ISSN2394-3777 (Print)
ISSN2394-3785 (Online)
Available online at www.ijartet.com

International Journal of Advanced Research Trends in Engineering and Technology (IJARTET)
Vol. 5, Special Issue 9, March 2018

AN EFFICIENT JOB SCHEDULING MODEL FOR REDUCING BURDEN IN TRAFFIC RESOURCE ENVIRONMENT

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Abstract— **High energy consumption of wireless sensor network is a matter of great concern and a new virtual machine (VM) placement algorithm named ATEA (adaptive three-threshold energy-aware algorithm), which takes good use of the historical data from resource usage by VMs, is presented. In ATEA, according to the load handled, data center hosts are divided into four classes: hosts with little load, hosts with light load, hosts with moderate load, and hosts with heavy load. ATEA migrates VMs on heavily loaded or little-loaded hosts to lightly loaded hosts, while the VMs on lightly loaded and moderately loaded hosts remain unchanged. Then, on the basis of ATEA, two kinds of adaptive three-threshold algorithm and three kinds of VMs selection policies are proposed. Dynamic consolidation of System presents a significant opportunity to save energy in data centers. A VM consolidation approach uses live migration of VMs so that some of the under-loaded Physical Machines (PMs) can be switched-off or put into a low-power mode. On the other hand, achieving the desired level of Quality of Service (QoS) between wsns and their users is critical. A system that uses virtualization technology to allocate data center resources dynamically based on scheduling application demands. In this to introduces Dynamic consolidation, a technique that transparently migrates only the working set of an idle VM and support switching data deliver computing by optimizing the number of servers in use.**

I. Introduction

THIS new world of computing, users are universally required to accept the underlying premise of trust. Wireless sensor network users create an image for an application and initialize a number of VMs on demand. Within the wireless sensor network world, the virtual environment lets users' access computing power that exceeds that contained within their own physical worlds. Wireless sensor network is the process of providing computer facilities via internet. We put forward a new VM deployment algorithm (ATEA), two kinds of adaptive three-threshold algorithm (KAM and KAI), and three kinds of VM selection policies to reduce energy consumption and SLA violation.

The main contributions of the paper are summarized as follows proposing a novel VM deployment algorithm (ATEA). In ATEA, hosts in a data center are divided into four classes according to their load. ATEA migrates VMs on heavily loaded or little-loaded hosts to lightly loaded hosts, while the VMs on lightly loaded and moderately loaded hosts remain unchanged. Presenting two kinds of adaptive three-threshold algorithm to determine the three thresholds. Putting forward three kinds of VMs selection policies and making three paired -tests. Evaluating the proposed algorithms by extensive simulation. Proposes ATEA, two kinds of adaptive three-threshold algorithm, VM selection policy, and VM deployment algorithm. As the demand for resource provided by wireless sensor network increase, the energy consumption of data centers. Wireless sensor network enables a new business model that supports on-demand, pay for-use, and economies-of-scale IT services over the Internet. The Internet wireless sensor network works as a service factory built around virtualized data centers. Wireless sensor network platforms are dynamically built through virtualization with provisioned hardware, software, networks, and datasets. The idea is to migrate desktop computing to a service-oriented platform using virtual server clusters at data centers. However, a lack of trust between wireless sensor network users and providers has hindered the universal acceptance of wireless sensor networks as outsourced computing services. We must design the wireless sensor network ecosystem to be secure, rust worthy, and dependable.

In reality, trust is a social problem, not a purely technical issue. However, we believe that technology can enhance trust, justice, reputation, credibility, and assurance in Internet applications. To increase the adoption of Web and wireless sensor network services, wireless sensor network service providers (CSPs) must first establish trust and security to alleviate the worries of a large number of users. Particularly these years a lot of resources have been allocated to increase efficiency. Wireless sensor network is one of the most well-known appearing technologies these days which delivers services and computing the processes as a utility. Load balance among storage nodes is a critical function in wireless sensor networks. In a load-balanced wireless sensor network,

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ISSN2394-3785 (Online)
Available online at www.ijartet.com

International Journal of Advanced Research Trends in Engineering and Technology (IJARTET)
Vol. 5, Special Issue 9, March 2018

the resources can be well utilized and provisioned, maximizing the performance of Map Reduce-based applications.

State-of-the-art distributed file systems (e.g., Google GFS and Hadoop HDFS) in wireless sensor networks rely on central nodes to manage the metadata information of the file systems and to balance the loads of storage nodes based on that metadata. The centralized approach simplifies the design and implementation of a distributed file system. However, recent experience concludes that when the number of storage nodes, the number of files and the number of accesses to files increase linearly, the central nodes (e.g., the master in Google GFS) become a performance bottleneck, as they are unable to accommodate a large number of file accesses due to clients and Map Reduce applications.

