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Comparison of Node Position in Clustered P2P File Allocate System

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Abstract: Advancements in technology over the past decade in stimulated the development large amount peer-to-peer (P2P) file allocate systems, The nodes interconnect to realize collaborative file services. Assessment of trustiness becomes modify. Trust errors and trusting data is stored by the middle server. Trust data finding one another is maintained and stored many- peers in p2p system. Feedbacks take different peers is stored by trust users in hash table depend model. We introduce a Proximity Aware and Interest-clustered P2P file sharing System (PAIS) is based n structured P2P, which forms physically-close nodes into a cluster and further group's physically close and same nodes into a sub cluster based on a hierarchical model. Cluster based locality system involves the method of intelligent file replication algorithm to change the file query efficiency. It commonly uses replicas of each file that are frequently accessed and create same clustering in particular nearest location. Initially, it classifies all the small nodes into sub cluster as a group this model is provide the effectiveness of secure file sharing system and also it find out the small attackers with the help of the routing value using follower and cluster based file allocate algorithms to change file search efficiently in the peer network A narrative lookup function named as DHT and file allocate algorithm is supports resourceful file lookup and access. To diminish overhead and file searching delay it keeps up file data collection. Bloom filter model is used to cut file sharing delay. Finally proposed model shows competence in file search, sharing and overhead.

Index Terms: *P2P networks, file sharing system, proximity awareness, file replication, Bloom filter, Peer Registration, Get Online User, User Info, Chatting, File Transaction, Acknowledgement, Block Listing.*

I. INTRODUCTION

Advancements in technology over the past decade have stimulated the development of large-scale peer-to peer (P2P) file sharing systems [1], where globally scattered nodes interconnect, to realize collaborative file services. Providing both highly efficient and trustworthy service is perhaps one of the more formidable challenges facing large-scale P2P system research. In such a system, millions of nodes are scattered worldwide across disparate administrative domains. The large-scale, global node distribution and dynamism of the system dramatically increase the difficulty of providing efficient data querying that would allow nodes to quickly receive queried data at low cost. Node dynamism means the situation in which nodes join and depart frequently and continuously. The central server securely stores trustful data and defines trust metrics. Since there's no central server in most P2P methodologies, peers organize themselves to store and maintain trust info concerning every different. In distributed hash table (DHT)-depend approaches, every peer ends up in a trust holder by storing feedbacks concerning different peers. The knowledge hold on by trust holders will be used through DHT expeditiously. Proximity Awareness: Various techniques to exploit each topology information in p2p overlay routing include geographic layout, proximity neighbor selection and also proximity routing. The geographic layout maps each of the logical ID space to their physical network. It is already employed in topologically aware CAN [2]. In this proximity routing method, the logical overlay is constructed without considering the underlying physical topology a piece of software the user has preferred to download and implement surreptitiously shares it (malware) and client software virus result in unintended distribution of file directories [3]. In P2P networks which share out resources of undecided authority, the issue of lack of obscurity becomes evident. For example, the BitTorrent file sharing system straight exposes the IP address of peers to each other in a crowd. This would allow peers in the swarm to know the distinctiveness of other peers who are downloading definite resources [4, 5]. They were lots of difficulty in the peer network. Hence our proposed work concentrate on avoiding malicious attackers with the help of the DHT (Distributed Hash Table) and also used the Trusted peer to peer concept to share the data in the peer network with secure access with the help of reputation model it provide the rank for every

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network which contains positive and negative ranks, using this model it calculate the positive and negative aspects. If it shows the positive aspects it will continue with that trusted peer network and if it shows negative aspects if does not provide the data sharing and data accessing in the network. So it helps to share the data in secure manner. This allows more messages to be in retreat than a slower backbone and, therefore, allows better scalability. Super-peer networks reside in the middle-ground between centralized and utterly symmetricP2P networks, and have the probable to coalesce the benefits of both centralized and distributed searches [6,7] Users who partake in these networks to distribute music, pictures, and video are subject matter to many protection risks including inadvertent distribute of private information, exposure to viruses and worms, and the penalty of spyware.

