ISSN NO: 9726-001X
Volume 01 Issue 01 January 2013

P2P file sharing, cloud storage, and email server use

N.Ashok

PG Scholar, Dept of CSE, Sree Chaitanya College of Engineering,Karimnagar, ashok.nagula@gmail.com

Abstract

P2P (Peer to Peer) networks are used by people all over the world to upload, download, and share media files including music, movies, and games. All existing generalized peer-to-peer (P2P) file sharing protocols assume that all peers are connectible, or have access to a single end node on the internet. However, this is quite difficult to do owing to the widespread use of NAT1 and proxy servers. since a result, non-connectible peers often have sluggish download rates, while connectible users experience too many uploads, since the burden is not divided fairly between them. In the worst-case scenario, when no peers are reachable, P2P fails completely. To address the issues plaguing P2P protocols, researchers have proposed a brand-new protocol called Mailzoro. Since there is a scarcity of IPv4 addresses, NAT-ed hosts, and the asymmetric nature of broadband connections, most P2P protocols are inefficient.If every node in a P2P network could be reached by email, and files could be sent to many recipients without being uploaded more than once, the system would be a major advance. Furthermore, if we use systems like Gmail and Yahoo, most of the emails would be transferred internally and much more efficiently, improving the overall efficiency of the imposed on the peer's for checking the availability of the file pieces in the mail server at regular intervals, which may degrade the performance of low-end devices, via cloud messaging we reduce the communication overhead, which increases the performance by 90%.While these methods enabled peer-to-peer file sharing, they did so at the expense of increased client processing load and difficulties in connecting to remote peers.CloudZero is a solution that uses a cloud server to address issues with peer accessibility and processing load.With cloud push to device messaging, clients and file peers may exchange data as soon as they are in range of one other. When compared to other methods, Cloudzoro drastically boosts application performance by 90%.

Introduction

P2P file sharing makes up the bulk of internet traffic nowadays. But most of them are inefficient in many ways, and rely on thepresence of connectable hosts (end node on the internet). Some of the shortcomings of P2P apps based on TCP/UDP are Currently there are lots of P2P based applications like eDonkey, SoulSeek, DC++,Lime Wire, eMule andBittorrent etc. But all of them work within TCP/IP. Because of this all system suffer from the same disadvantages as enumerated:

.

1. *Reachability Problem*: If 2 nodes are behind a proxy or firewall or any other NAT device theycannot contacteach other since they don't have a reachable global IP Address. Due to the shortagesof IP addresses more and more service providers are shifting over to NAT1. Currently no methodexists for providingreachability to users behind proxies, but attempts have been made to establishconnectivity between hostsbehind NAT. Studies in have shown that NAT Traversal techniquesgiveefficiencies of about 82% in UDP and 64% in TCP. But

ISSN NO: 9726-001X
Volume 01 Issue 01 January 2013

these methods require the use of ameditating server.

2. *P2P blocking*: Most networksdisallow or ban P2P on their networks due to heavy traffic. Due tothis many users cannot use file sharing with the outside world. Most proxy servers only allow outboundaccess to a few service ports (likeHTTP, SMTP, POP3, Telnet, SSHetc).

3. *Low Upload speed of clients:* In mostbroadband connections the downloadspeed is usually much higher thanthe upload speed. Most general broadband connections in the world provide ADSL connections which are symmetric in nature.

4. *Shortage of IPv4 addresses and IPv6compatibility problem*: Due to the shortage of IPv4 addresses, it's not possible to make all peers reachable and since many OS"s and programs still lack support for IPv6. P2Papplications haven't made the switch
to IPv6 yet. Thus in the current situation it's not possible to have all reachable clients in a P2P network.

The above stated problems motivated us to formulate a new p2p file transfer protocol which can overcome all the stated drawbacks of the available p2p file transfer protocols.

.Literature survey:

There were no hiccups with takeoffs or landings of planes at the airport. Using ambient parameter monitoring might help prevent air traffic control problems. Airport stakeholders gain speedier air traffic and reduced stress when these monitoring systems are coordinated.
To determine whether increasing the monitoring is financially feasible, a cost-benefit analysis should be performed. Efforts are being made to enhance speech recognition in noisy environments as part of the ongoing inquiry.

BitTorrent:

The most widely used P2P protocol on the internet. BitTorrent works by establishing end to end connections between the hosts, and using them to transfer files. There are two versions of the protocol, one depends onthe presence of a tracker to communicatewith the peers, other doesn't require the presence of trackers, and it is based on DHT (Distributed Hash Table).

Direct Connect:

The direct connect protocol is based on the concept of hubs clients and a superhub. Peers connect to the hubs. The hub serversas a connecting point for all the peers. Peers can view the files shared by other peers, and transfer them.

