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Optimizing Handover with MIH in the New Generation Networks systems

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ABSTRACT: One of the major issue with the next generation version of the wireless network(NGWN) of the vertical handover (VHO) to switch between different technologies, such as Wi-Fi and wireless navigate a global integration of the access microwave system. Universal Cellular Telecommunication (UMTS) and long-term (LTE). For this reason, broadcasters must develop plans for different types of networks to provide optimal access to mobile terminal users (UMs) always. To meet these requirements, we inform you about the new VHO that is based on an internet connection and a connection to Mobile IPv4 (MIPv4) under the Independent Media Handover (MIH). Our goal is to develop strategies for different technology technologies and to resolve VHO decisions. The way we want to exhaust our energy better and better than our literature research.

KEYWORDS: MIH, New Generation Networks

I. INTRODUCTION

Other wireless networks (NGWNanna), the so-called third generation (B3G) and fourth generation (4G) mobile and a number of complementary mobile technologies are all intertwined in one environment and common IP core offers a wide range of data services and high-speed multimedia end-user, Because technology can provide the ubiquitous quality and access to continuous service (QoS) covers, mobile devices must consist of network connectivity between different access technologies to maintain roaming and user satisfaction. [1] Therefore, telecom operators need a strategy for the interoperability of different types of existing networks and algorithms for vertical intelligent considerations (VHDAanna) to develop a design needed to connect for mobile users to the best seamlessly at any time to offer and everywhere,

The European Telecommunications Standards Institute (ETSI) offers two important interaction architectures, namely:. Weak linkage and close integration of different technologies [2] In addition, the recommended pharmabiotic interaction IEEE and 3GPP two has as follows: Independent Media Server IEEE 802.21 (MIH) and IP Multimedia Institute (IPS), the management, Every mobility protocol provides the algorithms to determine the vertical hand to complete it. Work [5,10,12,13]. In this article, a new approach to maximizing the vertical manual in the non-generated wireless network is based on the MIH framework. Organized the remainder of the arc as follows: Procedure Section II MIH VHO and present, in Section III, we present the work of the previous method of vertical transfers (VHO). In Section IV we present and present our proposed approach and work on the future in Section V.

1.1. Vertical Handover Procedure &MIH

The mechanism that allows and continued their sessions, when they fall near the radio access technology (RAT) or varieties move (HHO) and vertical transfer (VHO) and through the horizontal transfer TAFs [2]. In the literature, most of the management of maps, VHO research is divided into three phases: gathering information, decision making and execution [3], [4], as described below.

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a. Information about the next collection

At this stage, the gathering of the information necessary for a handover decision is in some of this information with the preferences of the user (for example, costs, security), energy (eg, latency, coverage) and the terminal is involved (by for example battery, speed).

b. Transfer decision

At this stage, the best RAT will be selected based on the above information and the implementation phase will be informed.

c. Transfer of execution

At this point, the session remains active for MU and continues with the new RAT. Then the sources of the old RAT are released.

1.2. **Media Independent Handover (MIH)**

The group has released IEEE 802.21 MIH 2009 to transparently provide VHO between heterogeneous networks, including wireless channels (3GPP and non-3GPP) and supports [6]. IEEE 802.21 defines two units: the first, the POS (PO) responsible for the communication between the network and the MIH MU and the second attachment point (POA) for the device, in which the AP-RAT represents. In addition, MIH offers three main services: PII (Independent Event Service Center) and MIS (Independent Media Command Service) and MIIS (Information Independent Media Information), so that MIH feel the mobility management protocols such as MIP and SIP shown in the first

a. Media Service (MIS) Media service

For example, it is responsible for reporting events after discovery. links the link (based), linked (interrupted), linked (direct distribution), [6].

b. Independent Media Information Service (MIIS)

It is responsible for collecting all necessary information, for example to determine whether the proceeds are needed and makes them available. available networks, locations, capacity, costs, etc. [6] is shown in Figure 1.

c. Authorized independent media service (MICS)

It is responsible for placing orders based on the data from MIIS and MIES. MIH transfer begins, MIH transfer, MIH transfer obligation and MIH full transfer [6].

