Campus Network Planning and Design Based on GPON Technology

Feng Wei[1], Joan P. Lazaro[2]
36108982@qq.com1, joan.lazaro@ue.edu.ph[2]
https://orcid.org/0009-0004-4903-0988[1], https://orcid.org/0009-0007-0095-6351[2]
University of the East, Sampaloc, Manila, Philippines[1-2]
Jiangxi New Energy Technology Institute, Xinyu, Jiangxi, China[1]

Abstract

With the continuous development of Internet applications, to meet the increasing demands of teachers and students for the campus network in teaching, scientific research, office work, and daily life, it is necessary to build a network environment that can meet the needs of smart campuses and future new applications. This paper makes an in-depth analysis of the current situation of campus networks, uses Gigabit Passive Optical Network (GPON) technology to upgrade and transform the existing network, reduces the cost of switching equipment and maintenance difficulty, improves the network transmission rate, increases the upper limit of campus network user access, and effectively solves the problem of separation between wired and wireless networks.

Keywords: Smart Campus, Campus Network, Gigabit Passive Optical Network, Network Transmission Rate