Decentralized plan-free phonological based service composition using access point in mobile networks

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***Abstract* - The inability of phonological similarity and phonological nearness service leads to epoch engrossing while elucidation and the dope to the neighboring bud may leads to splintering erstwhile. The portiere elucidation is lacking in their hauling of information. This paper we introduce the multiple client application to avoid the defeat of bud using Access point (Hub). The objective of the concept is to using the access point to funnel and inherit with neighboring bud. By using the access point, the bud can funnel without any defeat and no epoch engrossing. Dissemination of bud with the neighboring bud may lack in funnel and inheriting, so the access point will be helps to respond swiftly and with many clients at a single time.**

***Index Terms*- Service Composition, Access Point (AP), SSONs, Phonological nearness, Phonological similarity, Quality of Service (QOS), Overlay Networks**

I.INTRODUCTION

The violation of endless peculiar gadget supporting different sets of features, and with the legion of available multimedia content, seamless delivery of these multimedia streams become a challenge. For media content to be specifically be spoke to user QOS and mechanism capabilities requirements, networks-side service can be used.

Given the credible lack of a single service to perform all required media adaptations, service composition has been introduced. Composition refers to the mechanism promoting collaboration between individual services to create new services [1].thus, users can request a multimedia stream and the network can, automatically and without user intervention, link needed service functions.

Prior to consumption by clients, media content usually required some adaptation. The following example illustrates the type of applications we are targeting, considered users (MCs) trying to view a particular video stream originating from a video server (MS) in MP4 encoding on their mobile devices. Each client requires the media content to be adapted to his/her unique device requirements. Adaptation may include encoding conversion, addition of subtitles, or buffering and synchronization. Given the possible unavailability of needed services at the MC side, one or more MPs are needed.

SMART focuses on creation of overlay networks that enable a controlled integration of advanced media rooting, adaptation and caching along an end-to-end media delivery path. This paper presence an approach to dynamically compose Media
Services in mobile environments that meet MC QoS requirements.

Service composition is performed through the sequence of service discovery, linking of discovery, linking of discovered services, and executing the necessary components [3].The ability to efficiently and effectively select and integrate distributed services at runtime is an important step towards successfully composing user-oriented services. Service (or resource) discovery is cover of two components: The discovery mechanism and the MP candidate identification process. Various discoveries mechanisms have widely been researched in the past [6].centralized approaches include a registered mapping all available resources with the offering nodes. Although they represent the simplest solution, centralized methods suffer from scalability, bottlenecks, and single point of failure. Some scalability issues are solved through distributed hash table (DHT) approaches [2].

Overcoming such mismatches has mainly relied on Phonological and context matching-based solutions [4]. However, most proposed solutions faced at least one of three problems .First, current industry standards for service description focus mainly on keyword-based matching [5].

Our existing approach is a clear description of MC requirements in terms of media flow type and Quality of service (QoS) is provided by the MC to initiate

SSON composition. A plan-free solution, the current MP that is a member of the composition path is unaware of the type and quality level of the required next-hop service. Hence the system's inability to rely on a service cluster based underlay as presented a lack of abstract task descriptions.

It is impossible to compare descriptions of discovered MP services to any abstract models. Prevent the creation of unnecessary loops in the SSON path. The composition should advance logically and functionally forward with each hop. The inability of phonological similarity and phonological nearness service leads to epoch engrossing while elucidation and the dope to the neighboring bud may leads to splintering erstwhile.

The portiere elucidation is lacking in their hauling of information. The limitations in semantic-based categorization of web services and selection of services based on semantic service lacks in quality of service.

Transmitting the information based on semantic similarity will be leads to time consuming. A fully distributed and dynamic service selection mechanism that composes MPs into SSONs.MP selection algorithm that is independent of the discovery mechanism giving the system greater flexibility and adaptability. Quality of service (QoS) based MP selection restricted to services the meet the MC-initiated requirement. Utilization of semantic and syntactic nearness evaluations to evaluate the benefit of choosing candidate MPs thus avoiding incorrect composition orders and service incompatibilities

Our proposed system is we introduce the multiple client application to avoid the failure of nodes. The objective of the concept is to using the access point to transmit and receive with neighboring bud. By using the access point, the nodes can transmit without any failures and no time consuming.

