# With regards to the NBE100, what is meant by a "network segment"?

The NBE100 allows you to electrically break up an NMEA 2000 network into individual "network segments". Although the network segments are electrically isolated from each other, the entire network is still one large logical network. What this means is that all products on one segment can see all products on another network. Logically the network isn't broken up into segments, but electrically the network is broken into segments separated by NBE100s. The NBE100 provides electrical isolation between segments using optical technology to completely isolate (electrically but not logically) one segment from another.

Another way of looking at the NBE100 is as though it is a buffer. For example, the transceiver within each NMEA 2000 product only has so much drive capability and when the node count approaches 50 with the maximum trunk and drop lengths, the transceiver can no longer drive a reliable signal onto the NMEA 2000 network. The NBE100 allows 50 nodes to be placed on one network segment and another 50 nodes to be placed on another network segment yet a product's transceiver doesn't see all the loading of both networks. A product's transceiver only sees the loading on its network segment, allowing the network to be effectively extended past the normal electrical restrictions of an NMEA 2000 network.

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