ENHANCEMENT OF POINTER FORWARDING SCHEME IN DISTRIBUTED HLR ENVIRONMENT

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ABSTRACT

LOCATION MANAGEMENT IS AN IMPORTANT ISSUE IN PCS NETWORKS. SEVERAL SCHEMES HAVE BEEN PROPOSED IN THE LITERATURE TO KEEP TRACK OF ROAMING USERS. POINTER FORWARDING SCHEME IS ONE OF THE MOST POPULAR METHODS USED IN ROAMING MANAGEMENT. POINTER FORWARDING SCHEME HAS SOME VARIATIONS: THE POINTER FORWARDING WITH SINGLE HLR, THE POINTER FORWARDING WITH DISTRIBUTED HLR, AND THE ONE-STEP POINTER FORWARDING WITH DISTRIBUTED HLR. ONE-STEP PFDHLR GUARANTEES THAT, WHILE A HANDSET IS CALLED, THE CORRESPONDING HLR MAY TRACE DIRECTLY OR THROUGH ONE FORWARDING POINTER TO FIND OUT THE LOCATION OF THE HANDSET. HOWEVER, A HANDSET MAY NEED TO MODIFY ALL OF THE LOCATION CHAINS AS ITS LOCATION CHANGED. WE PRESENT AN EFFICIENT WAY TO REDUCE THE NUMBER OF MODIFICATIONS. SIMULATION RESULTS INDICATE THAT OUR METHOD CAN OUTPERFORM THE ORIGINAL ONE-STEP SCHEME IN MANY CASES.

Keywords : PCS、LOCATION MANAGEMENT、FORWARDING POINTER

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