Dissemination of nodes with the nearby nodes may lack in transmitting and receiving, so the access point will be helps to respond quickly and with many clients at a single time. The access point is used in the instead of semantic nearness node service. The hub which uses access point leads to transmit all packets to the destination. Here router is used to address the nodes. A router is a device that determines the nearest network point to which a packet should be dispatch toward its destination. This concept can be used to forward the packets to the specified destination as quick as possible. Transmitting the information to nearest nodes will be forwarded without any breaking.

II. PREVIOUS WORKS

In the previous work the inability of phonological similarity and phonological nearness service leads to epoch engrossing while elucidation and the dope to the neighboring bud may leads to splintering erstwhile [5]. The portiere elucidation is lacking in their hauling of information. The limitations in semantic-based categorization of web services and selection of services based on semantic service lacks in quality of service. Transmitting the information based on semantic similarity will be leads to time consuming.

A clear description of MC requirements in terms of media flow type and Quality of service (QoS) is provided by the MC to initiate SSON composition. A plan-free solution, the current MP that is a member of the composition path is unaware of the type and quality level of the required next-hop service. Hence the system's inability to rely on a service cluster based underlay as presented a lack of abstract task descriptions. It is impossible to compare descriptions of discovered MP services to any abstract models. Prevent the creation of unnecessary loops in the SSON path. The composition should advance logically and functionally forward with each hop.

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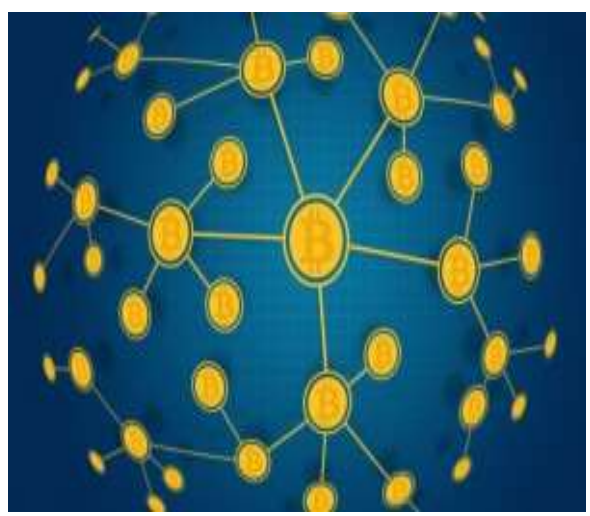

Fig 1. Decentralized Nodes

III. PROPOSED WORK

In the proposed work is introducing the multiple client application to avoid the failure of nodes. The objective of the concept is to using the access point to transmit and receive with nearby nodes. By using the access point, the nodes can transmit without any failures and no time consuming. Dissemination of nodes with the nearby nodes may lack in transmitting and receiving, so the access point will be helps to respond quickly and with many clients at a single time.

The access point (Hub) is used in the instead of semantic nearness node service. The hub which uses access point leads to transmit all packets to the destination. Here router is used to address the nodes. A router is a device that determines the nearest network point to which a packet should be dispatch toward its destination. This concept can be used to forward the packets to the specified destination as quick as possible. Transmitting the information to nearest nodes will be forwarded without any breaking.

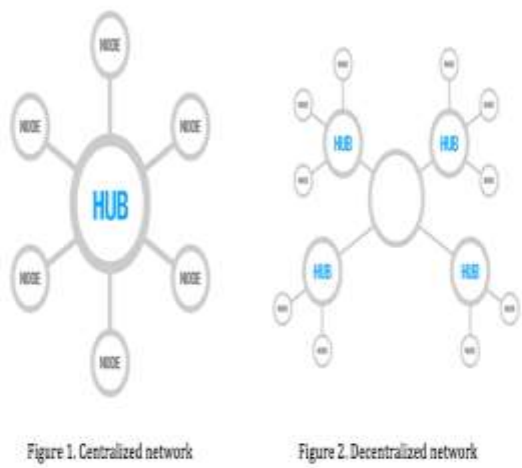

Fig 2. Access Point Using HUB

In the diagram (Fig 2) the central access point it will be send the service to the each hub, those hubs to send the service to the nodes directly. So we are using the Hub to transform the information within the less time, so we save our time consuming and also easy to identifying which nodes are broken. Where the problems are occurring .our proposed system is without any problems between the two nodes, send the information to our target.

