ADAPTATION OF THE APPLICATION QUALIFO TO COMMUNICATE WITH THE PHOTON KINETICS 8000 OTDR
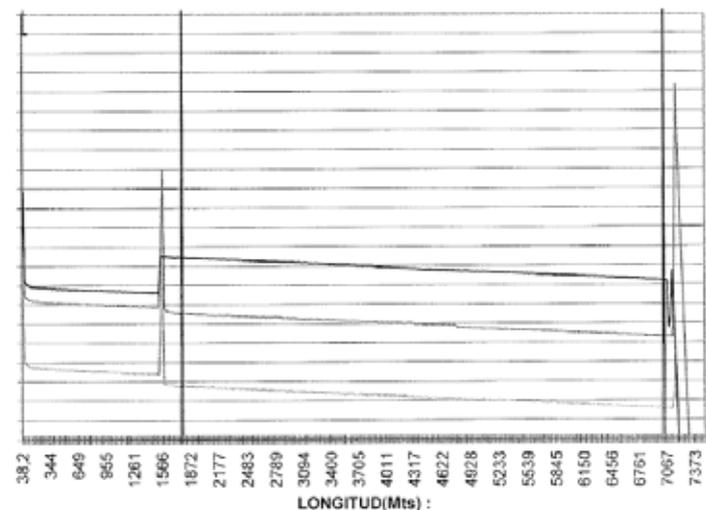
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Abstract In this paper we present the adaptation of QUALIFO, a software designed to assure and control the quality of optic fiber cables, to a new OTDR model, concretely the Photon Kinetics 8000. While the communication with the rest of OTDRs is done through a National Instruments GPIB interface, this new model requires to be programmed with a Visual Basic script, and it is connected to QUALIFO via a simple local area network.

Introduction

The software QUALIFO acquires data from fibers with the help of different models of OTDR (Optical Time Domain Reflectometer), such as the Anritsu 9060, but they weren't able to acquire data from different measurement windows at the same time. This made the measuring time to increase, and so the whole process became less efficient.

Programming the script and acquiring the measured data

First of all, we designed a Visual Basic script that defines the measuring parameters and orders the OTDR to perform a series of measurements. This was possible thanks to the OTDR own Visual Basic API, which contained most of its more useful parameters and functionalities. The results of the measurements are stored in a text file at the OTDR, which the QUALIFO software is able to read through the local area network.

The second issue needed to solve was to make the QUALIFO to order the execution of the designed script, because the program and the OTDR are located at different computers. The solution was to use the Microsoft application 'PsExec', that allows to execute processes in a remote system of the network. Thanks to it, synchronization between the QUALIFO and the OTDR was possible, ordering the execution of the script and waiting for the result to be written in the text file to obtain it.
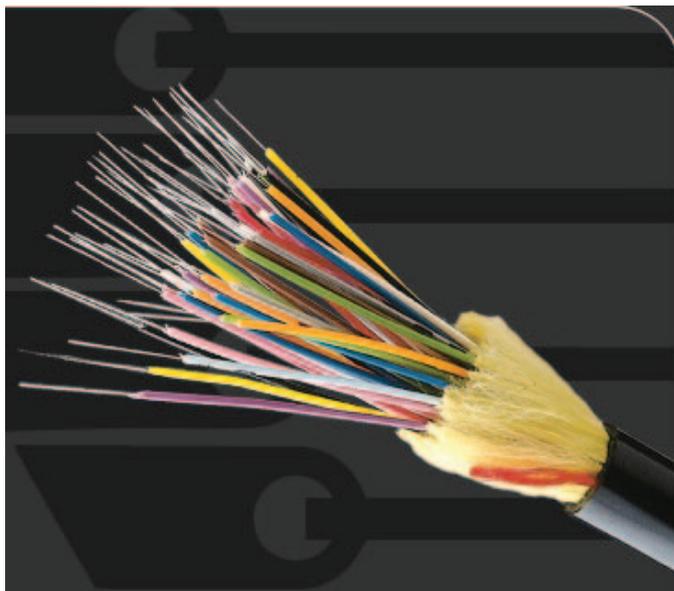

To solve this situation, it was decided to acquire a new OTDR capable to measure the fibers in different windows at the same time. In this case, the chosen equipment was the Photon Kinetics 8000. This model adds this functionality, but it also needs to be programmed in a different way. While the previous models communicated with the software through a GPIB port, this one is connected with an Ethernet cable, and so we need to establish a new local area network in order to have access to the measured data. It also needs a Visual Basic script to program the measured parameters.

Conclusions and future additions

For the moment, only the Photon Kinetics 8000 has been attached to the system, but thanks to this process of adaptation, more similar equipments will be able to integrate with the system to improve further more its efficiency.