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REDUCE DOWNLOAD TIME AND ENERGY CONSUMPTION USING MULTI STORAGE AND PROXY BASED COLLABORATION

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Abstract: *Nowadays, for the large content downloading the Mobile Collaborative Community (MCC) is used. This is an emerging technology that allows multiple mobile nodes (MNs) to perform a large content download. In this paper, we are introducing a proxy based collaborative system for file downloading that help to reduce download time and energy consumption. The files are stored on different web servers where those files are divided into chunks. When client request for downloading a file then mobile nodes generate a Wi-Fi direct group. The scheduler assigns the chunks to the mobile nodes who are connected in the Wi-Fi direct group. The server manager manages the information about the chunks which is present in the database.*

Keywords- *Server, Cloud, File Spilt, File Merge, Uploading, Downloading.*

I. INTRODUCTION

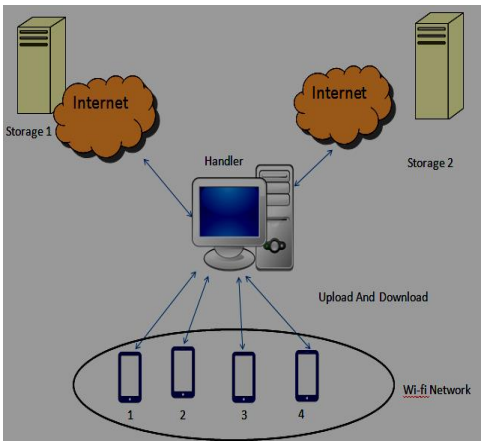
It is still insufficient for bandwidth based application for large content download. Collaborative bandwidth aggregation techniques at the data link and network layers have been recently considered, including systems for collaborative content download. In these systems, multiple mobile nodes (MNs) within proximity of each other form a collaboration group, called mobile collaborative community (MCC), to improve content download performance. Each MN in the MCC downloads a part of the content, often referred to as a chunk, and shares the received chunk with other MNs in the MCC. During such collaborative download, the MNs use multiple interfaces, a wireless wide area network (WWAN) for downloading content chunks from the origin server and a wireless local area network (WLAN) for sharing the content chunks within the MCC. Collaborative content download in an MCC can lead to reduced content download time because the WLAN typically provides a much higher data rate then the WWAN. Each MN can reduce its use of the WWAN, which may lead to lower communication cost and may also reduce its energy consumption. At the system level, content download via an MCC can reduce the traffic load of the WWAN, thus providing benefits for the mobile operator as well. Minimizing the content download time and the energy consumption in an MCC is, however, challenging as the download time and the energy consumption depend both on the chunk sizes downloaded by the individual MNs and on the sharing order among the MNs within the MCC. Furthermore, the optimal choice of these parameters is a function of the WWAN and WLAN channel conditions, i.e., the achievable data rates of the MNs.

II. PRELIMINARY

In the existing system the storage server and scheduler are not separated. As a result a single server managed both data storage and scheduling of downloading of chunks. The chunks were downloaded at mobile node by random assigning the chunks to nodes and depending upon the availability of the nodes the download of files takes place. The download of files happen depending upon the bandwidth of network and time varies for different bandwidths. At the request node, all chunks are downloaded and later files are combined to get the exact file. **.** Disadvantage of existing system is the server and scheduler are combined. So system performance is slow.

III. PROPOSED SYSTEM

In the proposed system the large sized files are stored on different web servers which are formatted into chunks while storing and records are stored in server which have total information about the stored files on server. The chunks on web servers are downloaded by mobile nodes. The files are requested by request mobile nodes to download and then that request is sent to scheduler which have the records about the chunk of file. Scheduler manages the chunk request and send exact chunk of file to the mobile node. The chunks are downloaded by multiple nodes. The request mobile node downloads the all chunks of that file and android application merge together to get the exact file. So that multiple chunks are downloaded simultaneously. After downloading all the chunks all files are combined to get large sized file.



Fig,Proposed System

Above figure shows the basic information of our system.There are four mobile nodes in that one mobile node is a request mobile node and others are there proxy.

IV. ALGORITHM

The algorithm for proposed system for better understanding
Input: Chunks of the files.
Output: Different files that user want to download.
1. Start
2. Choose initial sharing order i.e.,
   i. Get request from requested mobile node.
   ii. Choose source used for downloading.
3.Get available resource list from where we download.
4.Checks all the chunks of file are present.
5.Schedule all chunks to present resource.
6.Download all the chunks.
7.Merge all the chunks and get the original file to requested mobile node.
8. Stop.

V. IMPLEMENTATIONS

There are main four modules in our system. That are Login , Upload and split file, Download file , Merge file. The details about them are below:

a.Login:

In this module, user login as a Admin and start the server for the next processing. This is done by following way:

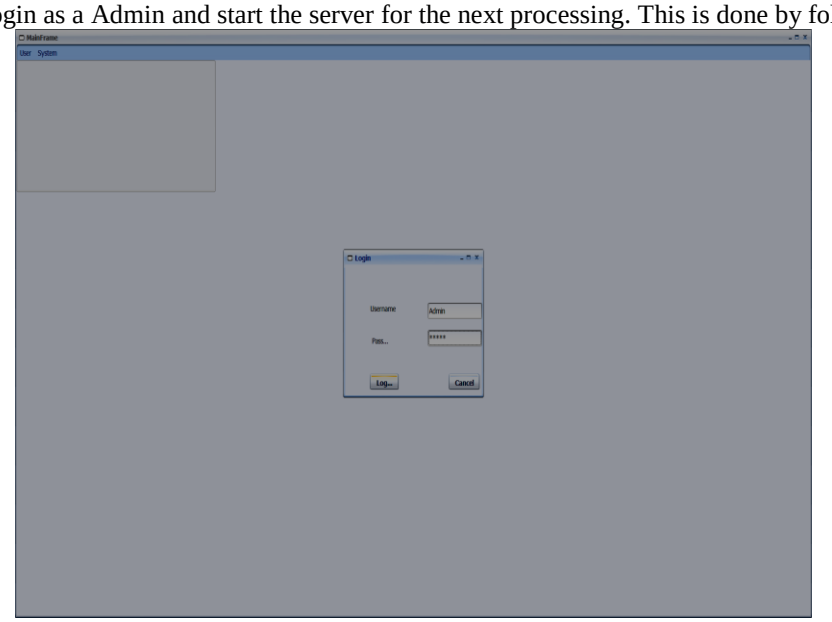


Fig. Login as Admin

b.Upload and Split File:

