relays*

#### 8.2.1 Creag Mhaol

We will survey the existing and proposed Creag Mhaol sites with Fay. **Action: All**

#### 8.2.2 Plockton

##### 8.2.2.1 *Hosting agreement*

We will add details of the solicitor's quote to the accounts. No progress this month. **Action: Phil, Kate**

##### 8.2.2.2 *Equipment and tidy up*

No progress this month. **Action: Phil**

### 8.3 *Backbone development*

#### 8.3.1 Lochcarron

We will prioritise finalising the contract for Andrew. **Action: Phil**

#### 8.3.2 Ardaneaskan

We will prioritise finalising the contract for Beccy. **Action: Phil**

#### 8.3.3 Portchullin

No progress this month. **Action: Phil**

#### 8.3.4 Craig

A further signal strength test and antenna alignment is required in Ardaneaskan West before we can start work in Craig.

No progress this month. **Action: Joe, Phil**

#### 8.3.5 North Strome

No progress this month. **Action: All**

#### 8.3.6 Ardnarff

No progress this month.

### 8.4 *Testing*

#### 8.4.1 Management & accounting software

The subscriber usage email will be enhanced to give the specific amount of data used to allow subscribers to better manage their quotas. No progress this month. **Action: Phil**

### 8.5 *Restoring power to the old TV repeater*

#### 8.5.1 Removal of equipment from Holly Croft

Phil is to check Eric & Elizabeth are happy with our proposal to compensate them for the use of their electricity. Phil is to tidy up all the equipment left on their premises. No progress this month. **Action: Phil**

#### 8.5.2 Removal of old cable

No progress this month.

#### 8.5.3 Protection of cable on the hill

No progress this month.

#### 8.5.4 Backup Generator

No progress this month.

## 8.6 ISPs

### 8.6.1 Community backhaul, West Coast Backbone (WCB)

No update since the last minutes.

### 8.6.2 ADSL Broadband installation at Plockton High School

We are currently trialling speeds of 30 Mbps download and 15 Mbps upload on the fibre line and will continue to monitor the system's capacity. **Action: Phil**

### 8.6.3 ADSL Broadband installation at Lochcarron

A series of changes were made to switch high volume users from Lochcarron to Plockton which has alleviated the upload capacity constraints, we will continue to monitor the system's capacity. **Action: Phil**

The Openreach website is still showing Lochcarron as "In scope" suggesting the upgrade to fibre is **not** imminent although CBS have told us that the service should be available in February or March.

## 8.7 Implementation

### 8.7.1 Phase 2 - Relays and creation of access points for the remainder of residents and connect trial subscribers.

#### 8.7.1.1 Equipment

No additional purchases this month. It was agreed we would buy a MikroTik router to use as a server for additional network monitoring software. We will check current stock of equipment and put together a shopping list to ready to start work on the next phase. No progress this month. **Action Phil**

## 8.8 Company Logo

No progress this month. **Action: All**

## 9 Director's training session

### 9.1 Configuring Ubiquiti and MikroTik equipment

We will organise another training session. **Action: Phil, Joe.**

Joe and Phil went through the management reporting system documentation. Phil will update and extend the document.

No Progress this month. **Action Phil**

Joe and Phil went through the configuration of the Lochcarron router, more training will be organised in due course.

**Action: Phil, Joe**

### 9.2 AirControl

A new version of AirControl is available; this will be installed when time permits. **Action: Phil**

### 9.3 The Dude

A new version of The Dude is available; this requires new hardware and will be installed when time permits. **Action: Phil**

## 10 AOB

None

## 11 Items to add to the agenda of the next meeting

None

## 12 Next meeting

Date of next meeting Wednesday, 8<sup>th</sup> March 7:30pm at Fernaig House.

The meeting closed at 9:40 pm.