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Survey on Android application for power efficiency in private cloud

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Abstract: ***Nowadays distributed systems are used everywhere. In distributed environment as there are numbers of processes running in the environment from which some processes are not required to execute for that specific instance. To schedule that process and balance the energy load in network traffic. We use the OFF concept. In these OFF concept, we close the unwanted process running in the background using the Ad-hoc network. In private cloud it is not possible to administrate all machines at the same instance of time, to overcome this problem propose system gives the notification message to the administrator when particular machine having greater load value. This system also provides the remote operation of processes using an android device. The Administrator can remotely shut down the systems as well as stop the unwanted processes. Also, this provides the single URL for the same task in the absence of android device. An evaluation and comparative study of the proposed approach provides evidence of its merits in terms of elasticity, energy efficiency, and scalability, as well as of its feasibility in the presence of high workload rate.***

Keywords: Centralization/Decentralization, Distributed system, Energy-Aware Method, Load Balancing, Android.

1. Introduction

From the last few decades, there has been a lot of progress in hardware components like CPU and memory. But still, it does not meet the requirement for energy proportionality. Inspired by this energy efficiency of hardware varies to a great extent depending on workload components characteristics. For this reason, we propose workload-aware elastic workload characteristics. We can apply this concept which is not based on location in institutions like colleges and cyber café. There are a number of processes running in the background. These processes consume more memory and energy to reduce this utilization of memory and energy and to make system flexible there arose a concept of OFF [1]. Using these OFF concept switch off the unwanted processes which occupy the memory using Ad-hoc network in distributed environment. In distributed environment, multiple clients connect to the server and server connects to cellular network i.e. a mobile network in which process are first migrated from the server system to mobile system and then the process are off motivation of that is handling the process running on the client system by server in which location of server is fixed. The problem of location awareness is overcome in these paper by using the cellular network. To overcome this location awareness problem purpose cluster. Furthermore, it has been found customization for power efficiency of high-endless steady. This makes energy proportional design more difficult. Furthermore, Even for the same server and same application running on it the latency variability is common, and the variability can be amplified by the scale. In fact, variability is not only limited to the latency, it exists in all components of a server. Such dynamics and heterogeneity reduce the of traditional energy proportional schema because traditional energy proportional schemas are usually optimized for a certain type of hardware or operating system or workload. So, it is better to design an elastic customization schema for servers. There are many specific hardware customization approaches have been proposed to improve energy proportionality, including memory, storage, and multi-core CPU. Characteristics are heterogeneous in resource types and their usage according to their analysis of the distributed environment. But they do not consider the different workloads of a server as that workload-aware and hardware customization for servers in first publicly available trace data from a sizable server, to reduce power consumption by the workload.

1.1 Process minning:

Process mining techniques allow for extracting information from event logs. For example, the audit trails of a workflow management system or the transaction logs of an enterprise resource planning system can be used to discover models describing process organization and Process mining techniques allow for extracting information from event logs. For example, the audit trails of a workflow management system or the transaction logs of an enterprise resource planning system can be used to discover models describing process organization and products. During process mining, specialized data mining algorithms are applied to event log dataset in order to identify trends contain in event log recorded by an information system. Process mining aims to improve process efficiency and understanding of processes.

1.2 Task assignment:

In a dual-core or multiprocessor system, we can assign a process to a specific processor. But we can only do this after the process is already running. To do this, open the task manager and go to the processes tab. Right click the process we want to assign and choose set affinity. A processor we want it to use. The CPU process priority depends on the app. Assigning higher priority will not increase any performance. The app will use as much CPU as it can by default. There is nothing that can be done to make more resources that are

programmable capable of. In this case, no matter how powerful the computer is(CPU and RAM) it will not improve the speed of the computing. Probably the only advantage that we can take is to run multiple instances of the program such that each instance uses on CPU.

2. LITERATURE REVIEW

Pantazoglou and Gavriil Tzortzakis describes Pantazoglou and Gavriil Tzortzakis describe the server consolidation for virtualized data centers. Nowadays virtualization technology is used for service management and reducing the energy cost of data centers but one of the biggest challenge is faced by data centers is to decide when, how and which virtual machine have to be consolidated into a single server. To overcome this problem server consolidation technique is used with migration control. This technique minimizes the required physical server.[1]

Decentralized and Energy Efficient Workload management in Enterprise Clouds. This paper describes decentralized energy efficient workload management in cloud computing. Nowadays virtual machines concept is the widely used in all type of cloud services and it does the energy consumption of the service providers, data center, ultimately their negative impact on the environment. In cloud data centers the workload translated into a number of virtual machines. The workload in this paper is design and evaluation of complete decentralized and energy aware load balancing schema. The proposed approach implement dynamic virtual machine consolidation and relies on live VM migration and this is done by using hypercube which achieves Decentralization, elasticity cost effectiveness.[2]

W. Fang and X. Liang introduce VM Planner for optimization of virtual machine placement and traffic flow routing VM planner is used in this paper VM planner is a novel approach to reduce network power I virtualization data centers. VM planner implements a massive data centers and motivation behind this is to reduce the cost and dynamically allocate resources among cloud services. This paper uses the following concepts.