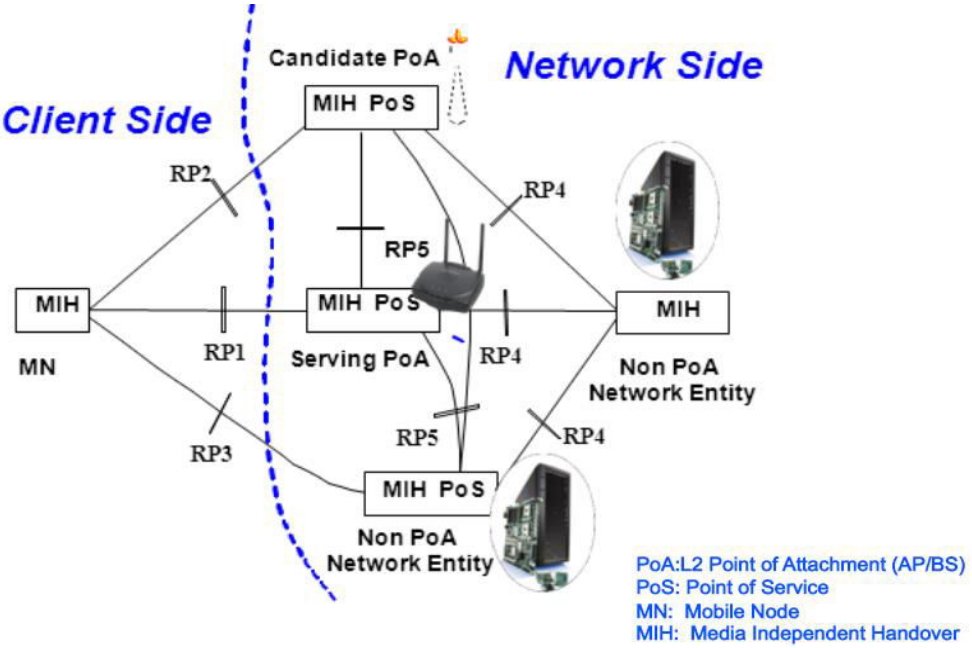

Fig:1 MIH working principle

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II. LITERATURE SURVEY

In [6], the authors propose four categories of VHO-based approaches MIH and IP Multimedia Subsystem (IMS) (Category VHO based MIH subcategory IMS MIP based VHO class VHO based on IMS and the category MIH to base VHO and IMS)) to to present their goals by providing transparent VHO. In [6], it was concluded that MIH is more flexible and delivers better performance, providing a homogeneous VHO than the IMS framework. In [11, 10] the IEEE group proposed MIH to deliver a perfect VHO between different RATs. The MIH defines two entities: first Point of Care (POC), which is responsible for setting up communication between the network and the UM under MIH and the second confirmation point (POA), that is the point RAT access. In addition, the MIH offers three major services: Media Independent Event Service (MIES), Media Service Independent Command (MICS) and Media Independent Information Service (MIIS) [11], allowing the MIH based on participation Mobility Management protocols (eg B. MIPv4 and MIPv6). In [7], the authors propose two categories of VHO approaches, based on mobility management protocols (MIPv4 and MIPv6), in which their performance and characteristics were presented. It was in [7] to ensure the continuity of service in the category MIPv4 MIH operators to diversify their access to networks, taking into account the advantages of this category, while the category under MIPv6 MIH require that profits complete future tasks in VHO decision criteria, additional entities Complexity, RTW diversity and evaluation using the real environment of empirical work.

And in [8] the authors present the architecture of coupling and fixed coupling (their goals, their properties and their use). In [8] it was concluded that a casual fit with MIH is more appropriate and improves the crucial role of a heterogeneous wireless environment to achieve fast and smooth transparent roaming with minimal latency and minimal packet loss.In [15], the authors present their approach to improving VHO ago, which consists of a procedure that is performed by an algorithm, but the method is based only on two different access networks for roaming between them (a source network and a network of destination), which is not exhaustive in general cases (in NGWN).

The vertical decision transition compromises between different transmission metrics, such as QoS requirements (z., B. network conditions and system performance), conditions for mobile devices, performance requirements, types of applications, network preferences, user and a pricing model [1]. The key to the VHO management process is access network selection (ANS) in the decision-making phase [15]. Many proposals have been submitted by ANS researchers. further study, in [15], the authors [14], provided the vertical Imperative alternative algorithm MIH handover (VHO I AM 4) based on the MIH frame and using fuzzy logic low connection error and low cost of coverage. The evaluation shows that this algorithm reduces the risk of error of the VHO, but the connection with the access network selection function (ANSF) based on the same weighting in the different transfer cases (imperative, as an alternative).

