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网络与通信

一种基于SIP的升空平台通信系统的优化切换

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摘要 在升空平台通信系统中，当移动用户终端移动到另一个平台时，它的IP地址会发生改变。当用户终端改变接入网络时，能够自动获得一个新的IP地址。用户终端被重新分配一个新的地址之后，要向归属域进行重新IMS注册，而且向通信对端节点发送重新会话邀请请求RE_INVITE，这样会话才能继续。这样的做法会给正在进行的会话带来很长的中断和延时。通过引入一种新的通过共享用户注册信息和会话状态信息的解决方法来降低切换时延。在重新注册和重新建立会话请求时，并不需要所有的REGISTER和INVITE流，因为IMS服务器已经通过服务器之间的信令传输获得用户状态信息，这样能减少切换时延，在切换时信令包的数量和重建通信连接的延时方面作了理论分析，并在OPNET仿真环境下进行了检验。

Abstract In the Stratospheric Telecommunication Platform, when the user equipment (UE) mobiles to another Platform, his IP address will change. If the UE changes access technology he will automatically get a new IP-address. After this reassignment of the IP-address the UE has to re-register to the IMS and send new invites to all corresponding nodes before the sessions can continue. This will potentially introduce a long delay of ongoing sessions. In this paper, a solution was introduced to reduce the handover delay by sharing the registration information and call states of the UE. The full register and invite flows were not necessary in that case, since the servers in the IMS already had state information about the UE and sessions from the context transfer. The benefit with respect to reduced hand-over delay was theoretically analyzed in the quantity of signaling packets and the delayed of rebuilding the communication.An OPNET simulation was carried out to verify the solution.

关键词 升空平台通信 切换 SIP IMS 时延 OPNET仿真

Key words Stratospheric Telecommunication Platform;Hand-over;SIP;IMS;delay;OPNET simulation

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