

## ABSTRACT

In a development of telecommunication network, especially transmission network which brings information with a big capacity, need to be paid attention to make a *link back-up* for solving a fail of main channel function which has been determined. One of the protection systems which is used on the *Synchronous Digital Hierarchy (SDH) mode ring* transmission network is *Path Protection Switch (PPS)* or well-known as *Subnetwork Connection with Path Protection (SNCP)*.

The thing that is analyzed in this research is know and conclude the characteristics of SNCP network protection system based on the standard ITU-T G.841. The research is done by doing direct measurement on existing network of PT Telekomunikasi Seluler which has availability on SNCP protection system application and analysis of case study which illustrates the possibility happened to SNCP network system in the field. The tools which is used for direct measurement are BER-Tester and Application Software from SNCP protection system by passing information that have 1E capacity (VC-12) and analysis of case study done manually.

The result of this research is conclusion which explains about interrelatedness effect of parameter work systems; survivability ring, parameter module advice, link quality, link failure, total capacity, and total node in network toward the achievement of protection system in the field.

*Keywords* : protection system, SDH, SNCP