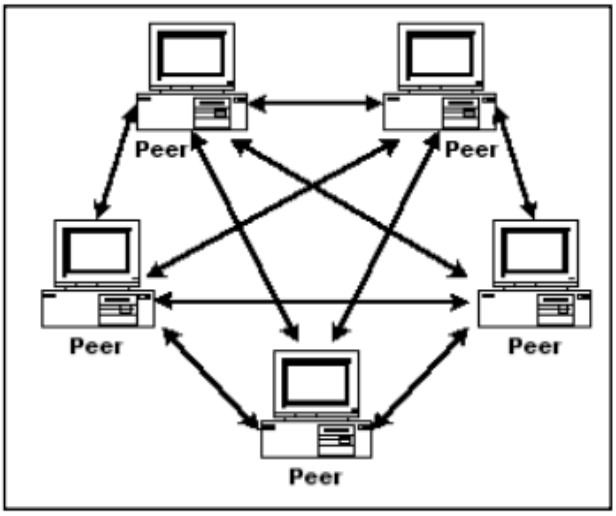
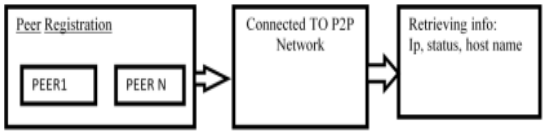


Fig1 Peer to peer Networks

II. RELATED WORKS

Techniques to exploit topology information in P2P overlay routing include geographic layout, proximity routing, and proximity-neighbor selection. Geographic layout method maps the overlay's logical ID space to the physical network so that neighboring nodes in the ID space are also close in the physical network. It is employed in topologically-aware. In the proximity routing method, the logical overlay is constructed without considering the underlying physical topology. In a routing, the node with the closest physical distance to the object key is chosen among the next hop candidates in the routing table. The entries of a routing table are selected based on a proximity metric among all the nodes that satisfy the constraint of the logical overlay. Proposed a method for clustering peers that share similar properties together and a new intelligent query routing strategy Cresco and Garcia-Molina proposed a semantic overlay network (SON) based on the semantic relations among peers. Ruffs and Schifanella studied the spontaneous communities of users in P2P file sharing applications and found that a family of structures show self-organized interest-based clusters. The works in consider node interest for publish and subscribe. found the small world pattern in the interest-sharing community graphs, and suggested clustering common-interest nodes to improve file searching efficiency. Proximity Awareness: Various techniques to exploit each topology information in p2p overlay routing include geographic layout, proximity neighbor selection and also proximity routing. The geographic layout maps each of the logical ID space to their physical network. It is already employed in topologically aware CAN[8]. In this proximity routing method, the logical overlay is constructed without considering the underlying physical topology. Eg. Pastry[9], each of constraint will be the node ID prefix). This method can also been adapted to Chord[1] and CAN[7]. They select the routing table entries pointing to the topologically nearest among all the nodes with node ID in the desired portion of each ID space. Bit Torrent downloading scheme is also been proposed] which has the scheme of locality aware file searching and the replication in order to supply a fast downloading and robust. Each of Bit Torrent contains various components such as data content, the tracker, original content provider, Meta info file and the end host/clients.



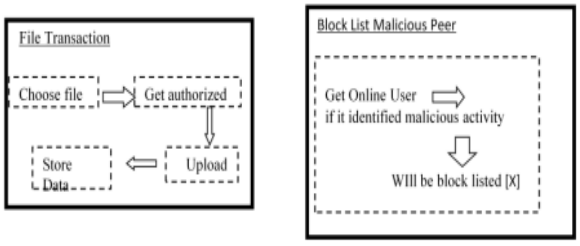


Fig 2 Improve File Searching

III. SYSTEM DESIGN

PAIS is developed based on the Cycloid structured P2P network. A node's interests are explaining by a set of attributes with a globally known string

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description such as "image" and "music". The strategies that consent to the description of the content in a peer with metadata can be used to obtain the interests of each peer. Taking advantage of the hierarchical structure of Cycloid, PAIS gathers physically close nodes in one cluster and further group's nodes in each cluster into sub- clusters based on their comfort.

