Category 8 Cable Benefits

AT&T Category 8 S/FTP cables replacing all other S/FTP cables

In many large scale and/or sensitive cabling projects the horizontal cables selected are designed as S/FTP (overall braid shielded PiMF cables), usually having Category 7 or Category 7A transmission properties.
In 99% of these projects the connecting hardware transmission properties are Category 6A (or even lower) and the channels are tested as Category 6 (Class E) or Category 6A (Class EA).

This is done because of the following reasons:

- Category 7 or 7A connecting hardware is 10 times more expensive than Category 6A and is much more difficult to terminate properly.

- All active equipment has RJ45 Category 6A (or lower) outlets reducing any Category 7 or 7A channels back to Category 6A or even to lower categories.

- Until recently, the fastest protocol was 10GBASE-T, which runs perfectly on CAT6A cabling. In other words: There was no IEEE xBASE-T protocol that needed CAT 7 or CAT 7A cabling systems.

So why are CAT 7 and CAT 7A cables (or even IEC 61156-7 1200MHz cables) installed at all?
Why should anyone spend money on cables which are not needed?

This is done because of the following reasons:

- Future proofing: The horizontal cabling is difficult and expensive to replace (compared to the connecting hardware) so many consultants and designers recommends to use the best cable available, in hope it will not have to be replaced when a faster protocol is invented.

- QoS (Quality of service): Using horizontal cables with higher category than the connecting hardware is a way to ensure that the channel will provide a better support of the protocol, minimizing BER and maintaining as high data-rate as possible, as the horizontal cable (having substantial headroom over the relevant category limits) will cause minimal degradation to the transmission properties of the channel, even if it is abused during installation.

The above policy was found to be partly justified:

- ✓ The QoS is indeed better.

- ✓ All the channels made with CAT 7 and CAT 7A cables (as well as CAT6A cables) will be able to support the new 2.5GBASE-T and 5GBASE-T protocols (NBASE-T, IEEE Std. 802.3bz-2016 2.5G/5GBASE-T, ISO/IEC 11801-9904).

- ☒ Category 7 or 7A cables are NOT able to support the latest protocol, 25/40GBASE-T. This statement is based on a formal decision of IEEE P802.3bq Task Force, rejecting a specific demand of ISO/IEC JTC1 SC 25/WG3 to enable the use of CAT7A cables in support of 25GBASE-T (40GBASE-T was not even discussed).

So what are the AT&T Category 8 cable benefits?

- It has the exact same construction of all other S/FTP cables, making the installation identical to CAT 7 and CAT7A cables.

- It has a bandwidth of 1-2000MHz, which is the highest bandwidth available in the market today.

- It is based on a fully ratified and published standard (TIA-568-C.2-1).

- It is ETL Verified.

- It is designed to support IEEE 25/40GBASE-T up to 40 Gbps on 30m channels and all other existing protocols on 100m channels.
  Notes: Based on the fast advancements in chipset technology it is reasonable to assume that within a few years a 100m 40 Gbps protocol will be available, enabling the use of >30m channels.

- The extra costs involved in using AT&T CAT 8 S/FTP cable instead of any CAT 7, CAT 7A or 1200MHz cable is negligible when calculating the total cost of the entire cabling system. When the total costs are calculated based on the number of useful years of the system the cost of ownership per year is substantially lower when AT&T CAT 8 cables are used.

In short:
Instead of installing CAT 7 or CAT7A S/FTP cables, users now have the option to install our CAT 8 S/FTP cable and terminate it with CAT6A jacks, as done with CAT 7 and CAT7A cables.
The price difference is small but the future provided is much longer than any other cable can provide:
AT&T CAT8 cable supports all existing protocols with flying colors and when 25Gbps or 40Gbps protocols are needed the only change required is replacing the RJ45 CAT6A jacks and cords with CAT8 RJ45 jacks and cords.