Comments on Evaluation Methodology

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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 \( R_{\text{min}} \) with a specified coverage reliability.

- Only require \( r_i/R_{\text{min}} \geq 1 \), otherwise this ratio is irrelevant.
- Method 1 and 2 should produce similar results.

Method 1 involves a weight of this ratio \( r_i/R_{\text{min}} \). 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 \( L \times x \%) = k \).
  
  \[
  \begin{cases} 
  \text{ith user has average simulated throughput } r_i \\
  \text{if } \min(r_i) < R_{\text{min}}, \\
  \quad \text{cc}(k) = 0; \quad \text{else, } \text{cc}(k) = k. \\
  \end{cases}
  \]

\[\text{cc} = \max(\text{cc}(k)).\]
4.3.2. Equal throughput or Full Fairness Criteria

• It should be a true aggregate throughput.
• $C = \frac{1}{\sum_{i=1}^{n} \frac{1}{r_i}}$:
  - If all users are the same, $r_i = B/n$ for all $i \rightarrow C = \frac{1}{\sum_{i=1}^{n} \frac{1}{r_i}} = \frac{B}{n^2}$. 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.