

# Broadband Steering Group

## Minutes of the Meeting held on the 1<sup>st</sup> May 2013 @ 7:30 p.m. Fernaig House

**Present:** Phil Game, Joe Grimson, Geoff Harrington, Hamish Howat Hurst, Mary MacBeth, Neil MacRae,

**1) Apologies:** None

**2) Previous minutes.**

Proposed by Geoff, seconded by Joe

Copies of minutes are on our website at:-

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

Email [Broadband@fernaig.fsnet.co.uk](mailto:Broadband@fernaig.fsnet.co.uk) if you would like to be put on the circulation list or you have any questions.

**3) Role of auditors, finances and liabilities**

### Auditors

The revised TOR were circulated by Hamish, everyone thought that we now had all the data items we need to capture. Joe asked what the “Type of Consumable” would be used for and Hamish explained that we would need to differentiate between “permanent” and “consumable” assets. E.g. Ubiquiti kit which is expected to have a life of many years and will be depreciated versus cable ties which once installed have no residual value.

It was suggested we also use the MAC code where relevant as this will allow us to identify equipment remotely.

Phil gave Hamish and Geoff copies of invoices received so far totalling £805.83.

These cover:-

- 2 x Nanobridges
- 3 x Nanostations
- 2 x AirRouters
- SWA mains cable, joints and clips
- UTP Ethernet cable, plugs, & tester
- Scaffold poles & fittings

This is more than the estimate as we purchased additional SWA mains cable to allow a reroute to bypass Jim Coomber’s garden and we bought scaffold poles and fittings to make setting up the test bed easier.

Hamish & Geoff will have a separate meeting to set up the auditor’s records.

**Action: Hamish, Geoff**

We then discussed what functions the CBS “Holding Entity Thingy” (HET) needed to perform; status of bonds, interest rates, our ability to borrow, bank accounts, negotiate and commit to contracts, liability insurance and the ability of the HET to grow so we can take in Ardaneaskan, North Strome etc.

The end result being it was agreed we should set up a separate meeting with Bob Anderson to thrash out these questions.

**Action: Geoff**

It was agreed we should check with Robbie Bain that the CC loan can be repaid with interest.

**Action Phil**

### **Issuing bonds for domestic equipment and using the CC loan for backbone equipment.**

If we take this approach it will allow us to build the backbone (which distributes the signal to all locations) independently of the domestic installations. We will need to raise bonds earlier and will need an additional £1,100 but we will be able to repay all loans including the CC loan a couple of months earlier.

The original estimate was a total of £6,300 split between £2,400 one year bonds and £3,900 two year bonds. The revised figures show £7,400 in total with £3,400 one year bonds and £4,000 two year bonds. Both models assume a loan of £5,000 from the CC to be repaid after all the bonds have all been repaid.

It was agreed we would take this approach and raise money from bonds earlier than originally planned and keep some of the CC loan in reserve for backbone equipment.

It was stressed that timescales and figures may be subject to significant change as we will not be able to produce an accurate financial model until we know when every household wants to switch from BT.

### **Insurance cover**

Joe reported that he had checked with his insurance company and they had told him that equipment installed at someone's house, either internally or externally, would be covered by household insurance. This will be factored into the domestic contracts. It will be the responsibility of individual households to check with their insurance companies. We will investigate whether the broadband company needs cover for damage caused by equipment on household sites. We will check what other community broadband companies have done.

**Action: Phil**

### **Format of the Holding Entity Thingy (HET)**

Phil has looked at a few other broadband companies and they are all set up as CIC. Joe & Neil reported that a local enterprise set up as a CIC incurred legal fees in excess of £3,000.

We will aim to have the holding company set up before the end of the volume trial.

## **4) Testing Update**

### **a) Ubiquiti equipment**

The AirRouters have arrived and have been set up and work well. It was decided that we would set up the domestic Nanostations as a "firewall" to prevent any issues arising from domestic networks. The Nanostations will not be accessible by the householder. It is also proposed that we do not allow households access to the AirRouter configurations during the period of roll-out of the project. We will review this after the first year or so.

Although the AirRouters do have an USB port it is not configurable for use, this may be a problem for anyone who currently uses the BT hub's USB port. Please let us know if you currently use the BT Home Hub USB port.

## **b) Outstanding issues to be resolved for this configuration**

Check all parameters for the best setting.

Not finished and we may need to do some additional fine tuning, but we do have a robust working configuration.

**Action: Phil**

Set up second Station on each AP, i.e. more than one user at a time.

**Completed**

Check out AirControl, which is additional management software from Ubiquiti.

Not finished, but doesn't look like it will do everything we need. So we may have to look for an alternative.

**Action: Phil**

Decide on naming conventions.

