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A Survey on Cloud Computing for Big Data Application

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ABSTRACT: An application which is used to solve the resource management problem arising in Big Data application, using Cloud Reservation system. In Existing System, the execution time is too long and it is difficult to manage the resource in Big data Application. In this existing system, Cloud reservation System can manage the Clusters with tens of thousands server but the challenge is that it should persist and motivate the search for effective and scalable mechanisms for cloud reservation system. In order to solve the problem of existing system resource management, we efficiently determine the appropriate heterogeneous cloud resource expressed as a workflow of service components. We acknowledge the scalability issue associated with traditional, centralized and monitoring information to make resource allocation decision. In this only local information which is used locally is reliable. This proposed system includes two strategies of coalition formation: History based and Just-in-time. These Coalition perform equally in both low and high system load. This is used to measure the overhead for the implementation of both strategies with respect to communication complexity.

KEYWORDS: Energy efficient algorithm; Manets; total transmission energy; maximum number of hops; network lifetime

I. INTRODUCTION

Nowadays, Cloud infrastructure is increasingly determined by more heterogeneous server with different configurations of multicore processor and GPUs and FPGAs are attached co-processor which are expected to dominate cloud computing Landscape.

Cloud services and cloud application is widely increasing in today's generation. For example, AWS has added a new services, which includes Elastic Cache and DynamoDB. Resource management supports major policies like reservation system, load balancing, energy optimization and quality of service. In existing mechanism implementing these policies are less effective and they are also not scalable. If the resource management is poor it leads to high economic and ecological cost. This Application involves two stages of protocol to provide efficient resource management system. First stage is based upon the duration of execution of their components and are disbanded allowing it to take part in the future coalition. Second stage is based upon the package of these coalition which is designed to perform in a complete workflow.

Cloud reservation system includes the coalition formation, which have a short life-span. They exist once the service component they are executing is terminated. Our process allows free resources to choose themselves on spot market. Cloud reservation system is mainly used in market-oriented mechanisms in a large scale computing system. This process is used to solve the run-time demand by providing the tool to begin addressing these system. This system includes the parameters like virtual organization, auction theory and practice, system organization, computer architecture, self-organization and self-management of complex system.

Hence a new system can be proposed to solve this resource management problem in Big Data through Cloud reservation system. It is used to schedule the jobs for each processor and process based on duration of time and access the resource by creating package of coalition to work in a complete workflow.

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II. RELATED WORK

As a part of literature survey some applications are used for resource management system. Here are some application that include the resource management process are as follows:

In [1], The clock proxy auction for auctioning related items with limited competition or item complex structure, a core outcome is achieved . The demand reduction incentive present in clock seller revenues are competitive auction, faster than a simultaneous ascending auction. There are bidders on five licenses, typically the demand reduction incentive present in the clock phase

In [2] , We analyze theory based optimal VM resource management mainly focus on optimal resource allocation in a single cooperative asynchronous allocation. There is two resource are used, its cooperative and non-cooperative. However, most of these works in cloud computing area mainly focus on optimal resource allocation using game theory in a single provider scenario. Under the cooperative resource allocation game. Also, this game is cost-effective and scalable as only the collaborators with low-cost participate in a HDCF platform.

In [3], the energy optimizing power aware computational grids, it is used multiple tasks. The quality of NBSEATA was compared it again a set of heterogeneous machines. The problem due to the need system heterogeneity, and it exploit the task level parallelism. The additional design objective because distributed consumption of the system. Resource allocation in grids is already a challenging problem due to the need to address deadline constraints and system heterogeneity. It becomes more challenging when energy management is an additional design objective because energy consumption of the system.

In [4], The optimal solution provisioning algorithm(OCRP) to provision the integer programming with multiple stochastic sub problems. The approach is divide into OCRP problems, can optimally adjust the simulations. The performance evaluation of the OCRP algorithm has been performed by numerical studies and simulations. Also applied Benders decomposition approach to divide OCRP problem into sub problems which can be solved in parallel.

In [5], The performance evaluation are quantified the profit federation by individual Cps and demonstrated smoothing effects on spot. A simple dynamic programming problem is used to sharing in the repeated uncertainty problem in future strategy. Performance evaluation results quantified the profit gained by the federation as well as by individual CPs and demonstrated significant smoothing effects on the spot market price.

In [6], A stochastic model to evaluate the metrics as availability, the performance of an IaaS cloud. Also investigate the effect of different strategies between the provider and user. The cloud computing is required to quantify the offered Quality of service to manage the SLAs. Several performance metrics have been defined, such as availability, utilization, and responsiveness.

In [7], It is presented as the problem of economical and online video transcoding in COVT cloud environment. The transcoding time is targeted chunk size and the system delay on different hardware using different modes. Both test bed and simulation experiments to evaluate our method on real-world workloads and large-scale simulated workloads.

In [8], this paper presented the kraken system which allows to dynamic scale up and down the computed resources for cloud application to generalize the algorithm beyond fat tree networks. The cloud application runtime resources is effectiveness of these system is reduced. The bandwidth and compute resources allocated to a cloud application at runtime.

In [9], there are several directions for future work, it is improved by in-cooperating features into the prediction model. The cloud utility optimization is one of the future work, also it is a kind of middle term prediction. It is acceptable for the cloud resources provider and consumer under provisioning of resources. The service quality can be further improved by incorporating more features into the prediction model. Such a target can be fulfilled by leveraging the customer profile information. The current solution for capacity planning is a kind of mid-term prediction

In [10], this paper the basis of tracking the cloud computing design and optimization of energy consumption. A long term of the computing the requirements of practical engineering application and carry out the intensive study on core problems involved. According to their inspection, the electric bills are prepared and most often these are prepared on the basis of assumption which could be inaccurate, costly, time-consuming as well as error prone

In [11], The most usable form of energy is used for electricity with the evolution of modern technology. It is escalating the production of electricity is confined the deficiency of resources. Due to the absence of regular monitoring system , to avoid traditional relate the methodologies stored in database.

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In [12], this paper presents the simple, efficient, and inexpensive design of an automatic single phase energy meter reading system based on GSM wireless network which also has the provision for user notification. To transmit the data to utility for regular basis impacts of the system usage.
In [13], This paper presents a smart energy meter for an automatic metering and billing system. In this meter energy utilized and the corresponding amount will be displayed on the LCD continuously and communicated to the controlling base station.
In [14], it calculates power consumption and electric energy demand. Measurements are done through a microcontroller-based circuit. The web server is a modification of a software originally used to monitor mesh network radio links. Measures are visualized as power versus time or energy versus time.
In [15], the Electrical supply companies are trying to adopt the electronic measurement of energy consumption data because of reduced manufacturing cost, improved measurement accuracy. The developed energy meter calculates the total average active power mainly for residential consumers. The hardware circuit accepts single phase voltage.
In [16], an overview of the Smart Grid's Advanced Metering Infrastructure (AMI) and Demand Response (DR) functionalities, and the communication requirement they pose for the new SEP protocol. An evaluation of the theoretical performance bounds of the new architecture based on the analytical model.
In [17], A predictive resource auto-scaling system that dynamically books the minimum bandwidth resources from multiple data centers for the provider to match its short-term demand projections. The optimal load direction from channels to data centers is derived with provable performance. We further provide suboptimal solutions that balance bandwidth and storage costs.

III. CONCLUSION

This paper is used to solve the resource management problem in big data application using cloud reservation system. Thus it can be used for reservation of various aspects, with respect to the cloud application. In this reservation system all servers in rack are indistinguishable from one another. In the Future generation the system can create its own structure that the reservation system needs to manage the resource.

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