In this module, we are uploading file on storage. Firstly, we are select the file for uploading. Beforeuploading is done we split file into multiple chunks and then store on storage using FTP Protocol. FTP protocol is nothing but File Transfer Protocol used for transferring of file to remote server.

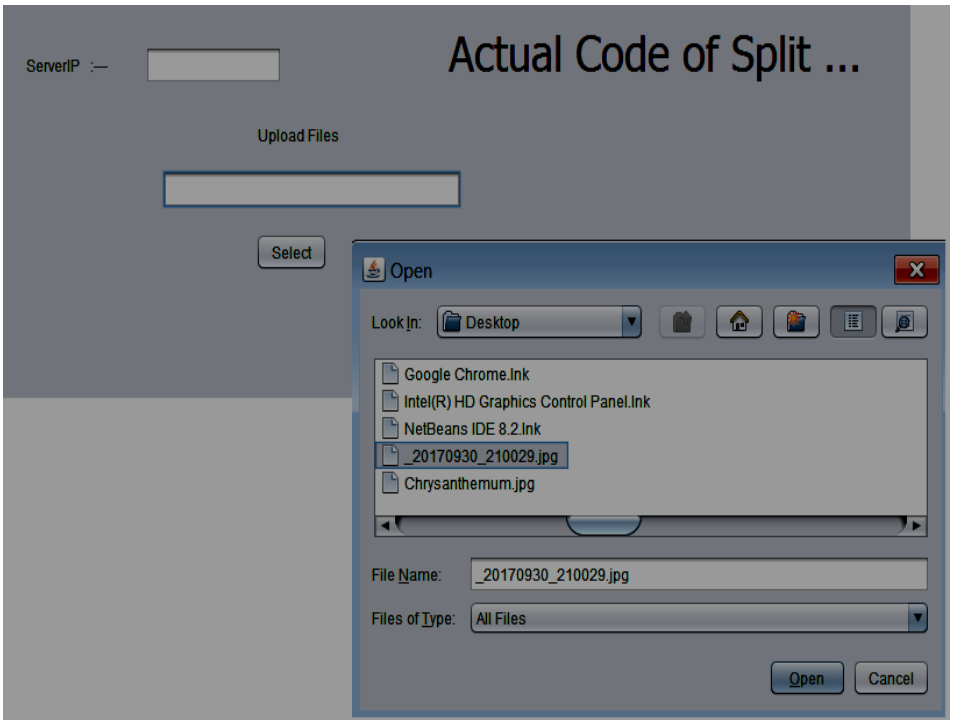


Fig. File selecting for uploading

After successfully uploading of file, the file is spilt in following way:

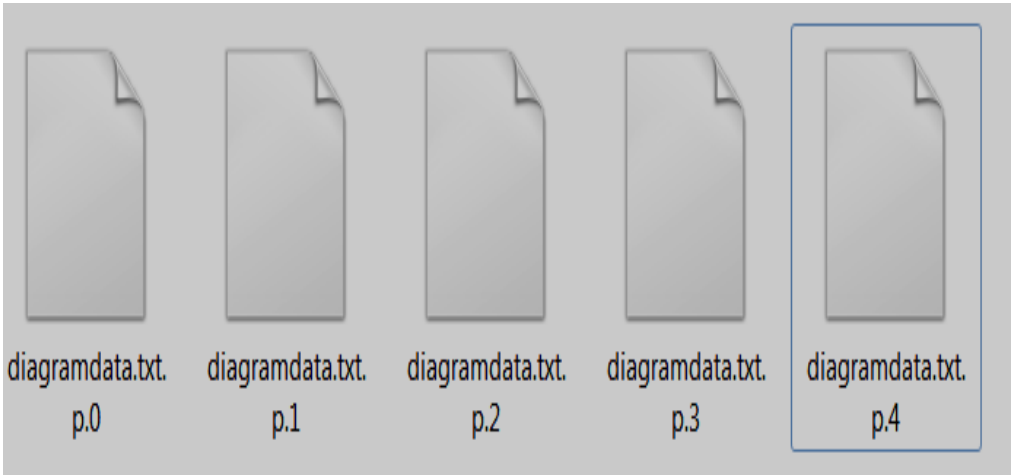


Fig. Splitting of File

c. Download File:

In this module, user are download file from storage. In this process user must check that Wi-Fi network connection is available or not. Then multiple mobile phones are connected in Wi-Fi network used as proxy server for download files . Requested user first select file for downloading. At the time of downloading process firstly checks the mobile is connected in same Wi-Fi network. This is done by following way:

Fig. Chunks of the file

d. Merge File:

In this , requested mobile node are collecting all chunks of the file from proxy mobile nodes (i.e., Multiple Mobile Nodes) and merge that chunks in specified path in requested mobile nodes to get the original file as result. This is done by following way:

Fig, Merged File

VI . CONCLUSION

We conclude that we can download files from servers and combine them in single file efficiently. The speed of file downloading depends upon the network bandwidth.

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