Energy efficiency includes energy consumption and SLA violation. Improving the energy efficiency means less energy consumption and SLA violation in data centers. Therefore, the metric of energy efficiency is defined as in where corresponds to the energy efficiency of a data center, means the energy consumption of a data center, and SLA represents the SLA violation of a data center. The higher the, the more the energy efficiency.

In the first stage, the algorithm inspects each host in host list and decides which host is heavily loaded. If the host is heavily loaded, the algorithm uses the VM selection policy to choose VMs which must be migrated from the host. Once VMs list that should be migrated from the heavily loaded is created, the VM deployment algorithm is invoked for the purpose of finding a new host to accommodate the VM. Function "get New VM Placement (vms To Migrate)" means to find a new host to accommodate the VM. In the second stage, the algorithm inspects each host in host list and decides which host is little-loaded. If the host is little-loaded, the algorithm chooses all VMs from the host to migrate and finds a placement of the VMs. At last, the algorithm returns the migration map.

The migration time of a VM will change, depending on its different memory size. A VM with less memory size means less migration time under the same spare network bandwidth. For example, a VM with 16 GB memory may take 16 times' longer migration time than a VM with 1 GB memory. Clearly, selecting the VM with 16 GB memory or the VM with 1 GB memory greatly affects energy efficiency of data centers. Therefore, if a host is being heavily loaded, MMS policy selects a VM with the minimum memory size to migrate compared with the other VMs allocated to the host. MMS policy chooses a VM that satisfies the following condition: where means the set of VMs allocated to host and is the memory size currently utilized by the VM.

Wireless sensor network users are anxious about whether data-center owners will misuse the system by arbitrarily using private datasets or releasing sensitive data to a third party Without permission. Wireless sensor network security is deployed to provide full of protection between data owner and service provider. To address these issues, we propose a reputation-based trust-management scheme augmented with data coloring and software watermarking. Wireless sensor network includes a lot of data centers that spread across different locations around the world. The green gird is progressing metrics to evaluate the productivity of data center in addition to efficacy metrics for the total main power using subsystems at data center. Most of the existing approaches for job scheduling in data centers focus exclusively on the job distribution between computing servers targeting energy-efficient or thermal aware scheduling. The first data center energy saving solutions operated on a distributed basis and focused on making the data center hardware energy efficient. This paper presents a data center scheduling methodology that combines energy efficiency and network awareness.

The scheduling approach presented in this paper is designed to avoid hotspots within a data center while minimizing the number of computing servers required for job Execution. To reduce power consumption of Data centers is an important issue because of large amount of electricity consumption. The Wireless sensor network Security Alliance has identified a few critical issues for trusted wireless sensor network, and several recent works discuss general issues on wireless sensor network security and privacy.

Public and private wireless sensor networks demand different levels of security enforcement. We can distinguish among different service-level agreements (SLAs) by their variable degree of shared responsibility between wsns and users. Critical security issues include data integrity, user confidentiality, and trust among providers, individual users, and user groups. To enable and ensure the global growth of computing need, wireless sensor network service providing companies are now using warehouse sized data centers to meet user demand which incurs considerable amount of energy consumption.

At present, there are various studies focusing on energy efficient resource management in wireless sensor network. Constraint energy consumption algorithm and energy efficiency algorithm are two main types of algorithms for solving the problem of high energy consumption in data centers. The main idea of the constraint energy consumption algorithm is to reduce the energy consumption in data centers, but this type of algorithm focuses a little on (does not consider) the SLA violation. Proposed two heuristic algorithms (ECS, ECS + idle) to decrease the energy consumption, but the two algorithms are easy to fall into local optimum and do not consider the SLA violation. Hanson et al. presented Dynamic Voltage and Frequency Scaling (DVFS) policy to save power in data centers.

When the task number is large, DVFS policy raises the voltage of the processor in order to deal with the task in time; when the task number is small, DVFS policy decreases the voltage of processor for the purpose of saving power. Kang and Ranka put forward an energy-saving algorithm, and they supposed that overestimated or underestimated execution time of tasks is bad for energy-saving algorithm.