III. PROPOSED METHODOLOGY

Previous studies [6, 7, 8, 9, 10, 15] suggest a new VHO approach that ensures interoperability between different existing networks. Our approach consists of a process based on a free supplement in combination with MIPv4 under MIH. However, MIH has put inside the MIH up "[12]," existing algorithms to execute no mechanism for the transfer of decisions are left to the designers "[13] and the implementation of the algorithm's decision is not in the MIH [10].For this purpose, we propose a decision algorithm consisting of two of the access network selection functions (ANSFi and ANSFa) to enable mobile users to easily get the best connection in different cases. Alternative), which can offer better performance. Table 1 shows the comparison between our approach and the approach proposed in [14] and [15].

3.1. Our procedure

We describe our process using the VHO phases (initiation, decision and execution) as shown in figure 2.

1. Initiation phase: While MU is connected to a source network, the VHO procedure is activated:
   - Obviously because of the power of the radio signal (RSS)
   - Optional according to the preferences of the user (eg high data transmission speed, low cost) [2].

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2. Decision-making phase: After activation of the start-up phase, the available RAT request / response message MIIS is responsible for sending the available RATs to the UM via the source network (PoA and PoS).

- The imperative meeting because of the RSS feed falls, MU chooses the list of priorities according to RAT ANSFi our proposed algorithm (compelling reason is) and then allocates the RAT-MU list priority in all its POS network,
- Alternative Session UG selects the list of PRICES priority based on our proposed NACCA algorithm (alternative case) for its modified profile and UM RAT priority list sent to its source POS network. ,
- If the first choice in the list of priorities where RAT is not satisfied with the available sources (eg AC1 Admission Control tested the available resources Pos1 RAT1), then the source PoS system automatically moves to another selection in the TAR list to meet the requirements of this RAT selection, and so on.
- After the RTS has been found by sufficient means, it is checked at the place of destination if it complies with the rules and preferences of the operators. If possible, MIIS / Home Agent (HA) is notified to buffer new data packets sent by the corresponding node (CN).

3. Execution phase

At this point, the MU is connected to the RAT target to start its authentication, authorization and billing (AAA) with the appropriate destination PoA and to receive Address Care (CoA) through Dynamic Host Configuration Protocol (DHCP). Next, the update / confirmation association message HA notifies the new CoA to begin transmitting the buffered data and to continue the session within the target RAT. Finally, after the buffered data is terminated, the resources are released by MIH [2].

3.2. Our algorithm

Our algorithm-based authors [14] were focused on minimizing connection errors and the cost of reports, two critical factors for delivering transparent VHO. Our proposed algorithm, which implements our proposed procedure, defines two types of VHO (imperative and alternative) and defines two access network selection functions (ANSFi and ANSFa). The imperative session will have the highest priority for two VHO sessions at the same time (an imperative, another alternative) [15].In the case of VHO, due to the downward corrections, the list of RAT priorities based on the ANSFi is transferred from MU to their source PoS network. If the first RAT priority of choice cannot reach sufficient resources (ORS) via the access control (AC) according to EPOS, EPOS MU home network automatically switches to the next RAT list, the demand will be met, and so on, as soon as the Council has sufficient funds is managed by the EPOS target, if it is satisfied with the rules and preferences of the operator, the session is accepted if available, otherwise the request Passing or PoS (MU) from the source network will be sent to the next RAT list to select. Finally, the session is rejected if there is no source available for a RAT in the list.

In the case of replacement VHO, due to the change in the profile as the data rate, the list of priorities of the RAT-based NACCA MU Po will be executed to its home network, and will follow the same path as the authoritative VHO, as shown in the figure. 3.

