When will you add support for xxxx hardware?

Written by Rick Kirchhof, NG5V
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The process to get a different brand of WiFi hardware to become a Broadband-Hamnet mesh node is pretty simple, AND, pretty complex. The basics are obviously needed. Start with your hardware and a compatible load of firmware like DD-WRT, Open-WRT, or some other small version of Linux. To that add, OLSR, the correct SSID, and ensure that it comes up on the right channel. Easy, right?
 Well, almost....   Many other brands use a mesh version of their own. These are not compatible with Broadband-Hamnet. Is it standard 802.11b/g or perhaps 802.11n, Mimo or even 802.11ac. Special modes like TDMA and 40MHz wide channels in some commercial router versions won't talk to existing mesh nodes, What about DNS/name service, what is your IP address, gateway and subnet mask. You already loaded OLSR to that is done right? You did set the specific values in the OLSR config file didn't you? Do you have a firewall? What will you pass/reject at the firewall? Can you advertise a service or forward a TCP/UDP stream to a final address (port forwarding)? Will you have more than one of these special units? What static IP addresses will you choose to avoid duplicate IP addresses in the mesh space? (All mesh nodes are automatically assigned a unique static IP address). Will you have a LAN on your device? If you do, what IP and scope will you have on DHCP? Will ports on your LAN be "direct mode" like the current firmware or are they behind a firewall?

   If someone else ever needs to change the setup, what file/files and values must be manually entered. Will you even remember how to do it yourself months from now? All of these questions are relevant and need answers before a new hardware type can be fully supported by Broadband-Hamnet. Normal users don't interact with these details. The config web pages do it for them.

   Most importantly, did you create any status page or reporting features that allow you to hop around the mesh with your mouse and use the advertised services on other devices? You did build an easy to use web page for that didn't you? All of these are delivered by the stock firmware for currently supported devices. In summary, our released firmware, properly loaded and configured on supported hardware delivers a LOT of features. Many more than a casual examination would imply. A standard Broadband-Hamnet Mesh node will have these features:

  - Self discovering (automatic mesh linking where RF paths exist)
  - Self configuring (static IP address automatically assigned, routing tables dynamically managed)
  - Self advertising (Internal DNS by name, with clickable links for services available on that node)
  - Fault tolerant (routes change as nodes join and leave, best routes automatically used)
  - Configured one time using a web browser (at initial setup or at role changes)
  - Provides listings of all nodes and access to all resources on the mesh using web browser navigation
  - BBHN firmware on approved hardware will link with any other nearby BBHN node in the same band.

Other mesh firmware and software stacks deliver one or more of these features but almost never all of them. In addition, relatively non-skilled hams can easily convert supported hardware and produce a mesh node with the features described above. There are also a few devices that have no open drivers or require a licensed operating system. These may never be supported.

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Consult the DD-WRT hardware wiki or other online resources to see if any support even exists for these models.

As you can see, there are SEVERAL steps to get "support" going for a different brand or model of hardware. You are invited to begin this process yourself and let others know of your results. We are ALWAYS looking for developers to add support for additional hardware. If you have converted other equipment to be fully compatible with existing BBHN nodes, please share your results on the forums and/or contact us directly. And try not to get too impatient with us if we don't drop everything and immediately start developing support for that one "good buy" wireless router that you just purchased, knowing it was not on the supported hardware list.