Abstract

Though Low Earth Orbit (LEO) satellites have some distinct characteristics such as low
propagation delay, low power requirements and more efficient spectrum allocation due to
frequency reuse between satellite and spotbeams but the higher relative speed than terrestrial
mobile networks decreases the quality of service as a result of a huge number of handovers.
To overcome this problem a number of handover management schemes have been proposed
out of which Mobile IP (MIP) is the standard one. But its mobility management cost is too high.
Here we have proposed a low cost area based mobility management method (ABMM) using
GPS and Paging for LEO satellite networks, which use GPS to decrease Paging cost and
location update cost. Through mathematical analysis simulation results shows that this method
is better than the standard mobility management methods. Keywords: Mobility management,
GPS, LEO, spotbeam, ABMM.

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