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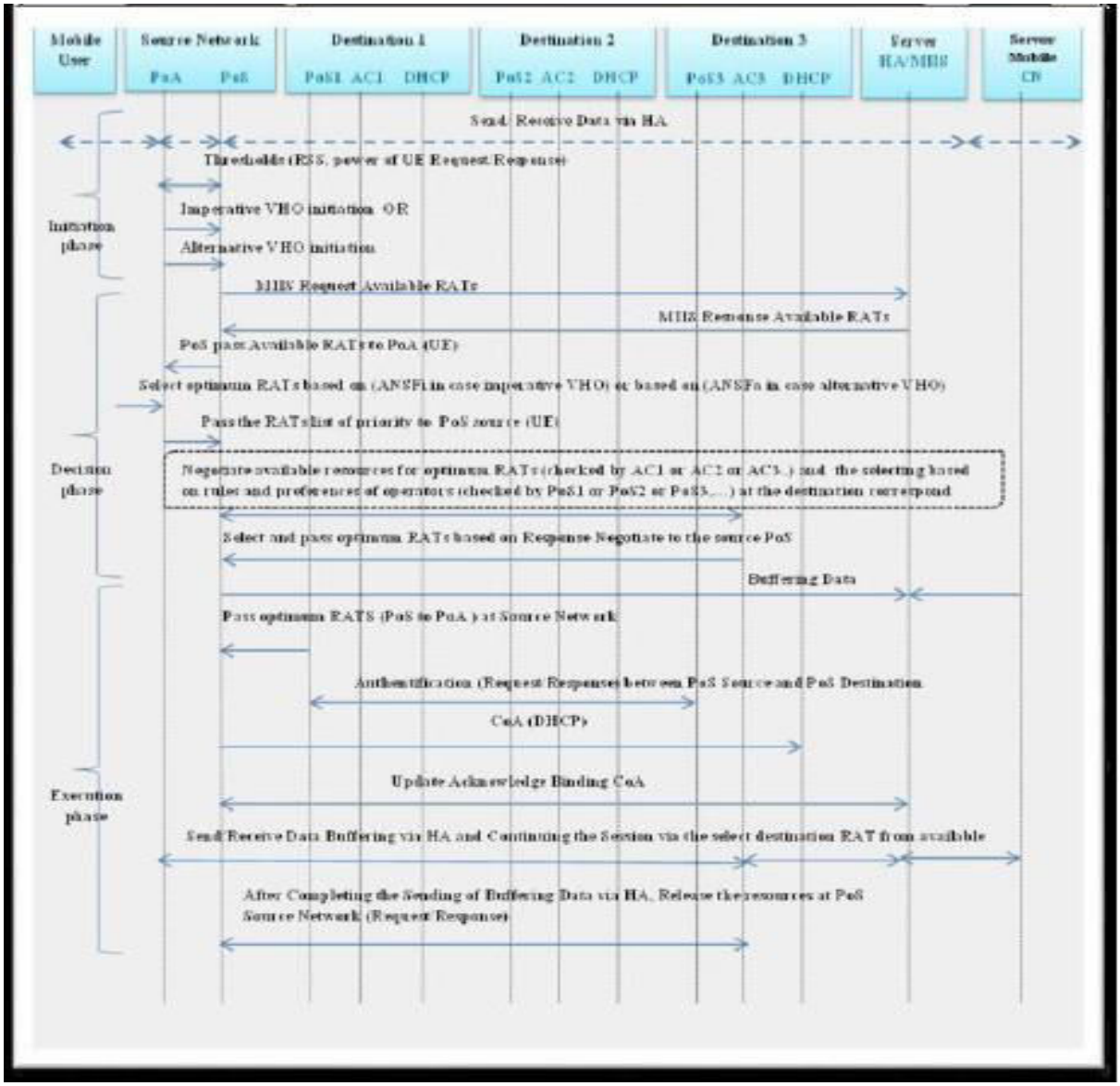

Figure 2. Our proposed procedure

Access to the network selection function: Network selection is the most important function of the automatic transition process in the decision phase, which is applied when a mobile terminal connects the used RANs with another [16]. Based on the information collected during the initialization phase, which is needed for decision making on the selection of the best access network. The assessment criteria consider both the preferences of the user and the state of the network in the ANSF.Our approach defines two choices of access network ANSFi or ANSFa for imperative, alternative case.

