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WEB BASED PARALLEL ACCESS SYSTEM USING DYNAMIC LOAD BALANCING

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Abstract **—** Load balancing play import role in cloud computing in terms of performance. Cloud computing performance more efficient and accurate with good load balancing for user satisfaction. Functionality of load balancing is divided into two function first will be allocation of resources and second provisioning of resources along with task scheduling among distributed system. Many load-balancing algorithms are used for balancing load of cloud computing such as, FCFS, Round Robin, and Throttled, Equally spread current execution etc. Each algorithm has some disadvantage. We proposed new hybrid algorithm that is combination of Throttled and equally spread current execution algorithm. The state-of-art of the technology focuses on data processing and sharing to deal with huge amount of data and client's needs. Cloud computing is a promising technology, which enables one to achieve the aforesaid goal, leading towards enhanced business performance.

Keywords**—** Load Balancing, Cloud Computing, FCFS, Round Robin.

I. INTRODUCTION

Cloud computing comes into center of attention immediately when you think about what IT constantly needs: a means to increase capacity or add capabilities on the fly without investing in new infrastructure, training new human resources, or licensing new software. The cloud should provide resources on demand its clients with high availability, scalability and with reduced cost. Cloud Computing System has widely been adopted by the industry, though there are many existing issues which have not been so far wholly addressed. Load balancing is one of the primary challenges, which is required to distribute the dynamic workload across multiple nodes to ensure that no single node is overwhelmed. This Paper gives an efficient dynamic load balancing algorithm for cloud workload management by which the load can be distributed.

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II. SYSTEM STUDY

Existing System:

Existing system is available in windows platform

Server component is installed on the server that handles incoming transactions and distributes workload between the servers in the server cluster. This software is written in C and JAVA.

Agent server component monitors the workload on the server and reports that workload to the load balanced sever component at regular intervals and also it process the server cluster. This existing Software is written in JAVA.

Control center user interface is to configure and manage the load balancing. This existing software is written using JAVA with graphical user interface.

Drawbacks of Exisisting System:

- The existing system is not compatible with LINUX OS.
- Measurement details are run at the back ground in load balancing.
- Downloading files are accessed very slowly in windows.

Proposed system:

Proposed system dissolves the existing problem of downloading the entire document from one server, a user downloads unique parts of the same document from each of the mirror server in parallel. Once all the parts of the same document received, the user reconstructs the original document by reassembling the different parts. This can be implemented using dynamic based.

Advantages of Proposed System:

- The measurement of the blocks considers the source file name, transmission rate; document size, block size, connection time and disconnection time are the details can be viewed at the client side.
- Highly secured than windows platform.
- Automatic load balancing is performed.
- Since the block size is small we can adopt changes easily to the network/server conditions.
- Fast server will deliver a large part.

III. PROPOSED WORK

Input design:

Input design is the process of converting the user originated inputs to a computer- based format. The design for handling input specifies how data are accepted for computer processing. Input design is a part of overall system design that needs careful attention and it includes specifying the means by which the actions are taken. A system user must be able to tell the system whether to accept input, produce report, or end processing. The collection of input data is considered to be the most expensive part of the system design. Since the inputs have to be planned in such a manner so as to get the relevant information, extreme care is taken to obtain the pertinent information. If the data going into the system is incorrect then the processing and output will magnify these errors. This system contains more than one server; requisition of a file by the client will be input to the server. Server sends the file according to the request of the client.

The most attractive features of the designed system are user- friendliness, fast accessing the file, highly secured, flexible for further development. These schemes can be effectively utilized for Continuous Data Availability

Output design:

Output design refers to the results and information that are generated by the system. Output is the main reason for developing the system and the basis on which they will evaluate the usefulness of the application. The points that are considered for the design of the output are as follows.

1.Determine what information to present.

2.Decide whether to display or print, or voice the information and select the medium.

3.Decide how to distribute the output to intended recipients.

The arrangement of information on a display or printed document is termed as a Layout. The output design is specified on sheets that describe the location characteristics and format of the column headings and pagination. Output design phase of system is considered with the convergence of information to the end user in user-friendly manner. The output design should be efficient, intelligible so that system relationship with the end user is improved and thereby enhancing the process of decision making. The contents of the output are then defined in detail during the physical design of outputs. Certain data are edited in a desirable manner.

External outputs are those destinations will be outside the organization and which require special attention as they project the image of the organization. Internal outputs are those destination is within the organization. interface with It is to be carefully designed, as they are the user's main the system. Interactive outputs are those, which the user directly communicates with the computer. The output display contains file name, transmission rate, document size, block.

In case of MSMC, any client can send any request to the mirror servers and the mirror server may always be busy. File is split into blocks and it should be greater than the number of mirror servers. Size of the block is determined by S= N/n where N-file size;n-no of servers. Starting time and completion time of the file to be downloaded is various clients is different. Each mirror server has to process same amount of the requests.

Description of the modules:

In this architecture, the client will fetch the unique block from different mirror servers. When two clients request the same block simultaneously, that block can be fetched from the different mirror server's .When two clients request the same block from same mirror Server, server will respond to only one client. Servicing of the request in the corresponding mirror server is based onFCFS(first come first served).More than one client can download the same block from different mirror

servers. If the number of clients increases, performance of the mirror server reduces. After downloading an entire file, mirror servers can accept the next client request.

IV. PROPOSED ALGORITHMS

Server algorithm:

STEP1: Create the socket by using socket ( ).
STEP2: Assign the protocol family, protocol, IP addresses of the local system in my_address.
STEP3: Bind the socket with the local address and be ready to accept the connections. After accepting the connection from client is ready to receive the send packet.
STEP4: Open the file to be send.
STEP5: Read the file and put into the buffer of required bytes of a maximum 1024 bytes.
STEP6: Read from buffer and transmit over the socket and wait for acknowledgement.
STEP7: After getting the acknowledgement log the blocks.
STEP8: Jump to stet 6 until the file end occurs and as well as any other client is waiting.
STEP9: Print the access result, displays the LOG maintained and close the socket and also the file if the clients requests to close. If not get the file name to resend with the nth block to be send and jump to 5.
STEP 9: End.

Client algorithm:

STEP1: Create the socket by using socket.
STEP2: Assign the protocol family, protocol, IP addresses of the local system in my_address.
STEP3: Bind the socket with the local address and be ready to accept the connections. After accepting the connection from client is ready to receive the send packet.
STEP4: Open the file to be send.
STEP5: Read the file and put into the buffer of required bytes of a maximum 1024 bytes.
STEP6: Read from buffer and transmit over the socket and wait for acknowledgement.
STEP7: After getting the acknowledgement log the blocks.
STEP8: Jump to stet 6 until the file end occurs and as well as any other client is waiting.
STEP9: Print the access result, displays the LOG maintained and close the socket and also the file if the clients requests to close. If not get the file name to resend with the nth block to be send and jump to 5.
STEP 9: End.

V. CONCLUSION

In order to improve the speed of downloading, multiple mirror Servers and Multiple Clients architecture have been implemented. Since all the users are not accessing the same file at the same time each mirror server have to decide itself regarding the file that have to be transferred to the specific client. Since file requests are distributed and balanced processing speed of the file is increased. The most attractive features of the designed system are user- friendliness, fast accessing the file, highly secured, flexible for further development. These schemes can be effectively utilized for Continuous Data Availability in Business Environments, Sharing of data remotely, Content delivery like software downloading and Data distribution etc.

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