ABSTRACT

Digital Convergence (DC) building is a new building in ST3 Telkom Purwokerto, as an environmental education working in the field of telematics provide fast internet access which is needed for the communication facility and academic community.

DC building has been using WiFi technology. But until now the quality of the building WiFi in DC is still not maximized. Because the placement of the access point is not effective yet. This can be proved by the existing simulation results that show the value of coverage parameters which reached -91 dBm.

Based on the redesign, the number of AP based on the capacity needs 12 APs, while based on the coverage area needs 18 APs. To know the right number of AP and AP placements, it can be done by the comparison through several scenarios by considering the coverage and SIR parameters. Based on the simulation, the exact AP number is 18 APs with the position of all AP placement in front, so it gets the optimization simulation result for the coverage value of -32.19 dBm and SIR of 5.64 dB, and for the difference of the coverage parameter between Existing with optimization is 9.12dBm and for SIR parameter is equal to 2.68 dB.

Keyword: indoor planning, wifi optimization, cost 231 multiwall indoor, access point, rps