

ABSTRACT

One of an indicator performance monitoring at cellular network is TRA (*Transcoder and Rate Adaptation*) which is a device that plays an important role in the efficient use of channel capacity transmission links within a GSM network that placed between the MSC and BSC.

There are some pools on TRA such as FR (*Full Rate*), HR (*Half Rate*), AMR (*Adaptive Multi Rate*) and EFR (*Enhanced Full Rate*). On calling process, pool setting can be available to used like an example first call use FR pool which is user will get best voice quality until sixth-call but for seventh-call will use HR pool with so-so quality of voice that they got. These rules were intended to handle the traffic that can be a lot more but do not degrade the quality of voice clarity drastically.

If TRA condition was overload the continuous flow of traffic cannot be handled and causing high congestion on the BSC. This can be overcome by load balancing and or capacity additions (adding CSPB 2.0 on subrack magazine) in order to reduce congestion.

Keywords : TRApool, load balancing, adding capacity, congestion

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ABSTRAK

Salah satu indikasi monitoring suatu performance jaringan seluler adalah TRA (*Transcoder and Rate Adaptation*) yaitu merupakan sebuah perangkat yang memegang peranan penting dalam efisiensi penggunaan kapasitas kanal *link transmisi* dalam sebuah jaringan GSM yang ditempatkan antara MSC dan BSC.

Dalam suatu TRA terdapat berbagai jenis *pool*, yaitu FR (*Full Rate*), HR (*Half Rate*), AMR (*Adaptive Multi Rate*) dan EFR (*Enhanced Full Rate*). Selain itu dalam proses *calling*, *pool* yang digunakan dapat di *setting* dengan cara panggilan pertama sampai ke-enam menggunakan FR dimana kualitas kejernihan sangat bagus, namun ketika panggilan ke-tujuh datang langsung dialihkan menggunakan HR. Pengaturan tersebut dimaksudkan agar *traffic* yang dapat di *handle* bisa lebih banyak namun tidak menurunkan kualitas kejernihan *voice* secara drastic.

Jika kondisi TRA mengalami *overload* maka *traffic* yang mengalir terus menerus tidak dapat di *handle* sehingga menyebabkan nilai *congestion* pada BSC tinggi. Hal tersebut dapat diatasi dengan *load balancing* dan atau dengan *adding capacity* (board CSPB 2.0) agar *congestion* berkurang atau kembali normal.

Kata Kunci : *TRApool, load balancing, adding capacity, congestion*