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Proposal for a new ANNEX
(Informative)
Group MAC Address Hashing

A method of filtering group addresses using a hash function is described. Organizations which assign group addresses may choose to allocate group addresses so that the hash function described here maps group addresses to distinct equivalence classes.

This section applies to frames addressed to non-functional group addresses.

A non-functional group addressed frame not recognized by the standard address recognition function is passed to the hash filter. This compares a hash function, described below, of the group address to the hash function of each wanted group addresses. The hash function splits the full range of possible group addresses into a smaller range of equivalence classes and copies frames belonging to a wanted equivalence class.

If there is a match the frame is copied, but as an exact match has not been proven, the A and C bits should not be set. The frame must later be re-examined to discard any frame copied because its hash function equaled the hash function of a wanted address even though it was not an exact match of a wanted address.

The hash function is the high order N bits of the remainder after division (modulo 2) of:

> The product of X^32 and the polynomial of degree 47 whose high order coefficient is the first received bit of the group address and whose low order coefficient is the last received bit of the group address.

by:

> The generator polynomial G(X) (see section 3.2.7).

Any other hash function which splits group addresses into the same set of equivalence classes is considered equivalent to the one described.

Implementations may vary the number (N) of bits of the remainder examined. As a minimum, it is suggested 6 bits (the coefficients of X^31 to X^26) should be examined splitting group addresses into 64 equivalence classes.