BFD to detect LinkAgg link failures

- BFD is at the wrong layer. The purpose of Link Aggregation is to hide from upper layers the fact that multiple physical links are present. The purpose of BFD is to verify that the routers are working, and not just the lower layers.

- The primary means for LinkAgg failure detection is the bi-directional hardware failure detection mechanisms of 802.3. The secondary means for failure detection is IEEE Std 802.1ag == ITU-T Y.1731 Ethernet OAM, which runs at the right layer to detect failures, i.e., *below* LinkAgg. An 802.1ag failure disables the link, simulating a hardware failure; it has no "hooks" into LACP.

- Clues that BFD is at the wrong layer:

  o No IP addresses for the individual links.

  o Hooks are needed to get into LACP to report the failure.

  o In the typical implementation, the BFD solution will be handled at a low layer, and won't go near the routing function for scaling reasons.

- Three ways to avoid (totally unnecessary) layer violations:

  o Invent and use a Layer 3 equivalent of LACP that fits routing and BFD.

  o Use Ether OAM. Work with 802.1 to invent a way to avoid needless configuration.

  o Encapsulate BFD below LinkAgg thus giving the world two ways to do exactly the same job (aka NIH).