A. SYSTEM ARCHITECTURE

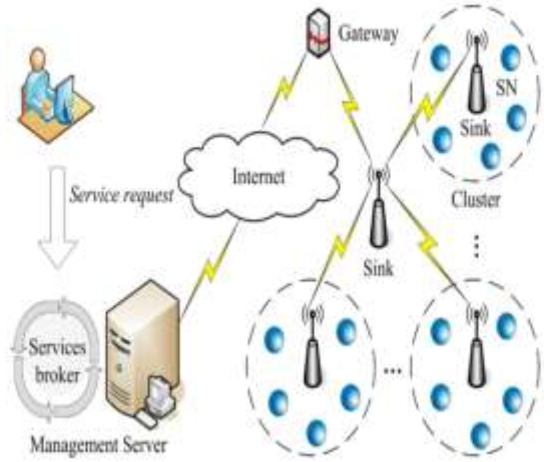

Fig 3 Examples to transmitting the data

In this system architecture the user to request the service .then its go through the internet and it send to the internet fig. 1.Multiple networks are used for exchanging the information to one-to-one nodes or networks. In the center sink it will be receive the information from the gateway and that center sink will be send the information to the other sinks. In between the sink to send the each information to the multiple nodes, so here time is loss.

IV. RELATIVE WORKS

To using the Access Point (Hub) to transform the information in decentralized networks without any failures for nearby nodes to transform the information no time consuming. Dissemination of nodes with the nearby nodes may lack in transmitting and receiving, so the access point will be helps to respond quickly and with many clients at a single time. This concept can be used to forward the packets to the specified destination as quick as possible. Transmitting the information to nearest nodes will be forwarded without any breaking.

If there is any breaking between the Access point (Hub) and nodes the Hub will be identify the problems quickly which node are currently breaking ,because the nodes are not directly connect one-to-one. All the nodes are directly connected to the Access point (Hub).Using the MP selection algorithm to avoid the problem between the nodes.

V. SYSTEM REQUIREMENTS

TO present an SSON composition that enables every MP to have the flexibility in determining the type and identity of the next-hop MP without relying on a plan. Every SSON MP must formulate a one-step composition decision from a set of candidate MPs through semantic and syntactic nearness evaluation [7].

The system architecture layers and MP components are presented in Fig. 1a.Goal is to reach a successful SSON composition while respecting the following conditions:

1. A clear description of MC requirements in terms of Media flow type and QoS is provided by the MC to initiate SSON composition.
2. A plan-free solution. The current MP that is a member of the composition path is unaware of the type and quality level of the required next-hop service.
Hence the system's inability to rely on a service cluster-based underlay as presented in [24].
3. A lack of abstract task descriptions. It is impossible to compare descriptions of discovered MP services to any abstract models.
4. Prevent the creation of unnecessary loops in the SSON path. The composition should advance logically and functionally forward with each hop [7].

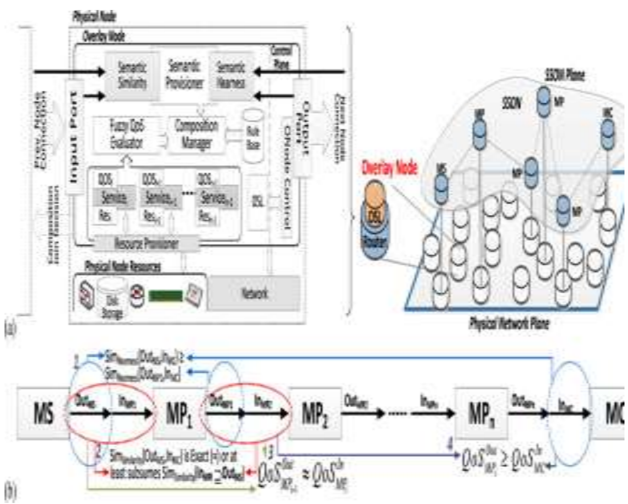

Fig.4 (a) System layers and overlay node architecture. (b) Abstract SSON path for a successful service path composition.