Data center networking :- Data center networking is used to interconnect a massive number of servers with networking devices it uses three-tier architecture.

Green data center :- Green data center concept is newly introduced in cloud computing to provide a smart cooling solution to data centers. It uses chip multiprocessing, dynamic voltage and frequency scaling etc.[3]

M. Chen and X. Wang describes a scalable power control solutions for multi-core microprocessors which are specifically designed to handle realistic workload such as a mixed group of single-threaded and multithreaded applications. This paper provides a three layer solution. The first layer adopts control theory of precisely control the power of the entire chip. The second dynamic grouping of cores running the same application. The third is the preparation of group level frequency quota among the cores in each group based on the measured thread critically for shorter application completion time.[4]

B. Guan and J. Wu introduce a communication aware inter-VM scheduling technique for decreased network latency between co-located virtual machines. In cloud computing, the virtual machine plays an important role to reduce the aggregate number of server, reducing operational cost and energy consumption. This paper proposed a prototype of the proposed CIVsched scheduler in the xen VMM and explore the performance of relative network benchmarks. It proposed hypervisor scheduler algorithm based on xen named as CIVshed. The CIVsched is designed to the inter –VMS network communication. It narrows the semantic gap between the VMM scheduler and the tasks running within the VMS. It also monitors the network packets between the co-located VMS and extracts the useful information to identify the target. VM towards which the communication is directed.[5]

V. Mann and A. Kumar presented VMFlow: A framework for placement and migration of virtual machines that takes into account machine that takes into account both the network topology as well as network topology as well as network traffic demands, to meet the objective of network power reduction while satisfying as many network demands as possible. It presents network power aware VM placement demand routing as an optimization problem. It also simulation execution of data center network with a CLOS technology. It formulates the VM placement and routing of traffic demands and routing of traffic demands for reducing network power for optimization.[6]

3. EXISTING SYSTEM

In distributed environment as there are a number of processes running in the background. As these number of process running in background consume more memory and power. So there is need to solve these problems of memory synchronization and power consumption. So these problems can be solved by using the process mining technique. Using these process mining technique we OFF the unwanted process which consumes memory and power.

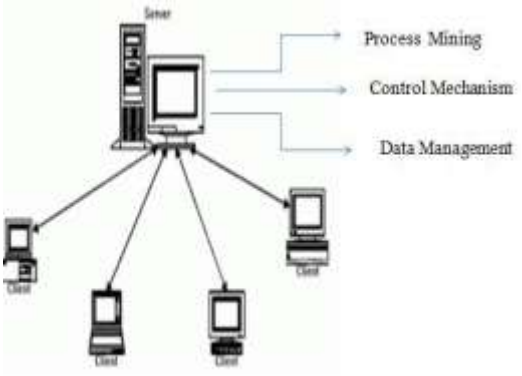

Figure 1: Existing System.

4. PROPOSED SYSTEM

In the existing system, the process running on the client system can be seen on the server system in which server position is fixed. If the user is found present at server location user has to first go to server place and then only he can OFF the Unwanted processes. These problems of location awareness of server are overcome. In our proposed system problem of location

Awareness of server is overcome by using cellular Network that is a mobile network. In which server is connected to the cellular network by transferring the control of server system to mobile. The transfer of control can be achieved by starting the Wi-fi of the server system and mobile hotspot of mobile. In this way server processes can be migrated to the mobile. In mobile, we have to develop an app which shows all processes of the server. From the mobile, we can OFF the unwanted process from user present location. So this problem of location awareness is solved in our proposed system.

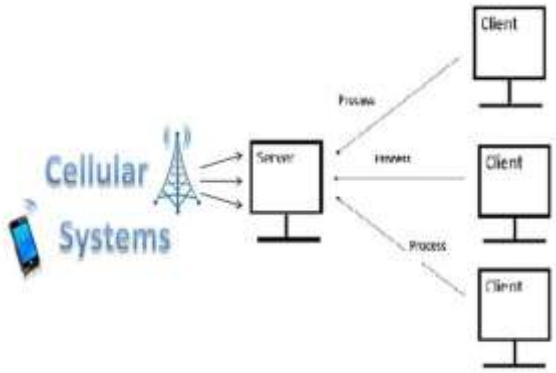

Figure 2: Workflow of system.

5. CONCLUSION

Thus we come to the conclusion that process mining can be implied using a cellular ad-hoc network and our approach also focuses on reduction in traffic congestion of process and also helps in energy consumption and memory synchronization.

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