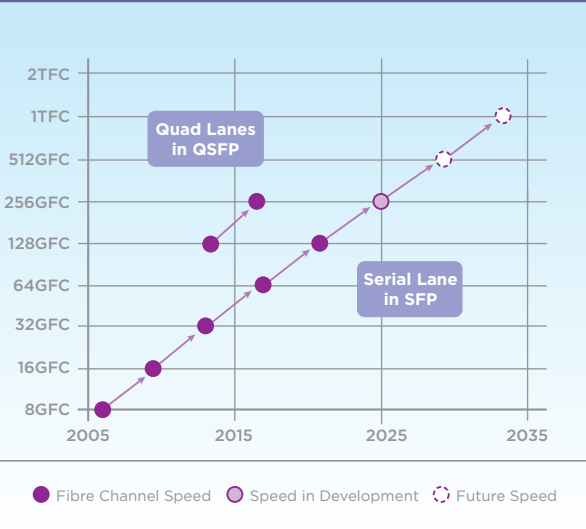


THE FIBRE CHANNEL ROADMAP

THE PAST, PRESENT AND FUTURE OF FIBRE CHANNEL



Designed by Scott Kipp and Craig W. Carlson
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 Thanks to the Ethernet Alliance for sharing graphics from
www.ethernetalliance.org/roadmap/
 \$10.95

www.fibrechannel.org/roadmap.html

GENERATIONS OF FIBRE CHANNEL

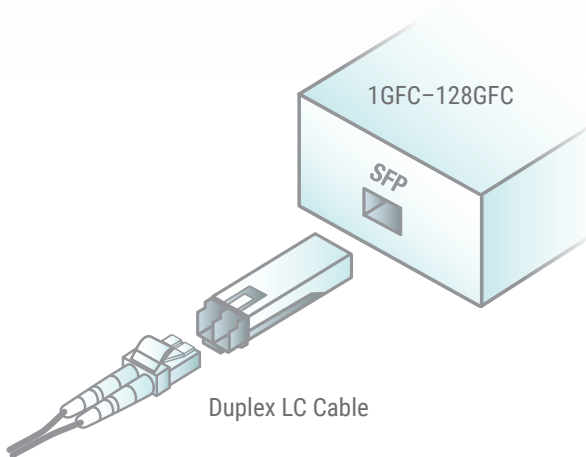


FIBRE CHANNEL SPEEDMAP

Fibre Channel has a laser-focus on speed and continues to progress at a blistering pace. Fibre Channel is continually evolving to higher speeds to meet the high bandwidth needs of storage applications. When large blocks of data are moved between servers and storage, the performance of the application is directly dependent on how fast the data can fly. The storage industry has come to rely on Fibre Channel to deliver superior performance and reliability for mission-critical applications. Fibre Channel has traditionally doubled link throughput when the available technology can fit in the SFP form factor. The lower line on the graph at the left show the exponential growth in serial speeds of Fibre Channel. 8GFC required the SFP+ form factor that supports speeds up to 10 Gb/s. 64GFC requires the SFP56 and 128GFC requires the SFP112 that supports 112Gb/s. The SFP form factor will continue to evolve and support speeds over 200 Gb/s in the next decade. Currently the Fibre Channel committee is developing 256GFC with further speed increases on the future roadmap.

