

Comments on Evaluation Methodology

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Purpose: Accompany comments #13030 #13037 on multihop relay system evaluation methodology.

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4.1.4.1.1 Combined Coverage & Capacity

- Definition of Combined Coverage and Capacity Index (CC): The number N of simultaneous users per call (MMR-cell or legacy cell) that can be supported achieving a target information throughput R_{min} with a specified coverage reliability.
 - Only require $r_i/R_{min} \geq 1$, otherwise this ratio is irrelevant.
 - Method 1 and 2 should produce similar results.
- Method 1 involves a weight of this ratio r_i/R_{min} . It is not consistent with CC definition.
 - Suggest change Method 1 to:
 - For increasing number of L users
 - remove $(100-x)\%$ worst users. Remain users $L \cdot x\% = k$.
 - {
 - ith user has average simulated throughput r_i
 - if $\min(r_i) < R_{min}$,
 - cc(k)=0;
 - else, cc(k)=k.
 - }
 - cc=max(cc(k)).

4.3.2. Equal throughput or Full Fairness Criteria

- It should be a true aggregate throughput.
- $C = 1 / \sum_{i=1}^n 1/r_i$:
 - If all users are the same,
 $r_i = B/n$ for all $i \rightarrow C = 1 / \sum_{i=1}^n 1/r_i = B/n^2$. Decreasing with n .
- Suggest change to:
 - $C(n) = \sum_{i=1}^n r_i$.
 - Consistent with proposed change to CC.
 - Include standard deviation of r_i .
 - $C(n)$ is a function of n due to multiuser diversity.