We Claim:

~~1. An apparatus, comprising:~~

~~a transceiver operable for broadcast/multicast traffic delivery in a wireless network, wherein said transceiver is adapted to identify local broadcast traffic and limit a broadcast domain to a basic service set (BSS) servicing said local broadcast traffic.~~

~~2. The apparatus of claim 1, wherein said wireless network is a 60GHz wireless local area network (WLAN) or a wireless personal area network (WPAN).~~

~~3. The apparatus of claim 1, wherein said transceiver uses a BSS-only bit defined in a frame control field and wherein upon receiving a packet with said BSS-only bit set, said transceiver re-broadcasts said packet only within its own BSS rather than forwarding it to a whole extended service set.~~

~~4. The apparatus of claim 1, wherein a known multicast address is defined to indicate a BSS-only broadcast.~~

~~5~~1. A method of improving bandwidth efficiency and energy efficiency for broadcast delivery in wireless networks, comprising:

using a unified approach for broadcast traffic delivery that includes transmitting by a non-PCP STA a broadcast packet to a PCP by setting a To DS field to 1 and setting

Address 3 to a broadcast address; and

wherein said PCP delivers said broadcast packet using a broadcast to unicast conversion or a directional multicast or a broadcast using sector or beam sweep.

~~6~~2. The method of claim ~~5~~1, wherein in said broadcast to unicast conversion, said PCP converts said broadcast packet into multiple unicast packets and places them into each STA' s individual queue.

~~7~~3. The method of claim ~~6~~2, wherein to preserve an original broadcast DA address, a four-address frame format is used or an A-MSDU frame format is utilized to carry an original broadcast DA.

~~8~~4. The method of claim ~~5~~1, wherein in said directional multicast, source STAs of said broadcast traffic send said broadcast traffic to said PCP and said PCP schedules either a group-addressed service period (SP) or multiple individual SPs and delivers aggregated broadcast traffic to all STAs.

~~9~~5. The method of claim ~~8~~4, wherein said STAs implement duplicate detection to avoid receiving a same broadcast/multicast frame multiple times and wherein duplicate frame filtering is facilitated through the inclusion of a sequence number and TID subfield within broadcast/multicast frames.

~~10~~6. The method of claim ~~9~~5, wherein said sequence numbers for broadcast/multicast frames are generated by different counters for each TID and transmitter address, and a receiving STA keeps a cache of recently received Address 2, TID, sequence-number tuples for all STAs from which said STAs have received broadcast/multicast frames.

~~11~~7. The method of claim ~~10~~6, further comprising mitigating potential problems when different STAs have different wakeup schedules by transmitting a same broadcast frame in a same SP or accepting only accepts broadcast packets sent in its own SPs by said STA.

~~12~~8. The method of claim ~~5~~1, wherein said broadcast using sector or beam sweep comprises transmitting said broadcast frame one or more times in a manner such that at least one copy of the frame is received by each STA on said network and in a manner that allows said STAs to detect and discard duplicates.

~~13~~9. The method of claim ~~12~~8, wherein a sender transmits a same MPDU multiple times using a different antenna pattern each time and wherein said antenna patterns may be derived from phase weights in the case of a phased array or may be one or more directional antennas or some combination of the two.

~~14~~10. The method of claim ~~13~~9, wherein said antenna patterns used may be a combination of an optimal beam pattern for a phased array arrived at through a training process with individual STAs such that the aggregate of the beam patterns reaches all STAs or a random or calibrated set of phase weights for a phased array such that the aggregate of the transmissions covers the region of space in which all STAs lie.

~~15~~11. The method of claim ~~14~~10, wherein a STA that receives more than one copy of an MPDU is able to detect duplicates by noting the remaining PPDU duration on the first segment received and identifying subsequent segments received as belonging to a same sequence and forming part of the same PPDU.

~~16~~12. An apparatus, comprising:

a transceiver operable for broadcast/multicast traffic delivery in a wireless network, wherein said transceiver is adapted to improve bandwidth efficiency and energy efficiency for broadcast delivery in wireless networks by using a unified approach for broadcast traffic

delivery that includes transmitting by a non-PCP STA a broadcast packet to a PCP by setting a To DS field to 1 and setting Address 3 to a broadcast address; and

wherein said PCP delivers said broadcast packet using a broadcast to unicast conversion or a directional multicast or a broadcast using sector or beam sweep.

~~17~~13. The apparatus of claim ~~16~~12, wherein in said broadcast to unicast conversion, said PCP converts said broadcast packet into multiple unicast packets and places them into each STA' s individual queue.

~~18~~14. The apparatus of claim ~~16~~12, wherein in said directional multicast, source STAs of said broadcast traffic send said broadcast traffic to said PCP and said PCP schedules either a group-addressed service period (SP) or multiple individual SPs and delivers aggregated broadcast traffic to all STAs.

~~19~~15. The apparatus of claim ~~16~~12, wherein said broadcast using sector or beam sweep comprises transmitting said broadcast frame one or more times in a manner such that at least one copy of said frame is received by each STA on said network and in a manner that allows said STAs to detect and discard duplicates.

~~20. An method, comprising:~~

~~limiting transmissions for broadcast/multicast traffic in a wireless network to local broadcast traffic by using a transceiver adapted to identify said local broadcast traffic and then limiting a broadcast domain to a basic service set (BSS) servicing said local broadcast traffic.~~

~~21. The method of claim 20, wherein said wireless network is a 60GHz wireless local area network (WLAN) or a wireless personal area network (WPAN).~~

~~22. The method of claim 20, further comprising said transceiver using a BSS-only bit defined in a frame control field and wherein upon receiving a packet with said BSS-only bit set, said transceiver re-broadcasts said packet only within its own BSS rather than forwarding it to a whole extended service set.~~

~~23. The method of claim 20, wherein a known multicast address is defined to indicate a BSS-only broadcast.~~