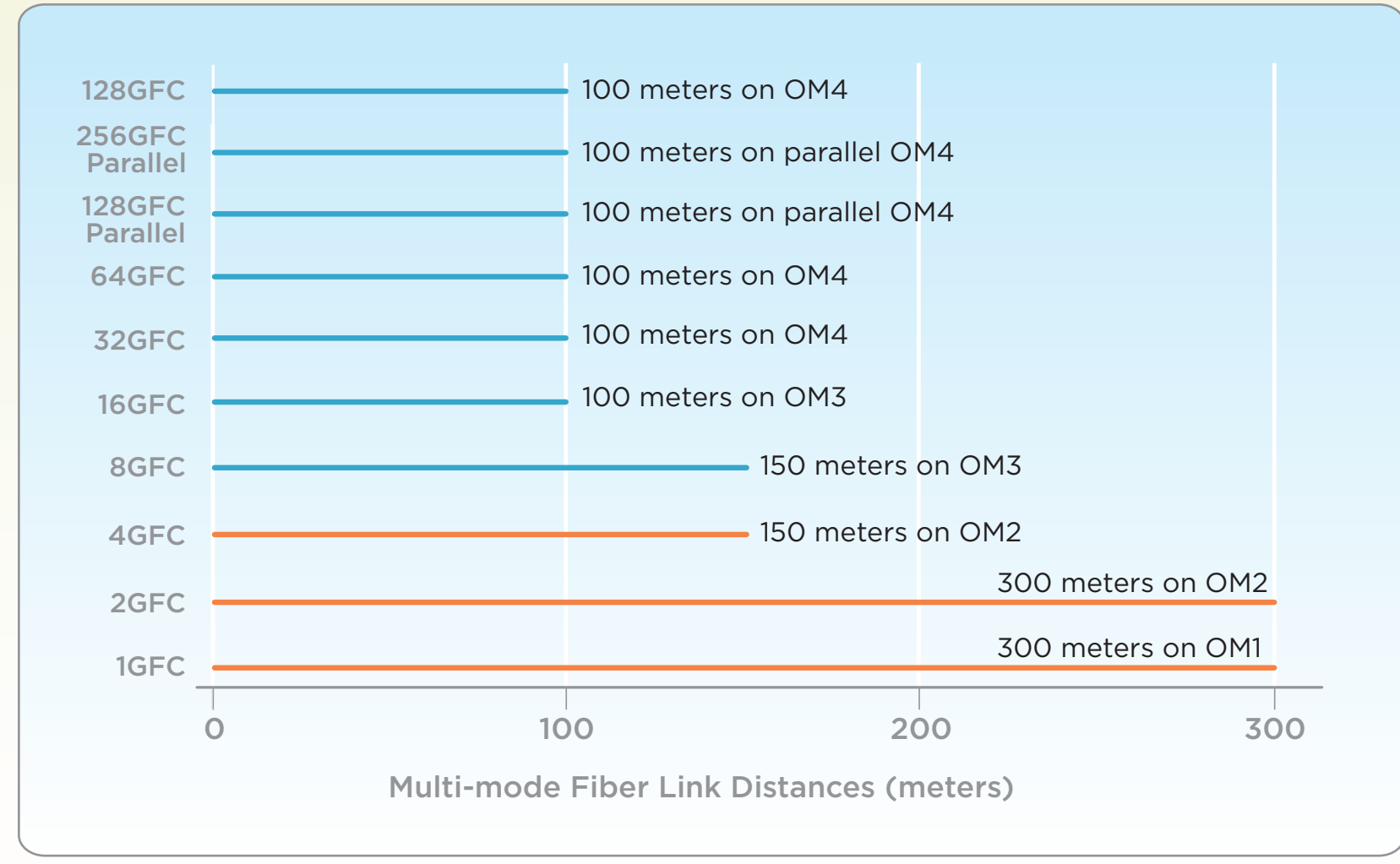
MEDIA AND MODULES

Fibre Channel is focused on storage in the data center and uses the latest fiber optic technologies to deliver massive bandwidth. Every few years, Fibre Channel doubles its data rate to provide exponential growth in speeds. In 2022 Fibre Channel introduces “Gen8 Fibre Channel”, which consists of a new speed—128GFC in the SFP112 form factor. Speeds and modules are backwards compatible with at least the previous two speeds (in this case 64GFC and 32GFC). This allows new Fibre Channel speeds to be seamlessly integrated into the datacenter.



