An Efficient Technique of Controlling Link Parameters

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1.0 Current State of the Art

Link parameters, at all layers of the protocol stack, need to be synchronized between the transmitter and the receiver, for communications to take place. If the link parameters are static, then they are set at the time the link is initialized, and remain unchanged. If the link parameters are dynamic, then current protocols require a 2-way handshake between the transmitter and the receiver, in order to change them. This involves a message from Station A to Station B, requesting the change in parameters, followed by a response from Station B back to Station A, agreeing to the change. It is only after the second message is reliably received at Station A, can the new link parameters take effect.

2.0 Shortcomings of Current Art

The 2-way handshake required to change link parameters, makes the process of changing them cumbersome, and also lengthy. It consumes extra link bandwidth. If the link is highly dynamic, so that the link parameters have to change faster than the time required to do a handshake, then the 2-way handshake protocol will not work.

3.0 Description of Invention

The new invention involves the following:

- All transmissions are sent in bursts. The link parameters on each burst can be controlled individually (independent of other bursts).
- Station A sends a special control message (the MAP), on a periodic basis, that pre-announces to both the transmitter and the receiver, the link parameters to be used for all the bursts until the next MAP message.
- The transmitter and receiver parse the MAP message, and use the information in there to set the link parameters for each burst, at the right times.

4.0 How the Proposed Invention Extends the Current Art

The proposed invention avoids the use of a 2-way handshake to set the burst parameters. This allows dynamic control of the link, and allows the link parameters to change in response to quickly changing link conditions.