

## ABSTRACT

The big challenges of cloud computing, such as its availability, must be balanced with appropriate regulations in order to provide opportunities for local players to compete with the global players in Indonesia. This study focused on data centers that are integrated with cloud computing technology and were designed using the fault tolerance scheme method in order to minimize downtime. Indonesia applied the technical regulatory standards listed in the ANSI-TIA 942B:2017 standard, which was basically adopted from the Uptime Institute regarding the classification of challenges for each tier and was still in the form of a Draft Ministerial Regulation for data centers. The researchers analyzed the Draft of Ministerial Regulation and found that it was necessary to add several parameters for availability and quality of service that can be re-adopted from other international standardizations.

The results of the study were expected to be a recommendation for the Ministry of Communication and Information Technology related to data center infrastructure standardization, which is in terms of availability, technical schemes, and quality of services network based on International Standard and the Indonesian National Standard 8799 part 2 of 2019. The results of monitoring report availability uptime reached 99.99%, total MTTR of 1 minute 52 seconds and a total MTBF of 13 Days 10 Hours 43 Minutes, thus qualifying for tier 4. On the network quality of services parameters, the delayed improvement was 31.8% and throughput values were 7.59 Mbps.

**Keyword-** Cloud computing, Availability, Fault tolerance, Telecommunication Regulations