ISSN NO: 9726-001X
Volume 01 Issue 01 January 2013

Gnutella:

Gnutella is a fully distributed file sharing protocol. In this protocol each Gnutella client is connected to at least one client in the network After that the Gnutella clients asks for a list of peers from the other client. Even searching is done in a distributed way, clients disseminate the search query to the nodes that are directly connected to them.

Mailzoro:

Most P2P protocols work most efficientlywhen all peers are reachable. Identifying a Peer by a socket (IP + Port) is not possiblein case of NAT'ted peers. So in search of a solution was 'Email'. An email address can be used to uniquely identify a particular host, on the internet irrespective of the nature of his networkconnection. This allows users behind NAT and proxies to beat the same level as other connectible users. Moreover, most home users use a broadband connection which is asymmetric in nature.So if we use emails to send files, then wecan send the same file to more than oneperson.

But mailzoro imposed a lot of processingoverhead on small devices for checking the email for file availability, and mailzoro requires the nodes to be reachable while making the file transfer request.

Implementation:

The System is designed to provide low processing file transfer protocol which can be employed on small devices such as mobile phones.

The targeted application is deployed to run on smaller devices such as mobiles phones and also laptops, Desktops.

The Protocol involves 3 parties

1. The Mail Server
2. The Cloud Server
3. The CloudZoro Application

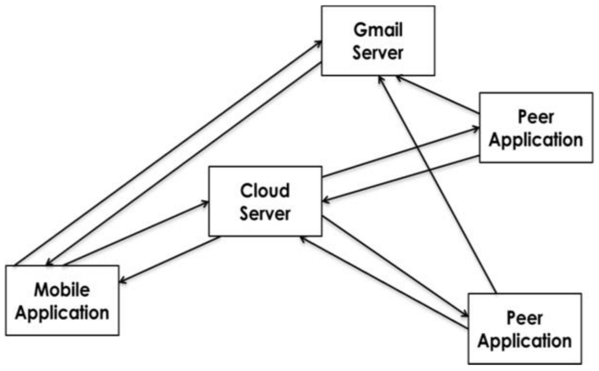
The Proposed System provides peer-to-peer file transfer using the cloud server and mail server.

The propose protocol reduces the processingoverhead on small devices by 90% compared to the previous p2p file sharing applications.

The cloudzoro protocol is described below

The Cloud's push to device messagingfeature allows the request to be transferredto the peer's when they become connectedto the internet.

ISSN NO: 9726-001X
Volume 01 Issue 01 January 2013



In order to get the bits from the file peers, the cloudzoro app first makes a request to the Google cloud server, along with the peer's email id. If the file peers are unavailable, the request is immediately sent to the cloud server, which then forwards it to the secure cloud storage. The Cloud server initiates a push to the file peers as soon as they become accessible.

Each peer processes the request, then sends the requested data to the other peer through email, and finally tells the cloud server that the data has been made available to the requesting peer. When the requested data becomes available, the cloud server immediately alerts the requesting peer or saves it in the cloud for later transmission.

After getting the message from the cloud server, the requested peer connects to the Mail server, downloads the parts, and puts them all together to make the whole file.Unlike prior methods, TheCloudzoro protocol addresses the issue of peers being unreachable and allows for offline downloads to be made possible via cloud push to device communications.

By notifying clients of data availability on the mail server, the cloud server drastically reduces the processing overhead on the clients, which is especially helpful for mobile devices, which suffer performance degradation due to low hardware constraints.

Here, android is used to power the mobile version of CloudZoro, while Java powers the desktop version.The protocols utilize Google's servers (Gmail and Cloud) to show how the application works.

Conclusion

The use of cloud servers reduces the processing overhead on small devices like mobile by 90%.The clouds push to device messaging reduces allows the exchange dataand notification alerts if both of them are online.The secure email file transfer makes the contents to persist im mail for longertime.

ISSN NO: 9726-001X
Volume 01 Issue 01 January 2013

References:

References

1. Hileman, A.R., "Insulation Coordination forPower Systems," Marcel Dekker, Inc., NewYork, 1999.

2. Zoro, R., Bambang, N., and Mefiardhi, R., "Evaluation and Improvement of Lightning Protection on Transmission and Distribution Lines Using Lightning Detection Network," inProc. of 27th International Conference on Lightning Protection, 2004, 6p. 13.

3. Zoro, R., and Suhana, H., "Improvement ofLightning Protection System on Distribution Lines: A Case Study at South-Jakarta, Indonesia," in Proc. of Seminar NationalKetenagalistrikan, 2004, SN-112.

4. IEEE Guide for Improving Lightning Performance of Electric Power Distribution Lines, IEEE Standard 1410-1997, IEEE PowerSociety, New York, 1997.

5. CIGRE WO C4.2.02, "Methods for MeasuringThe Earth Resistance of Transmission Towers Equipped with Earth Wires," Electra, no. 220, pp. 69-75, June. 2005.