Size of Category 7/7$_A$ Installed Base

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Objective

- Use third party data to make an assessment of the size of the installed base of category $7/7_A$ cabling
- Consider whether the size of the installed base is sufficient to influence selection of a compatible Baud rate

Category $7/7_A$ market data – solid cable

Cat 7 million meters of cable (part of end to end Cat 7 systems)					
Country	2007	2008	2009	2010	2011
Germany	20.1	20.8	18.9	31.8	16.7
Russia	2.5	4.5	3.3	3.8	6
Switzerland	3.1	4.4	5.9	5.6	5.2
France	5.1	5.2	4.8	4.9	5.1
India	0	0.3	1.6	3.2	3.6
South Korea	0	1.6	1.5	3.1	3.3
Japan	0	0	2	2.2	1.9
Poland	0.5	0.4	0.3	1	1.7
Italy	0.7	1.4	1.2	1.2	1.1
Austria	3.9	2.8	1.5	1.5	1
China	0	0.5	0.7	0.9	1
Others*	3.9	4.5	4.1	5	5.3
TOTAL	39.8	46.2	45.7	64.2	51.9

NOTE – While this survey did not distinguish between category 7 and 7_A, it is the opinion of Siemon based upon sales history and the fact that the category 7_A cabling standard was published in 2009, that the majority of the reported volume represents 1,000 MHz category 7_A cable

Source: BSRIA World Structured Cabling Study (contact: Lone.Hansen@bsria.co.uk)

* North America included in Others

Analysis – installed base through 2012

- Data for 2012 is still being compiled - assume volume is equivalent to 2011
- Total volume of cable: 300 million meters (39.2 + 46.2 + 45.7 + 64.2 + 51.9 x 2)
- Average channel length is 30m (20m solid and 10m stranded) = 15 million drops
- Average channel length is 40m (30m solid and 10m stranded) = 10 million drops
- Average channel length is 50m (40m solid and 10m stranded) = 7.5 million drops

Conclusions

- According to http://www.ieee802.org/3/NGBASET/public/jan13/bates_01a_0113_ngbt.pdf, the installed base of category 7_A cabling can support 40GBASE-T over 20-30m with realistic PHY cancellation and a symbol rate of 2GBaud
- Choosing a baud rate with a Nyquist frequency below 1.1 GHz would make available an installed based of approximately 7.5 - 15 million cabling drops ready to support 40GBASE-T today
- If the category 7_A market remains consistent at an installation rate of 50 million meters per year, then an additional 150 million meters of cable (3.75 - 7.5 million cabling drops) will be installed in the years 2013, 2014, and 2015 and could be available to support 40GBASE-T when the application publishes in 2016 (for a total of 11.25 – 22.5 million drops)