Performance Analysis of a Prioritized Multilevel Access Allocation Scheme for Data Calls in GSM Networks

International Journal of Computer Applications
© 2014 by IJCA Journal

Volume 97 - Number 1
Year of Publication: 2014

Authors:
Kuboye B. M.
Alese B. K.
Falaki S. O.
Adewale O. S.

10.5120/16968-6533

Abstract

The demand of voice and data services on the Global System for Mobile Communications (GSM) is unprecedented in the annals of the history of telecommunication systems. As a result, grade of service (GoS) is no longer stable in the face of this high demand. This paper explores the use of prioritized multilevel Access Allocation (PMAA) scheme to stem the instability of data services when there is high demand. This paper classifies calls into Handover (HD), Real-Time (RT) and Non-Real-Time (NRT) based on the nature of their service and thereafter, priority was set among them. The HD has the highest priority followed by RT and NRT respectively. The channels in the cell were partitioned into three pools named as q1, q2, and q3. Data and voice calls have different characteristics, therefore, voice always have priority over data since it cannot tolerate delay in call processing. The q1 is reserved for voice only, q3 reserved for data
only while q3 is reserved for handoff calls for both voice and data.

References


Index Terms

Computer Science Communications

Keywords
<table>
<thead>
<tr>
<th>GSM</th>
<th>GPRS</th>
<th>EDGE</th>
<th>Realtime</th>
<th>Non-Realtime</th>
<th>Handoff</th>
</tr>
</thead>
</table>

Performance Analysis of a Prioritized Multilevel Access Allocation Scheme for Data Calls in GSM Networks