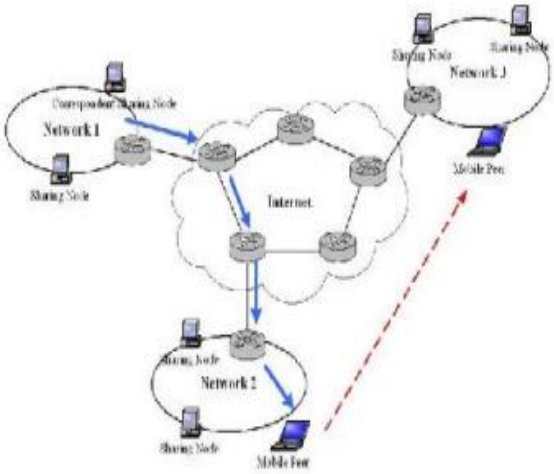

Fig 3 System Architecture of Cluster Based Locality Network

Proposed a method for clustering peers that share similar properties together and a new intelligent query routing strategy Cresco and Garcia-Molina proposed a semantic overlay network (SON) based on the semantic relations among peers. Ruffo and Schifanella studied the spontaneous communities of users in P2P file sharing applications and found that a family of structures show self-organized interest-based clusters. The works in consider node interest for publish and subscribe. Iamnitchi et al found the small world pattern in the interest-sharing community graphs, and suggested clustering common-interest nodes to improve file searching efficiency.

IV. PROPOSED SYSTEM

Investigating in the file-sharing preference of users and correlation between different resources categories in a real peer-to-peer network Analytic methods from complex networks theory to investigate the File sharing. Relation between the users and the resources could be described by a bipartite sharing graph, with one subset for the users and the other for the resources. We further propose different strategies to guide nodes to forward a file query to friends that are more trustworthy and more likely to resolve the queries or forward the query to file holders. We also propose follower- and cluster-based file replication algorithms to enhance file search efficiency. Cluster-based file replication algorithms to enhance file search efficiency. The results of trace-driven experiments on the real-world Planet Lab tested demonstrate the higher efficiency, trustworthiness, and dynamism-resilience of SOCNET compared with other systems. PAIS is developed based on the Cycloid structured P2P network. A node's interests are explaining by a set of attributes with a globally known string description such as "image" and "music". The strategies that consent to the description of the content in a peer with metadata can be used to obtain the interests of each peer. Taking advantage of the hierarchical structure of Cycloid, PAIS gathers physically close nodes in one cluster and further group's nodes in each cluster into sub- clusters based on their comfort.

Pseudo code for searching file in cluster based node:

¬ Consider the file 'f'
¬ Identify the key for the file 'f'
¬ Get the 'f' ID
¬ If the key of file 'f' belongs to interests then,
¬ Continue sending request to the particular server of sub-interest
¬ Then if positive response then
¬ Exit;
¬ Else
¬ Look for the file 'f' ID and continue the search in other clusters.
¬ Endif;
¬ Endif;

Sub Interest File Querying Mechanism: The cyclic index that will be performed to identify the required file using various mechanism to reduce the time latency. To achieve high efficiency in both of the inter cluster and intra cluster searching. They uses the relative small path with gross grained interest classification and also uses additional method to improve the searching in intra cluster method. The chosen small path to identify the file/information would improve the file searching mechanism. Based on the Cycloid topology and ID determination, PAIS brightly uses cubical indices to differentiate nodes in different physical locations and uses cyclic indices to further order physically close nodes based on their interests. Particularly, PAIS uses node i's Hilbert number, Hi, as its cubical index, and the dependable hash value of node i's interest as its cyclic index to generate node i's ID denoted. If a node has a number of interests, it generates a set of IDs with different cyclic indices using this ID purpose method.

V. Secure File Transaction Using Replication And DHT

Data sharing in the P2P develop into an important purpose in the reliable computing. Protected and trustworthy file distribution is vital to progress overall recital of peer-to-peer (P2P) file distribution

systems. Most of the user needs protected way of transaction in every network. For the user require this paper study about the usefulness of secure file sharing, penetrating and tracing system, which establish the necessity of proximity- and interest-aware clustering and proposes dissimilar approach to guide nodes to frontward a file query to friends that are supplementary trustworthy and more possible to resolve the question forward the query to file possessor [10]. This also proposes follower- and cluster-based file duplication algorithms to enhance file investigate efficiency. This effectively finds the users curiosity and behavior in P2P, which helps to compute the standing value. Based on the reputation value, the system allocates services.[11] The results of proposed system P2P display the higher efficiency, dependability, and dynamism-resilience of SOCNET determine up to with other systems. and it provide various compensation likes search efficiency.

