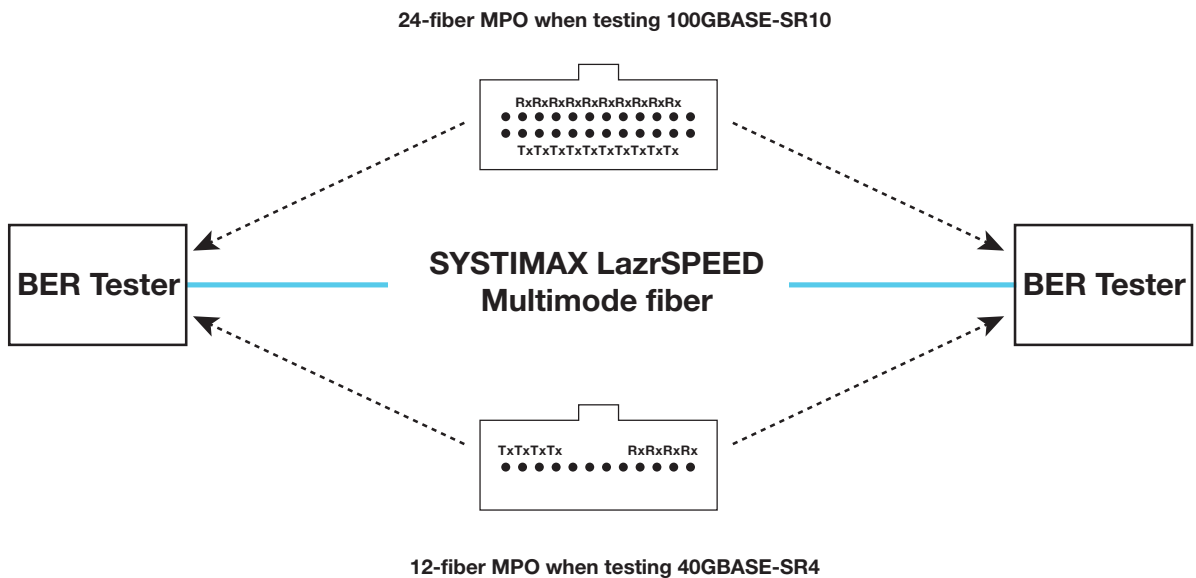


## 40 and 100 Gbp/s Ecosystem is Ready for Realization According to CommScope's Results at Ethernet Alliance Plugfest CommScope's LazrSPEED® solutions far exceed industry standard reach

Following the ratification of the IEEE 802.3ba specification in mid 2010, CommScope was consulted as a member of the Ethernet Alliance to help guide the formation of, as well as participate in, the industry's first-ever interoperability tests to determine the readiness of the 40 and 100 Gbp/s ecosystems. At the groundbreaking Plugfest event, 16 industry leaders gathered in a neutral venue to conduct 135 mixed-vendor tests that yielded a success rate of nearly 100 percent interoperability following the 802.3ba standard. As detailed in the results below, CommScope's off-the-shelf SYSTIMAX® LazrSPEED 300 (OM3) and LazrSPEED 550 (OM4) fiber optic cables, part of the SYSTIMAX InstaPATCH® 360 pre-terminated cabling solution, far exceeded the distance expectations for fiber channels in Higher Speed Ethernet (HSE) data center environments. (Fig. 1)

**Figure 1: 40GBASE-SR4 and 100GBASE-SR10 test set-ups**



Currently, the IEEE 802.3ba standard specifies supportable distances of 100 meters on OM3 fiber and 150 meters on OM4 fiber for both 40 and 100 Gbp/s data rates. While the majority of vendors supported channels up to these specifications for both data rates, CommScope's results far exceeded the standards. Using a mixed OM3 and OM4 channel consisting of 200 meters of LazrSPEED 300 plus 300 meters of LazrSPEED 550 multimode fiber cables with MPO connectors, CommScope supported distances that were 3.3 times as long as the OM4 specifications and 5 times as long as the OM3 specifications for 40 Gbp/s Ethernet. Additionally, CommScope exceeded the 100 Gbp/s Ethernet distance specification for 100GBASE-SR10 by a factor of 2.7 for OM3 and 1.8 for OM4. (Table 1).

**TABLE 1 40GBASE-SR4 AND 100GBASE-SR10 TEST RESULTS**

Reach (m)	Cabling	System at End 1 Transceiver Form	System at End 2 Transceiver Form
120	LazrSPEED 300 (OM3) 12-fiber	40GBASE-SR4 System #2 CFP	40GBASE-SR4 System #2 CFP
		40GBASE-SR4 System #2 CFP	40GBASE-SR4 System #2 QSFP
		40GBASE-SR4 System #2 QSFP	40GBASE-SR4 System #2 QSFP
		40GBASE-SR4 System #3 QSFP	40GBASE-SR4 System #2 CFP
		40GBASE-SR4 System #4 QSFP	40GBASE-SR4 System #2 QSFP
170	LazrSPEED 550 (OM4) 12-fiber	40GBASE-SR4 System #2 CFP	40GBASE-SR4 System #2 CFP
		40GBASE-SR4 System #2 QSFP	40GBASE-SR4 System #2 QSFP
500	LazrSPEED 300 + 550 (OM3 + OM4) 12-fiber (4 concatenated cables)	40GBASE-SR4 System #2 CFP	40GBASE-SR4 System #2 CFP
120	LazrSPEED 300 (OM3) 24-fiber	100GBASE-SR10 System #3 CFP	100GBASE-SR10 System #3 CFP
170	LazrSPEED 550 (OM4) 24-fiber	100GBASE-SR10 System #3 CFP	100GBASE-SR10 System #3 CFP
		100GBASE-SR10 System #3 CFP	100GBASE-SR10 System #1 CFP
270	LazrSPEED 300 + 550 (OM3 + OM4) 24-fiber (4 concatenated cables)	100GBASE-SR10 System #3 CFP	100GBASE-SR10 System #3 CFP

All the combinations of CommScope LazrSPEED 550 and 300 fiber and transceivers tested were observed to successfully pass the BER test with zero errors. It is important to note that while CommScope's 500-meter results for 40 Gbp/s and 270-meter results for 100 Gbp/s are well above the industry standard, neither test found the full performance limits of the channels. These distances were determined based on the maximum lengths of channels that could be assembled from the cabling at Plugfest, which provides an early snapshot of the robustness of CommScope's technologies and builds confidence in the HSE ecosystem.

As data center applications continue to increasingly require faster Ethernet speeds, distance between network infrastructure components and the quality of data transmission become challenging concerns. By examining CommScope's results from the interoperability tests, data center designers can confirm that working with CommScope's fiber solutions can lead to real-world 40 and 100 Gbp/s deployment without sacrificing engineering design or vendor choice for compatible switches, routers and test gear – proving that its conservative approach to design and specification guarantees transmission of data at some of the longest distances available in the market today with ample built-in engineering margin. Additionally, the capability of existing multimode technology found in CommScope's InstaPATCH 360 and LazrSPEED fiber solutions is considerably greater than the values set forth by the IEEE 802.3ba standard. In the future, CommScope's extended distance capabilities will prove useful in addressing real-world topologies in many data centers at a far lower cost than singlemode alternatives.



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TD-C-6 08/10