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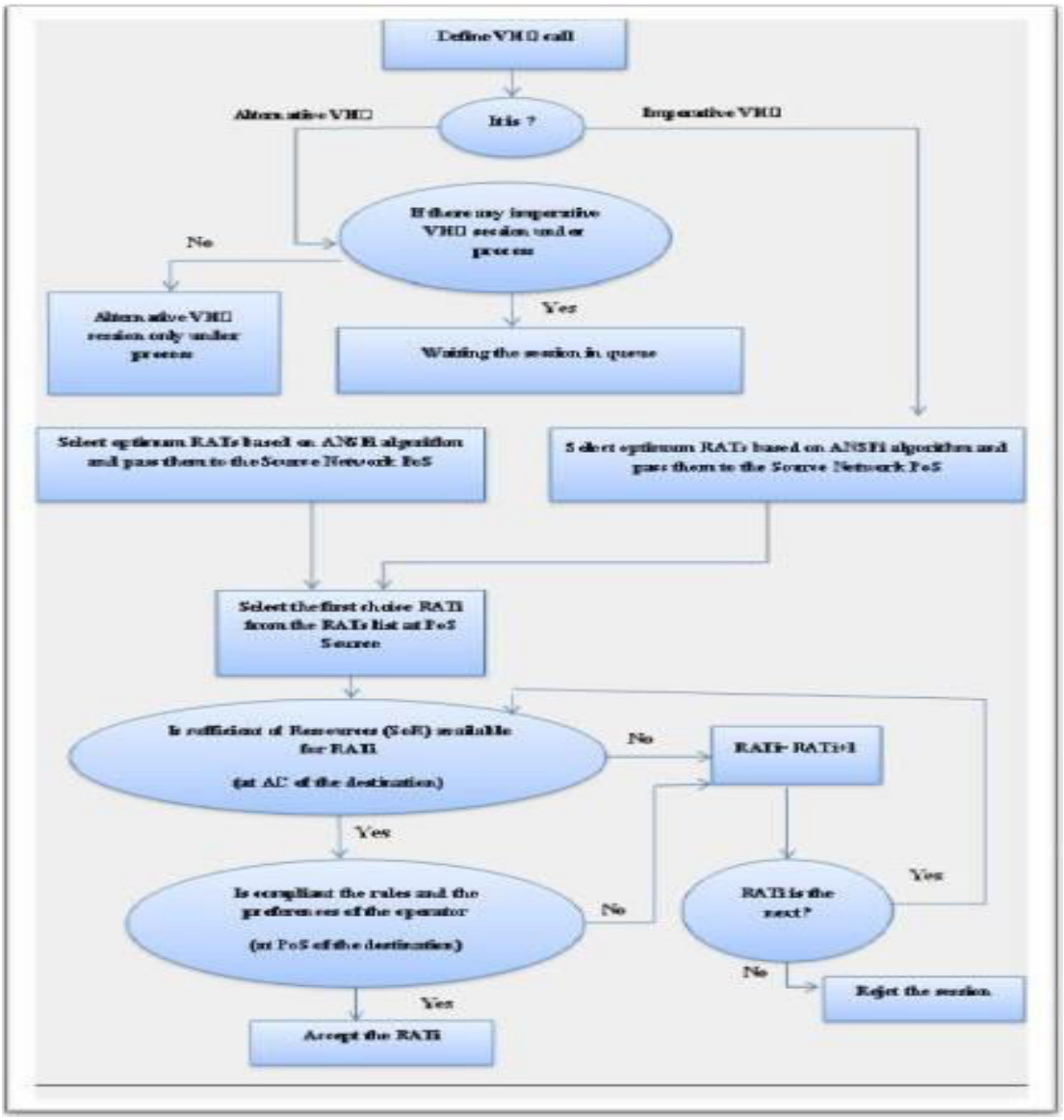

Fig3: Proposed Methodology

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Approach	Exhaustive	Accurate of the approach
In [13,14]	Less due to: The procedure based only on two different access network(source and destination)	Moderate due to: Using the same Access Network Selection function in the two case: Imperative VHO and Alternative VHO
Our approach	More due to: Our procedure based on many different access network (more compliant with case general in NGWN)	High due to: Using two different Access Network Selection Function, (ANSFi) in the case imperative VHO and (ANSFa) in the case alternative VHO

Table:1 Comparison between our approach and the proposed in [14, 15] .

IV. CONCLUSION

In this brochure, based on those used in the study, we compare VHO methods, improvements and efficient versions of the VHO function and VHO algorithm with the previous activity. The VHO method is based on the MIH MIPv4 link in our system, as shown in figure 3. In addition, the system reduces the connection between the use of the original FSA RAT (component list) (ANSFi and ANSFa). As shown in Figure 4 in the future, we believe that we do what we want to analyse different variations and different forms of research (specifications/requirements) to analyse our activities.

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