a. Distributed hash tables

Distributed hash tables are similar to dispersed data structures that are used in P2P submission to store and retrieve data competently. In a classic hash table, hash table objects are amass in dissimilar buckets according to each object's confusion value which is obtained by applying a hash function to the data being stored. Since the information search for mechanism is logarithmic, the systems that make use of DHTs are tremendously scalable. When the number of nodes in the network doubles, only one additional hop is needed to discover any given node [13, 11]. In DHT P2P networking, every node in the system has a globally exclusive identifier. It provides decentralized process, devoid of the need to preserve a federal server to organize the P2P network.

b. Reputation model

This model is autonomous of the topology of the P2P network, addressing method for its nodes, bootstrap mechanisms, combination and departure protocols of peers, and the name service. In other words, the choice of any of this machinery has no impact on the reputation representation and vice versa. If the system allows the peers to issue both positive and negative recommendations to other peers, some peers might get victimized by bad orifice a positive recommendation for a given transaction. On the other hand, if only positive suggestion is allowed then it would be hard to differentiate a relatively new peer from a chronic bad peer [13]. Therefore, here we make an supposition that both positive and negative recommendations are allowed and a given peer will stop interrelate with peers who frequently issue negative recommendations.

VI. EXPERIMENTAL RESULT

Our proposed system helps a lot in the peer network to maintain the trust. Hence our proposed work concentrate on avoiding malicious attackers with the help of the DHT and also used the Trusted peer to peer concept to share the data in the peer network with secure access with the help of reputation model it provide the rank for every network which contains positive and negative ranks, using this model it calculate the positive and negative aspects. If it shows the positive aspects it will continue with that trusted peer network and if it shows negative aspects if does not provide the data sharing and data accessing in the network. So it helps to share the data in secure manner. This experimental result shows the difference of existing and the proposed system progress.

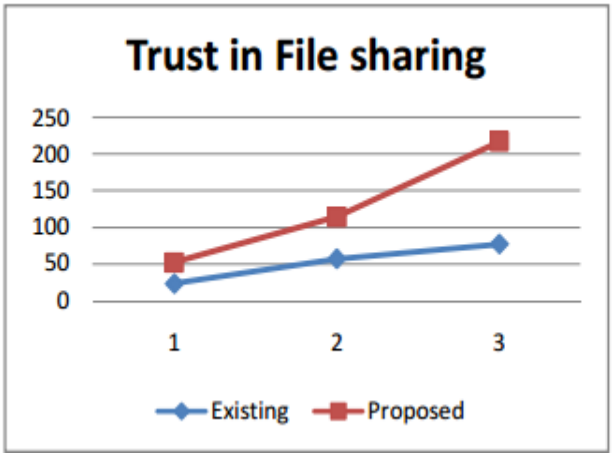

Chart: Trust in File sharing among peer network

This chart represents the reputation score for the existing and proposed method in existing it didn't well worked with the reputation values but in our proposed system it shows better result for finding the positive and negative aspects. When compared to the existing system it works well. It find the malicious attackers and it deny their actions and also it does not share any file with that network so it will be the great advantages for our proposed one.

VII. CONCLUSION

The enhancement of file location efficiency in p2p system, clustered locality super p2p and interest clustered network has been proposed. Although these strategies improve the performance, but with the introduction of physical nearest cluster and peer interest the efficiency can be still faster In this cluster based locality p2p system and interest cluster p2p file sharing system is structured network would rapidly increase the performance rate of identifying file location. It groups the peers based on their interest and physical locality with the help of hierarchical structure. Cluster based locality uses an intelligent file replication to enhance physical locality of frequently accessed nodes for improving efficiency. Finally, clustered based locality enhances the file

sharing efficiency among the nearest node and common interest node through several approaches as mentioned.

VIII. FUTURE ENHANCEMENTS

In the proposed paper, file distribution is done between the peers by FILE AND FILEID. It can be enhanced to provide more the user specific search such as file name and their sub-interest. Hence, the requester will get specific file of his interest. It can be enhanced by creating a new super peer node which contains only the information about the sub interest division of each file and also it reduces the searching time delay. Finally, PAIS enhances the file searching effectiveness among the proximity-close and common interest nodes through a number of approaches. The trace-driven experimental results on Planet Lab exhibit the efficiency of PAIS in comparison with other P2P file sharing systems. It radically decrease the overhead and yields important improvements in file location

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