The three most popular wireless sensor network service models have varying security demands; the infrastructure-as-a-service (IaaS) model sits at the innermost implementation layer, which is extended to form the platform-as-a-service (PaaS) layer by adding OS and middleware support. PaaS further extends to the software as-a-service (SaaS) model by creating applications on data, content, and metadata using special APIs. The main idea of VM consolidation is to keep minimum number of hosts active by consolidating VMs into active hosts and the remaining hosts which are not required are kept in sleep or inactive mode. This implies that SaaS demands all protection functions at all levels. At the other extreme, IaaS demands protection mainly at the networking, trusted computing, and compute storage levels, whereas PaaS embodies the IaaS support plus additional protection at the resource-management level. An effective VM placement approach will ensure that VMs will be placed in such a way so that it will not change a sleeping host to active mode unless it is absolutely necessary.

II. Problem Definition

A. *Existing system*

System can be provisioned on demand to crunch data after uploading into the VMs. While this task is trivial for a few tens of VMs, it becomes increasingly complex and time consuming when the scale grows to hundreds or thousands of VMs crunching tens or hundreds of TB. It refers to making more than one Virtual Machine (VM) on a server. Using this technique decreases the number of hardware in use, improves the utilization of resources and reduces hardware and operating expenditure. Moreover, the elapsed time comes at a price: the cost of provisioning VMs in the wireless sensor network and keeping them waiting to load the data. Network in Data Centers includes switches and links. In this study we present a big data provisioning service that incorporates hierarchical and peer-to-peer data distribution techniques to speed-up data loading into the VMs used for data processing. The authors stated that power consumption depends on capacity of the link instead of its utilization. The system dynamically mutates the sources of the data for the VMs to speed-up data loading. We tested this solution with 1000 VMs and 100 TB of data, reducing time by at least 30 percent over current state of the art techniques.

This dynamic topology mechanism is tightly coupled with classic declarative machine configuration techniques the system takes a single high-level declarative configuration file and configures both software and data loading. This approach is based on the idea that energy usage of a link may be decreased its data rate, while traffic load of network links are low in most situations. Together, these two techniques simplify the deployment of big data in the wireless sensor network for end users who may not be experts in infrastructure management.

There are four major steps involved in server consolidation, they are Host over-load Detection, Host under-load Detection, VM Selection and Migration and VM placement. The VM placement algorithms are of five major classifications, they are constraint programming, Bin packing problem, stochastic integer programming, Genetic algorithm and adaptive algorithms. Constraint programming technique for virtual machine placement, which reduces the total cost on resource usage but does not violates the Quality of service requirements. The performance measures and workload types are considered and fulfilled by the author. A dynamic server migration and consolidation algorithm. The amount of physical capacity required was reduced to reduce the SLA violation .The management algorithm (MFR) dynamically remaps VMs to PMs required, so as to reduce the SLA violation. The combination of Bin packing heuristics and Time series forecasting techniques are used to reduce the number of physical machines used. A modification of Ant Colony System (ACS) algorithm was proposed to minimize resource wastage and power consumption during VM .The residual resources were effectively balanced along different dimensions on the servers. This combinatorial problem is modeled as a multi-objective algorithm named VMPACS.

An adaptive utilization thresholds, which ensures a high level of meeting the Service Level Agreements .They used a modified Best Fit algorithm .The technique outperforms in terms of SLA-violation. An energy efficient resource management system, which includes the dispatcher, global manager, local manager, and VMM (VM Monitor). In order to improve the energy efficiency. Put forward a new Dynamic consolidation algorithm called Double Threshold (DT); A three-threshold energy-aware algorithm named MIMT is proposed to deal with the energy consumption and SLA violation.

However, the three thresholds for controlling host's CPU utilization are fixed. Therefore, MIMT is not suitable for varying workload.

Debugging problems across logs distributed in thousands of nodes is a more intensive problem. Being able to re-run a trace of all the events that occurred that lead to the failure/problem is essential to be able to reproduce the problem. Existing big data processing platforms make assumptions on latency and bandwidth that might not hold in a cross data center environment, severely hurting performance.

The disadvantages of the exixsting model are described here. Discrimination may cause a much more information

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ISSN2394-3785 (Online)
Available online atwww.ijartet.com

International Journal of Advanced Research Trends in Engineering and Technology (IJARTET)
Vol. 5, Special Issue 9, March 2018

loss from updating. Data downloading time consumption is more for requesting. Sensitive attributes does not prevent unethical. Less security for data transformation.

III. PROPOSED MODEL

A Dynamic Multilevel Priority (DMP) scheduling on the Vm's wireless sensor network which will configures the switching on bin packing mechanism. In the proposed scheme, each Vm's, except those at the last level of the virtual hierarchy in the zone based dynamic topology consideration in wireless sensor network, has three levels of priority queues based on scheduling, job allocation, bin packing . Real-time data deliver to p2p are placed into the highest-priority queue and can preempt data in other queues based on selection of wireless sensor network data providers. Designing data center topologies is an extremely important research topic.

