

# Overview



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In Japan, FTTH (Fiber to the Home) services have been commercialized by major Japanese domestic common carriers. By August 2005, the number of FTTH subscribers had topped 3 million, showing that optical access systems have been gaining ground as a key infrastructure.

Contributing factors include the e-Japan Strategy, a national policy designed to promote broadband services, and the advancement of PON (Passive Optical Network) technology on the technical front, which pursues cost-effectiveness by using point-to-multipoint connections. Specifically, as the major domestic carriers and PON-related R&D projects have progressed with standardization, equipment vendors and parts suppliers have developed high-performance low-cost equipment and devices. As a result, optical access systems with speeds up to 1Gbps have entered commercial service.

Common carriers have already completed installing optical fiber cables as far as the network feeder points. The focus is now on constructing the last-mile optical-fiber lines from each feeder point to individual households, which is a gigantic once-in-a-lifetime project, the first since the fixed home telephone system was built. It is therefore essential to investigate the impact of NGNs (Next Generation Networks) and FMC (Fixed Mobile Convergence), which respectively represent the much-touted ubiquitous network and the use of mobile cellular telephony for final access to it, in order to determine whether optical access and FTTH-based services should indeed become part of the infrastructure of society.

This feature edition introduces technologies developed by Mitsubishi Electric Corporation in the optical access field. Going forward, we anticipate that advances in optical access technologies will stimulate the optical access market.