

# DIGICOM

## The Newsletter of MAXPAK, The Midlands Packet User Group

The Chairman and Committee wish all MaxPak Members, their families and friends a very Happy Christmas and New Year.

DC75

Nov / Dec 2004

### Node/BBS News

Correct 12th December 2004

#### GB7MAX /BLOX Node

The BBS, using WinFBB continues to perform satisfactorily.

Direct Telnet access to the BBS on Port 4001 is available. The XRrouter Node continues to work well. Telnet access to the BLOX node on Port 2323 is still very much available and is working well. Contact Chris, G0CNG, sysop, for further information or access password authorisation.

#### GB7PMB

GB7PMB is currently active on 144.950 MHz, 70.3375 MHz and 432.675 MHz (attended only). Direct Telnet access to the BBS on Port 4001 is now available. Telnet access to the SALOP node on Port 2323 is also available and is working well. Contact Tony, G7BUG or Chris, G0CNG, for further information or access password authorisation

#### GB7WV NODES

All nodes and the UI digipeater are working OK

#### DY NODES

These nodes are working OK  
Any feedback should be sent to Chris  
G0CNG@GB7MAX

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### **2004-2005 MEMBER'S MEETINGS**

Monthly Member's Meetings continue to be held at The **Sir Robert Peel Public House**, located on the main A4124 Bell Lane adjacent to the Lichfield Road / Broad Lane Junction and traffic lights (opposite the old Tildesley Ford Garage).

**A to Z Reference: Square 7G, Page 25.**

The next meetings, all at the Sir Robert Peel at 20.00 hrs in the Upstairs Meeting Room are:

**Wednesday 5th January 2005**  
**Wednesday 2nd February 2005**

We hope you may be able to pay us a visit at one of these meetings.

## CHAIRMAN'S JOTTINGS

Once again it is that time of year! Christmas just around the corner and the usual hustle and bustle of preparing for it, shopping etc. I apologise for the late release of Digicom 75. The last few weeks have been hectic for me personally.

Hope everyone is keeping well.

The winter half of the year tends to be traditionally quiet on the MaxPak front and this year has been no exception.

GB7MAX and GB7PMB continue to trundle along merrily.

I have experimentally added a user 9K6 TCPIP Port to BLOX/GB7MAX which is available on 144.825 MHz for those of you within reasonably close range of Bloxwich, since it is using a VHF Hi-Band Folded dipole mounted on the main antenna mast below the base of the main Watson W60 collinear which serves the 144.9375 and 432.675 MHz 1K2 user ports.

The IP Address of this port is the same as for the main BLOX node, i.e. 44.131.128.1

If you have 9K6 facilities on 2m and would like to try this port, please ask me for an IP address. I'll be only too glad to give you as much help as I can to get up and running.

The only other major change applies to Telnet users of GB7MAX. Please use **gb7max.ath.cx Port 4001** to access via the Net and NOT my old IP address (81.7.12.236) which no longer exists. Please contact me if you need any help here either via Email, packet or landline (contact information on page 9).

Wednesday 1st December saw a very enjoyable Member's Christmas Social buffet and natternight at the Sir Robert Peel. A shame that more were not able to join us, but those who did attend enjoyed a good eat and natter !

It finally remains to wish you all a very happy Christmas and New Year and hope you all have a restful Christmas break.

73's

Chris G0CNG

Chairman and Sysop GB7MAX

[www.maxpakgb.org.uk](http://www.maxpakgb.org.uk)

# **Minutes of the UK Amateur Packet Radio Conference 2004 (Held in Worcester on Saturday 15th May)**

Minutes of the UK Amateur Packet Radio Conference 2004

(Held in Worcester on Saturday 15th May)

Part 4 - Items 8-10 (Discussions)

## **Item 8 - Discussion: Managing the combined RF/Internet-linked Network**

### **Speaker & Chairperson: Paula, G8PZT**

(This item was led by Paula G8PZT, who first presented the topic in depth and then went on to coordinate a discussion among delegates.)

Paula introduced her talk by pointing out that the packet network is now a hybrid, made up of both radio and Internet links. Opinions about the use of the Internet may differ, but it won't go away. Most importantly, the network works and is better than what was before. The issue before us is how best to manage and improve it.

Describing the network as it used to be, Paula observed how node tables were never full. The network topology was defined by terrain, with the consequence that some areas were badly served. Some links were slow and unreliable, meaning that real-time usage was not really feasible and leaving many users dissatisfied.

Nowadays we have huge nodes tables and much better connectivity. The network topology no longer depends on the terrain, and access to nodes worldwide is possible. As a result, real-time use is feasible in some places. Overall, users are offered a more satisfying service, although the new situation does put some strain on the network.

Paula cited firstly the huge node tables that are produced. These use lots of memory, and consume lots of bandwidth when broadcast. Some users want them because of the increased connectivity they offer; other users have no interest in them, because of the language and cultural barriers that arise.

Older software can suffer from these conditions; BPQ cannot cope with more than 180 nodes; TheNet X1J seems to have a practical limit of just over 100. Both can become unstable or behave oddly, and BQP doesn't easily support IP routing, making telnet over radio very difficult. Moreover BPQ's static parameters can make it seem very slow at times on the modern fast network.