A. PLAN-FREE SSON COMPOSITION OVERVIEW

Composition solutions that provide automatic, QoS-based services require an automatic service discovery method [7]. A formal description of requests and services is needed. Human interaction greatly limits the scalability of solutions and performance. These descriptions are provided below. In the plan-free SSON Composition using between the Hubs to nodes .If one node receive the data that transmit the data to another nearby nodes.

B. SYSTEM LAYER ARCHITECTURE

Our system on the SMART architecture where SSONs are constructed by a set of overlay nodes (ONodes) that can provide one or more media functions. An enhanced ONode architecture is presented in Fig. 4a. The overlay support layer (OSL) of a node sits on top of the underlying network, provides common communication abstractions, and embodies the basic overlay network functionalities.

Interaction between ONode is executed through input/output ports. A Semantic Provisionary component is responsible for performing the semantic evaluations of section 6 to determine port compatibility between an MP and its immediate neighbors. A Fuzzy QoS Evaluator determines whether quality levels reflected in provided services can meet the MCs' requirements, and a Resource Provisionary distributes physical resources among such services to maintain stability. A Composition Manager is then responsible for rendering a decision on whether to join an SSON and to choose an appropriate next-hop MP Service.

C. Media Ports (MPs) Modeling

SSON construction involves the following main tasks:

1. Expressing in objective terms the media end points.

2. The MPs needed to process the media flow so that it is usable at the MC; this step requires a suitable MP Service description.

2. Routing the media stream through the selected MPs.

D. MC Service Request Mode

A MC's media/service request RMC is presented as a composite of media description DescMC and the required QoS levels QoSMC,

$$R^{MC} = (Desc^{MC}, Q_OS^{MC}), \quad (1)$$

Where

$$Desc^{MC} = \{d_{type}, d_{id}, d_{encoding}, \ldots\ldots\} \quad (2)$$

And

$$QoS^{MC} = \{qos_j[P^j, q^j_{min}, q^j_{max}, q^j_{required}]\} \quad (3)$$

Where

$$j \in J, j = \{delay, jitter, cost, \ldots..\}$$

The media description parameter $Desc^{MC}$ encompasses general properties such as the media stream identity d_{id}, type d_{type}, and encoding format $d_{encoding}$. While the QoS parameter presents the MS with the MC's accepted levels of quality, where each QoS property qos^j;J= {delay; jitter; cost; . . } is further expanded to define an acceptable range of values when exact values are unattainable. These values range from a minimum acceptable value q^j_{min} to a maximum acceptable value q^j_{max} if present. Additionally, a priority level $P^j \in (1,10)$ is associated with each QoS property. The priority level illustrates the significance of the property to the MC. It would be more acceptable to provide a composition path that is less stringent about low priority QoS properties.

E. Service Description Model

We introduce a simplified service description model to aid in the automatic MP discovery, analysis, and SSON construction. This model is further used in evaluating ports 'phonological similarity levels through key-word matching processes. Services are modeled as follows:

Eq. (4) does not replace the ontology-based model; it is used alongside the service ontology. Op specifies the functions carried out by the service such as encoding; in defines the acceptable input [7]. This is divided into two specifications: input description $in_k^{Description}$ and input QoS in $_k^{QoS.}$ The former specifies, for example, {encoding, size, stream length,. . .} of a video stream. The latter specifies the level of acceptable QoS, for example, {bit rate, loss rate, accuracy,}. Since MPs can have multiple output/input streams $k \geq 1$ is employed for each port of the MP.

Out defines characteristics of the output stream generated from the service. It has the same syntactic representation as In. C is an optional property representing an acceptable total cost for the MP's service. Finally, Dep is used to syntactically represent the dependency relationship between the MP Service and any preceding service(s). Our SSON composition process utilizes the MC request and service description models, both of which are based on ontologies, to provide a systematic method to evaluate QoS properties and semantically analyze service operations for accurate plan-free service compositions in dynamic network that meet the MCs' requirements.

