40GE SMF SG Objectives

Note: these objectives are currently approved by the study group and are pending approval from the 802.3 Working group in March 2010 plenary meeting.

• Preserve the IEEE 802.3 / Ethernet frame format utilizing the IEEE 802.3 MAC
• Preserve minimum and maximum FrameSize of current IEEE 802.3 standard
• Support a BER better than or equal to $10^{-12}$ at the MAC/PLS service interface
• Support a MAC data rate of 40 Gb/s
• Use the 40GBASE-R PCS and PMA
• Use only existing electrical and logical interfaces from IEEE Std 802.3 as modified by IEEE P802.3ba
• Provide Physical Layer specification which support 40 Gb/s operation over at least 2 km on SMF.
• Provide optical compatibility with existing carrier 40Gb/s client interfaces (OTU3/STM-256/OC-768/40G POS).