The presence of foreign software - notably Xnet - in the network brings problems of its own. Xnet puts out frequent nodes and INP3 broadcasts, leading to rapid obsolescence. Its calculations of node qualities are not as accurate as we would like, and one of its main failings is that it bends routing towards its own nodes.

Paula further cited the problem of routing loops - where a packet follows a circular path through the network, never reaching its target, and resulting in level 4 connection failures. This is usually caused by delays in propagating routing changes, for example when a node dies, or goes invisible. With our network of older software, it can take several hours per hop for the node to disappear from all the tables, and if there is lots of connectivity this can end up in a loop.

Many "quality-related" problems can be resolved by using routing metrics based on round trip time rather than netrom quality. These give a true and up to date measure of the goodness of a route, and the sysops can't mess with them. But they can't be used everywhere, because there are some poor routes and old software in the network.

Using these metrics, we can restrict the number of hops accepted from each neighbour. Thus on the overseas nodes we can say we only want 1 hop, which is the neighbour itself, but none of his neighbours. We've tried limiting the overseas visibility by setting MINQUAL equal to the route quality, but it wasn't so successful.

Paula observed that when foreign nodes creep in using Netrom qualities instead of time-based metrics, an effective way to restrict their numbers is to degrade the quality according to callsign. We can do this in such a way as to favour the countries according to their likelihood of anyone wanting to connect there.

In truth, the packet network probably contains too much connectivity and the disparities of software and quality setting makes it very difficult to manage. Ideally the node operators need to agree where Internet linking is necessary and agree figures concerning quality.

#### Discussion

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The discussion that ensued re-iterated many of Paula's concerns about the problems of legacy software, the intrusion of overseas links and of wanted/unwanted nodes, as well as the understandable but questionable desire of some operators to put on links simply out of personal interest.

It was agreed that the packet network should be coordinated, as far as was possible, without wishing to impose upon the goodwill of sysops, nor wanting to prevent experimentation. It was acknowledged that obtaining international agreements (to eliminate the disparity between the different qualities set as default by different countries, for example), was unworkable. It was hoped, however, that sysops here would talk more to each other about network issues, sharing best practice, with the aim of a more

efficient network.

It was commented that it would be desirable to get some agreement at this meeting regarding a series of guidelines. The authority of the conference, however, precluded any "diktat" to sysops. Instead, conference hoped that all sysops would take note of these concerns and would work towards greater cooperation, as used to happen in the earlier days of packet.

#### Resolution

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With this aim in view, it was agreed unanimously by delegates that a central website and a forum for discussion of issues relating to levels and links should be set up. Paula volunteered to instigate this and undertook to put out details over packet, inviting all to participate.

#### Item 9 - Discussion: Private Mail Routing Issues

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Speaker & Chairperson: Paula, G8PZT

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(As in the previous item, Paula G8PZT firstly presented the topic in depth and then went on to coordinate a discussion among delegates.)

Paula began by outlining the current demise of personal packet mail. Although bulletins reach all BBS's (in spite of the closure of many mailboxes), private mail is unreliable, and as a consequence people are resorting to email instead.

The ways in which personal mail can get lost are various. The closure of BBS's is a major factor, especially where neighbouring sysops have to re-arrange forwarding. The problem comes when more distant sysops are not aware of the closure; mail will then ping-pong, and the occasional ping pong message may get ignored. Also there is the regrettable problem of uninformed forwarding by lazy sysops.

UK mail forwarding operates by sending mail ever closer to its geographical destination. The UK is divided into 7 geographical regions with up to 9 sub-regions and a system of "right-to-left" hierarchical routing is used.

This system is not without its flaws. Poor cooperation between neighbouring sysops and packet groups led to non-delivery of mail. Geographical obstacles (notably the Pennines) used to mean that mail needed to be routed in a roundabout fashion - and the demise of links and intervening BBS's means that these routes are no longer possible.

Not only national but also overseas mail delivery is compromised. The UK used to have packet SatGates in the north and the south, using HF forwarding links to carry personal mail. There is now only one SatGate (GB7LDI in East

Anglia). Added to which, the former cross-channel VHF links to France are no longer operational.

Paula highlighted the main causes for this failure of the mail system. The closure of strategic BBS's and other links is the main factor, but an absence of an overall plan as well as poor communication between sysops have contributed to the situation.

It is possible that there is insufficient interest in restoring functionality to the network. The sysop meetings that used to take place no longer occur. There is also no up-to-date information on active BBS's (locations, frequencies, etc) despite the efforts of the DCC. In short there is a need for us not so much to tell each other what to do but instead to give information to sysops, for them to work towards restoring a more workable mail forwarding system.

A suggested way of addressing the situation is to move towards automatic mail routing, but this is not likely to meet with favour amongst all the sysops (as it involves them relinquishing control of forwarding files. Instead perhaps the best way forward is to share known information about ideal mail routes. We should have a national mail routing database, which all sysops can access via Internet or REQFIL. Armed with this information, sysops can put in place better mail routings, reducing unnecessary hops, relieving overused RF links and, most importantly, speeding up delivery.

