The Nominees are AVB or Dante; And the Winner is?

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Okay, I have to own up that this headline is not only a trick question, it's a distraction from the real issue; which is what best suits my particular needs for a network based AV system and what is the risk of future developments changing the calculus? (This, of course assumes the compelling case for a network based system design has been made and accepted already - a pretty big assumption in itself.)

I wrote an article in Sound and Communications magazine almost two years ago in which I addressed the two questions systems integrators and system designers were then asking: "Is Ethernet AVB the future? And what's all this layer 2 versus layer 3 stuff anyhow?" [Here's a link to the full article - http://viewer.zmags.com/publication/14ee4862#/14ee4862/46]. I look back at that article and realize how fast things are changing in the world of AV networking. Back then there were precious few products on the market implementing the new, some have termed them third generation, technologies. That has certainly changed, but does it add up to an ecosystem yet?

All right, let's go back to the headline question. In terms of shipping products and breadth of function from those products I think we have to recognize that Dante is in a lead position but I would have to flat out disagree that it's true or useful to declare the race over and call Dante the winner (and quite a few commentators and pundits have done just that). Oh, and by the way, as Roland Hemming points out in his recent white paper http://www.newbayconnect.com/download/death-analogue-rise-audio-networking/, adoption of network based audio and AV systems is still a small (but rapidly growing) segment of the commercial audio installation market. Analog is still the mainstream.

Here are some reasons why Dante may not be able to retain its lead in the long term:

- Because Ethernet AVB is an open standard with no license fees or royalties it has the potential to become a lower cost solution (keep in mind that when a manufacturer has to pay a license fee and royalties those costs are passed on embedded in the price of the products.) The snail's pace of the appearance of economically priced AVB Ethernet switches has given rise to some skepticism that they will ever appear. The AVB camp has been guilty of overselling and under-delivering. These things will pass and the adoption into automobiles will drive down costs.
- The new interoperability standard from the Audio Engineering Society known as AES67 is also an open standard supported by multiple vendors already, so it too has the potential to become a low cost solution [Yes, Audinate has stated they will support AES67 in their Dante technology by next year which brings in the interesting possibility of Dante based product working along with non-Dante products in the same system – and that's a whole other subject for future conjecture.]

- The experience of CobraNet reminds us that manufacturers tire of paying royalties over the long haul and start looking for ways to get that expense off their P&L. It doesn't take clairvoyance to notice that manufacturers have invested substantial funds supporting the development of both the Ethernet AVB and AES67 standards and figure that this is because they are not comfortable relying on a single sourced technology which represents a continuing expense. [I would note that while a majority of the manufacturers in a given market space are all paying those royalties the playing field is level, but if one major player jumps off and can continue to service the market at lower costs the rest have to find ways to stay competitive – and it won't be by absorbing the royalty and lowering their margins.]
- The AVB community is still anticipating the development of a Layer 3 scheme [under IEEE1722A] which will eliminate the argument that AVB cannot be used on routed networks and therefore doesn't scale to merged networks.

So let's look at this Layer 2 versus Layer 3 issue briefly. The value of a Layer 3 protocol such as Dante is it enables merged networks, the AV media can be routed at the Internet Protocol level while other traffic (such as internet browsing, database transactions and so forth) is routed through a different path allowing peaceful coexistence of all the various forms of traffic. But the reality is that an awful lot of AV networks are not merged networks and have no reason to be. The local performing arts center down the block from your church and your favorite jazz bar can save a bunch on installation and infrastructure cost by installing a network just for the AV – and they don't have an enterprise network anyway. And so can the church and the jazz club and there's a heckuva lot more of them in the world than there are theme parks and NFL stadiums. And it's worth noting that because these venues don't have an enterprise network, they don't have an IT department, so they need a network that is completely plug-and-play. Oh look, that's what AVB gets you. Use AVB compliant switches and AVB stuff and just plug it together and off you go. So let's add another bullet point on the longevity of Dante's market lead.

- For the vast majority of systems a Layer 2 solution is just fine and actually works best for the reality of the operators and stakeholders at those venues.

Does all this mean that a Dante system is a bad investment now? Probably not because it's not going to stop working because other ideas come along and Audinate states they will support AVB as well as AES67 in the future. So I'd say Dante isn't a risky bet today or tomorrow. Just don't write off AVB and let's look forward to costs coming down – there's still Moore's Law to rely on and standards only accelerate that rule.

In my next posting I'm going to pick up that Layer 2 versus Layer 3 thing just one more time.