# Improving mobility of base transceiver station locating method using telegram’s application

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Abstrak

One main problem that must be coped with by a telecommunication company (Telco) is the connection interference experienced by customers. When a cell phone number Pn in a region R suffers from a connection problem, the first step commonly taken by that Telco’s technician is to find the base transceiver station (BTS) among existing BTSs in R that is currently covering Pn. However, the proprietary tools used to locate the covering BTS can usually be accessed only from the regional office’s intranet with a specific IP address. Alternatively, a technician can use telnet to log in to a mobile switching center (MSC) server and search to determine whether Pn is being attached in a BTS that is registered in the related MSC server. However, this method is exhausting and inefficient because an MSC server usually registers hundreds to thousands of BTSs. This article proposes improving the efficiency, mobility, and interoperability of BTS location-finding by making use Telegram’s bot and command-line interfaces. Mobility and interoperability are improved because the proposed method can run both on PCs and smartphones. The proposed method is investigated experimentally at Telkomsel Ltd., a known Telco in Indonesia. This method requires only 30 seconds to locate the covering BTS, which is 20 times and four to seven times faster than manual telnet and the proprietary tool, respectively.