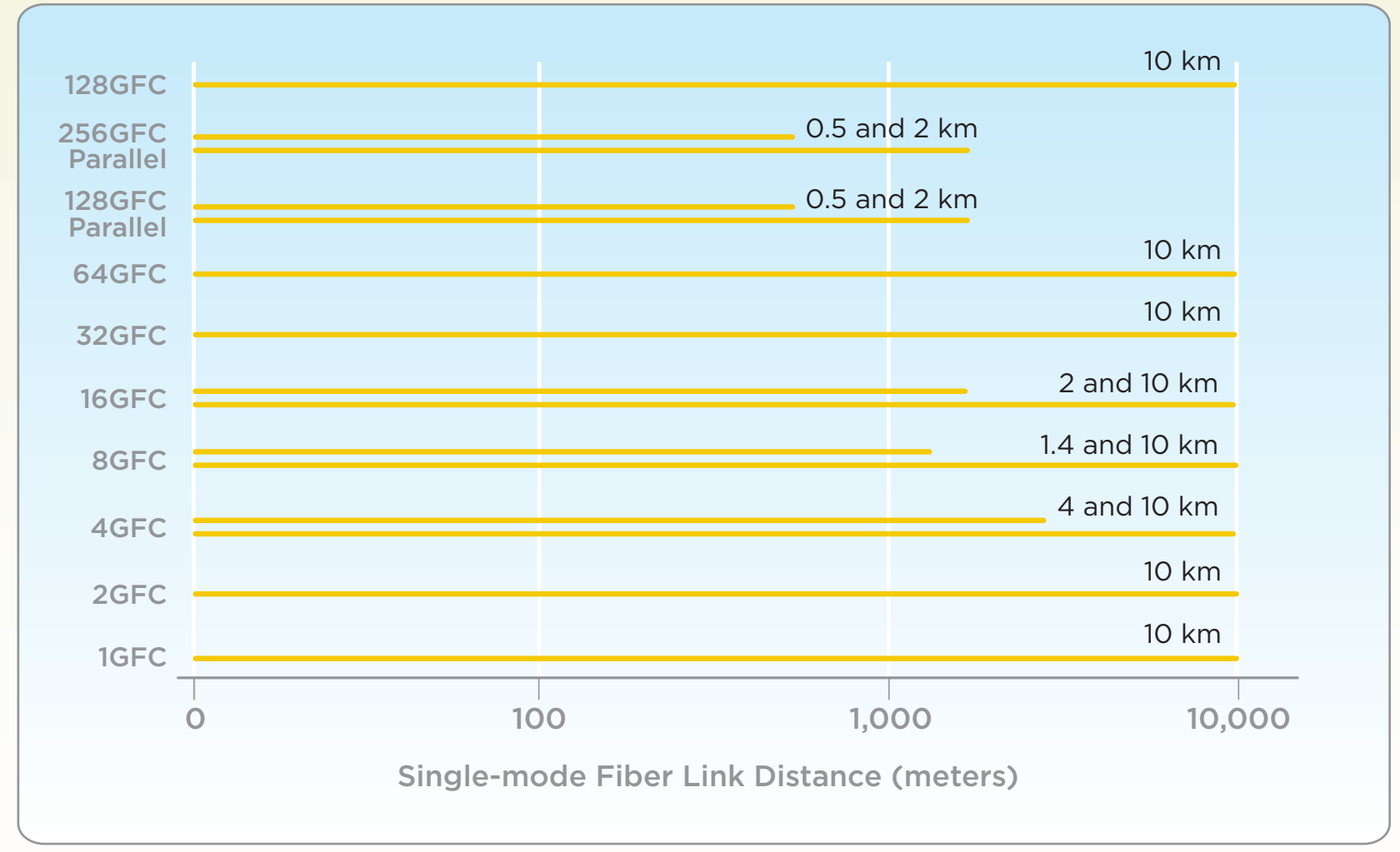
MULTIMODE FIBER LINKS

Over 90% of Fibre Channel links are based on multimode fiber and vertical cavity surface emitting lasers (VCSELs). Fibre Channel has deployed more optical bandwidth than any other protocol and benefits from the reach capabilities and reliability of each generation of Optical Multimode (OM) fiber. Fibre Channel is maintaining multimode link distances of 100 meters to support common architectures in data centers.



SINGLE-MODE FIBER LINKS

For distances over 100 meters which are usually outside of rooms or between data centers, Fibre Channel uses single-mode links. Distances of 10km or longer have always been supported for every speed except 128GFC Parallel and 256GFC Parallel. Vendors often surpass the standard to support even longer metro-distances. Fibre Channel has proven solutions for mapping Fibre Channel over intercontinental distances for disk mirroring and data synchronization.



Find out more about the Fibre Channel Roadmap at www.fibrechannel.org/roadmap.html