Paula then mentioned the issue of Internet forwarding, commenting that this was a good resource but badly used. As a result again of poor coordination, there is much duplication of effort and also several areas that remain poorly served.

However, even with the increasing use of the Internet, the ideal of each BBS linking directly to each other BBS is impractical - there are about 100 BBS's in UK, with thousands worldwide. Instead the more logical requirement for a pyramidal structure is already in place (and the software works with this, too) so the potential for successful mail delivery exists.

One way forward from the present uncoordinated situation is to have an agency system, whereby mail agents forward DIRECTLY to all BBS or agents in their area of responsibility. The agents and their areas could be published in a database. Under this scheme, areas could have more than one mail agent, and BBS's could be agents for more than one area. Sysops would forward their mail either to an agent or to a tier above.

Paula went on to show a diagram of how this might work in the UK. At the top of the structure would be the regional agents (e.g. #1, #2, #3, etc.), capable of linking one to another. Linking to them - from below, but also possibly to each other - would be sub-regional agents (e.g. #15, #16, #25, #26, etc.). These would in turn serve the more local users of the packet network. Traffic could enter at any tier of this structure.

Conference was then shown a map of the UK with the locations of 10 Internet-linked BBS's shown - with most English regions well served - illustrating Paula's view that we already have the potential to put into place such an agency system, using these Internet-linked BBS's as the top tier of the proposed structure. Admittedly not every sysop represented would necessarily wish to participate in this venture...

In conclusion, sysops were urged to exchange routing exchange information. There needed to be a well-known resource, available to all (via Internet or REQFIL) containing data that was updated directly by sysops.

#### Discussion

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A range of responses was noted during the discussion. Some were unsure that there really was a problem with mail forwarding and advocated a test to check the goodness of the routes. One or two felt that, if the problem stemmed from the poor functioning of only a couple of BBS's, then was it worth changing the national structure, particularly if sysops would not unanimously welcome and implement the change.

Although the value of hierarchical routing was acknowledged in theory, there was concern about its performance under failure conditions. There would need to be backup routes in place, but these would need careful planning to avoid loss of mail during sending via duplicate routes.

A query arose over the status of GB7LDI. It was believed by some that no further satellite forwarding was taking place. This view was challenged, however, by a couple of delegates, who urged sysops to maintain their routing of international mail towards Norwich. It was acknowledged that there were unreliable links into the rest of the country from GB7LDI, but conference was told that mail continues to flow and plans continue to be made to improve the link.

The value of a central information source about national routing was recognised. The concerns about it were threefold: firstly, could the cooperation of sysops be guaranteed? Secondly, who would maintain the data resource? And thirdly, how best should the data be presented?

#### Resolution

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It was agreed that a central resource would be set up and maintained by Paula, G8PZT. This would be available on the Internet at <http://pzt.org.uk/nts> (and as a REQFIL for packet users?). This would be advertised by means of the conference minutes and by other messages put out to sysops on packet.

It was agreed that delegates would encourage their local sysops to consult the page, update their details, and update their routing/forwarding files,

as necessary.

It was agreed that this issue would be considered again at next year's packet conference, with a view to reviewing the situation.

Item 10 - Any other business

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Conference noted with satisfaction that the problem of @GBR bulletins being routed abroad (discussed at the 2003 Conference) seems to have been resolved. Thanks were expressed to sysops for their cooperation.

The Chairman announced that, FourPak having offered to cover the costs of the conference, there was no obligation for delegates to subsidise the event. Nonetheless contributions would be gladly received.

In conclusion, he thanked delegates for coming - some quite a distance - and looked forward to next year. Particular thanks were expressed to Paula for her considerable input.

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Mike, G7RAZ  
Minutes Secretary

**MAXPAK modems  
price list for 2005  
Specially reduced prices  
Prices include P & P  
Whilst stocks last!!**

**MAX-01 1200 baud PACKET MODEM**  
Baycom type modem (3 IC's), PCB, circuit diagram & parts list plus all the components required to populate the PCB.

**Members price £15.00**

Non members price £20.00

Ready built and tested modems available  
£5.00 extra

**PRE DRILLED AND PUNCHED CASE  
including installation kit etc.**

**Members price £5.00**

Non members price £6.00

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**MAX-02 1200 & 9600 baud MODEM.**

This unit is available and comes complete with, PCB, all the components required to populate the PCB, and full construction details.

**Member's prices**

Kit including PCB/power kit £30.00

Pre drilled case £ 5.00

Ready made and tested modems are available  
for £10.00 extra.

**Non member's prices**

Kit including PCB/power kit £40.00

Pre drilled case £ 7.00

Ready made and tested modems are available  
for £10.00 extra.

Both the MAX-01 and MAX-02 work with the SV5AGW driver software, readily available from the internet (links on the MaxPak Website).

AGW software for Windows interfaces well with Winpack, UI-View and other terminal software.

**MAXPAK who's who?**

**2004 - 2005 COMMITTEE MEMBERS**

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**SysOp GB7MAX, GB7WV, MB7UV  
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**All sales items available from Chris  
G0CNG, QTHR as above.**