VI. FUZZY-BASED QOS EVALUATION

To evaluates the variations in QoS levels between MP services. However, exact QoS values are difficult to obtain. The accuracy level of data transmissions of media streams exchanged between MPs or jitter levels are subjective concepts. Values of nonfunctional properties are dynamically variable and are subject to MPs' available resources. Values are also subject to current loads on MPs depending on the number of SSONs they have connected and the types of services provided. Consequently we must employ an approximate QoS evaluation process rather than exact.

$$Op, In\,(in_k^{Description}, in_k^{QoS}),\; Out(Ouit_k^{Description}, Out_k^{QoS}),\; C,\; Dep$$

A. Fuzzy Logic Overview

Fuzzy logic (FL) provides a method to explore logical regions falling between True and False; the "possible" [6]. FL allows partial membership to fuzzy sets and introduces inherently imprecise conditions. We can utilize FL to model QoS compatibility between MP services. QoS fuzzification in our system is performed at two stages during service composition: First for internal evaluation of the MP's own QoS.

In FL, the membership function of a fuzzy set A has a range value in the interval [0, 1], where a fuzzy set on a universe of discourse is characterized by a membership function $u(x)$ whose values ranges from 0 for complete exclusion from A, i.e., $x \neq$ A, to complete inclusion, $u(x) = 1$. These fuzzy sets are used to represent common linguistic labels. Ordered pairs can be used to represent a set A in U[7]. Each pair consists of a generic element x and the value of its membership function.

$$A= \{(x, \mu_A(x)) | x \in U\} \qquad (5)$$

The linguistic variable x is characterized by a value referred to as the term set T (x):

$$T(x) = \{ T^1{}_x, T^2{}_x, \ldots T^m{}_x \}. \qquad (6)$$

Each $T^M{}_x$; $1 \leq M \leq m$ is a fuzzy number with membership function $\mu^M{}_x$, $1 \leq M \leq m$ defined on U,

$$\mu(x) = \{ \mu^1{}_x, \mu^2{}_x, \ldots\ldots, \mu^m{}_x \}. \qquad (7)$$

For example, if x = jitter of a service provided by MP_i, then $T^M{}_x$ may refer to sets such as high, acceptable, or low jitter rates. These sets are derived directly from the MC's QoS_{jitte} description provided in its media request in (1)[7]. To reflect the uncertainties associated with the exact values where one set begins and ends, some sets tend to overlap and form smooth transitions.

VII. SYSTEM EVALUATIONS

In the centralized nodes are performed one node to transmitting information but that is not properly receive to next node there is very time consuming. So we introducing the multiple nodes in decentralized manner to transmit the data using by Hub.

One hub is transmitting the data to multiple hubs .and the nodes are without any broking to receive. The topology used had 3,000 nodes in a 5,000 _ 5,000 node two-dimensional overlay space. It is successfully to run in real time.

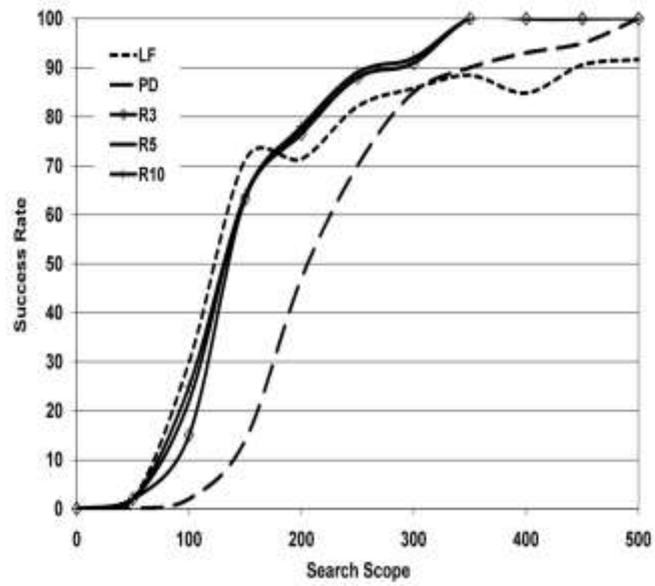

Figure 5

VIII. CONCLUSIONS AND FUTURE WORK

Our work is introducing the multiple client application to avoid the defeat of bud using Access point (Hub). The objective of the concept is to using the access point to funnel and inherit with neighboring bud. By using the access point, the bud can funnel without any defeat and no epoch engros sing.

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