Phil proposed:-

“Device type+location/name+role

This will produce names such as:-

Nanobridge M5 Plockton AP

Nanostation M5 Game Stn

(AP = Access Point, i.e. it will accept connections from other devices. Stn = Station, which can connect to an AP)

It was agreed we would use this initially and review once we started the installation.

**Completed**

Investigate management & accounting capabilities, not finished, see AirControl

**Action: Phil**

Bounce a signal from Fernaig House to the hill and back.

**Completed**

Speed tests, this will be ongoing throughout the project, but current tests from Fernaig House to the hill and back show:-

Nanobridges are running at 70Mbps each way (i.e. 140 Mbps bandwidth in total).

Nanostations at 35Mbps each way (i.e. 70 Mbps bandwidth in total)

I.e. well in excess of the 5Mbps target.

Bounce a signal from Fernaig to the hall via the hill

Connect the hill to Plockton

Test from Fernaig to Plockton

Test from the Hall to Plockton

Demo > 5Mbps, and get everyone's approval to proceed.

**Outstanding**

Phil asked if anyone had a spare switch or router that could be used to ease testing of the new equipment.

Hamish & Neil both very kindly offered to loan equipment to help.

**Action: Hamish, Neil, Phil**

Neil asked what the maximum length of an Ethernet cable run is. Phil couldn't answer this at the meeting, but, subsequent to the meeting, thanks to Ubiquiti forums, the theoretical maximum is 130m, however most installations will look for other solutions when the length exceeds 100m. The actual length depends on the type and quality of the cable, type and quality of the RJ45 jacks (plugs) and the skill of the person making up the cable. Pure network runs (not supplying power to devices) can be over 200m.

### **5) Restoring the power to the TV repeater station for the demo**

Thanks to a joint effort by the Morrison family, Jim Coomber, Mary, Neil, Joe, Hamish and Phil the power has been restored to the old TV repeater so that testing can be completed and a demo run in the hall.

**Completed**

Aluminium scaffold poles have been purchased and used to mount a test site on the hill and at Fernaig.

**Completed**

We will review the condition of the old buried cable and route. The first step will be to cost bringing it up to "industrial" standard. If finances permit we may upgrade before we start the volume trial to avoid the risk of future disruption.

**Action: Phil & Mary**

### **6) Test link from Plockton**

We now have a suitable "donor" in Plockton. We have set up a test rig at Fernaig which can be transferred to Plockton so that the Ubiquiti equipment will be free standing.

We will organise a time to visit and discuss this in detail so we can set up the test equipment.

**Action: Neil, Phil & Mary**

How do we express our thanks to the donor?

**Action: All**

Testing slots

If the tests from Fernaig to the hill are a good indication of what to expect, one evening (LEDs & laptop screens are difficult to see in bright sunlight) to connect to the hill & run a couple of Internet speed tests at Fernaig. If Fernaig and the hall cannot be connected at the same time then same again at the hall otherwise one test at the hall

**Action: Phil**

### **Demonstration in the Hall**

We have been given approval to set up the equipment by the hall committee; weather permitting the equipment will be set up and tested in the next few days.

**Action: Phil & others if required**

There was some discussion about the best format to use for the demo and we decided that we would have short rolling presentation, lasting between 10 and 20 minutes which we would repeat for two hours. Anyone would then be able to drop in and watch a speed test and a couple of examples of the difference between the old and new systems. If possible we will set up a comparison using our current BT connection. We will have a dry run in advance of the demo to decide on the best examples to highlight the improved speeds.

**Action: All**

## **7) Volume trial.**

After the demonstration and before the volume trial we have the following outstanding issues to resolve:-.

### **Legal**

What sort of company (HET) do we want?

We need to define the domestic contracts?

We need to define the Wayleaves; we agreed that we would include a clause that we would move cables at our expense if requested.

We need to define the terms for bonds?

All of the above will be discussed with Bob Anderson

**Action: All**

### **Infrastructure**

Bury the new power cables

Do we lower existing power cables or replace them with new? Our experience so far has been that the old buried cable is difficult to remove without damage.

We will measure the various options for routing the cable and cost the alternatives.

**Action: Phil, Mary**

Where should we locate the power source?

Where will we locate our “consumer unit”, should we move it out of Holly Croft?

We will contact the Hydro and ask where we can get more information.

**Action: Neil**

Finalise the build scaffold relay stations (how many, new site(s))?

Should we build the Lochcarron relay now?

We need to look again for a Line of Sight (LOS) to Strome Ferry

Outstanding Technology, testing over longer distances might suggest sector antenna would be better than the Nanostation.

What equipment should we use to link to the Glen, more testing will be required.

What do we do about obstructed line of sight, trees etc.

## **8) Next meeting.**

The next meeting will be with Bob Anderson, date to be announced, at Fernaig House.

The meeting closed at 10:50pm