Fat-tree successors are constantly proposed for large-scale data centers Non-real-time data's are placed into two other local queues based on a certain threshold of their estimated processing time by maximum precedence switch over the other consideration timing distribution of data.Leaf Vm's have two queues for real-time and non-real-time data since they do not receive data from other Vm's and thus, reduce end to- end delay. The aims of network virtualization is to use embedding algorithms to assign virtual network resources on a fewer number of physical infrastructure with an optimal approach .We evaluate the performance of the proposed DMP scheduling scheme through simulations for real-time and non-real-time data. Simulation results illustrate that the DMP scheduling scheme outperforms conventional schemes in terms of average data waiting time to be distribute data and end-to-end delay.

The main advantages of VMs are improved portability, manageability, maintenance effort, and security. The scheduling on the Vm's wireless sensor network which will configures the switching on bin packing mechanism. In the proposed scheme, each Vm's, except those at the last level of the virtual hierarchy in the zone based dynamic topology consideration in wireless sensor network, has three levels of priority queues based on scheduling, job allocation, bin packing. A datacenter is a massive facility that consumes large amounts of energy for data processing, storage and communication, which negatively impacts the environment. We develop a set of heuristics that prevent burden in the system effectively while saving energy used.

In order to reduce the energy consumption and SLA violation, a new virtual machine (VM) placement algorithm named ATEA (adaptive three-threshold energy-aware algorithm), which takes good use of the historical data from resource usage by VMs, is presented. In ATEA, according to the load handled, data center hosts are divided into four classes: hosts with little load, hosts with light load, hosts with moderate load, and hosts with heavy load. ATEA migrates VMs on heavily loaded or little-loaded hosts to lightly loaded hosts, while the VMs on lightly loaded and moderately loaded hosts remain unchanged. Then, on the basis of ATEA, two kinds of adaptive three-threshold algorithm and three kinds of VMs selection policies are proposed.

The energy consumption of servers can be decreased by reducing the number of active servers. This is usually implemented by scheduling optimization, which is a common approach for green wireless sensor networks. Data partitioning splits the data input into multiple chunks. Partitioning can occur at two Points in the provisioning of the big data service. It could be done initially at a central location with a subdividing service. Wireless sensor network that are becoming increasingly popular for the provisioning of computing resources.

The operational expenses and cost of data centers have skyrocketed with the increase in computing capacity. At this stage, details partitioned logically no actual movement of data is initially done, but an index is kept that limits the beginning of a partition and end of the previous one. Data distribution is a critical task distribution should maximize transfer rates and minimize information redundancy. VMs algorithm to reduce the burden in virtual machine. Set of heuristics that prevent burden in the system effectively while saving energy used. The second component is a central data repository which has the files to be deployed onto all the VMs. This paper presents a data center scheduling methodology that combines energy efficiency and network awareness.

The specified number of VMs are created and started within the selected wsn. This function performs the actual deployment of the virtual infrastructure, installation, and configuration of the software installed in the VMs in our specific case it is our VMs and the peers for distributing the partitioned file. Automatic Deployment Layer using the configuration parameters taken from the user. In this scenario one of the VMs is randomly chosen to be the master and the others become slaves of the application. Wireless sensor networks aim to drive the design of the next generation data centers by architecting them as networks of virtual services so that users can access and deploy applications from anywhere in the world on demand at competitive costs. The highest-priority of visualization queue and can preempt data in other queues based on selection of wireless sensor network data providers Server virtualization is the partitioning of a physical server into smaller virtual servers to help maximize your server resources. The resource fragments originate from the imbalanced use of resources over different dimensions, the placement of VMs on PMs should be executed in a resource-balanced manner.

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The green gird is progressing metrics to evaluate the productivity of data center in addition to efficacy metrics for the total main power using subsystems at data center. Power Usage Effectiveness (PUE) and its reverse action Data Center Efficiency (DCE) metrics is suggested by

The green grid it refers to making more than one Virtual Machine (VM) on a server. Using this technique decreases the number of hardware in use, improves the utilization of resources and reduces hardware and operating expenditure. Server virtualization also allows consolidation of server workloads. It may achieve energy saving by decreasing the amount of active and functioning servers with regards to Quality of Service requirements.

This approach is based on the idea that energy usage of a link may be decreased its data rate, while traffic load of network links are low in most situations. In such cases, Adaptive Link Rate decreases link energy usage by dynamically setting link data rate to its utilization, while sleep mode method decreases energy usage through switching off network resources or placing them to sleep mode. Moreover, other active network resources should meet QoS requirements. Virtual network embedding is the next approach which is useful for reducing energy consumption of network. VNE is mostly useful while the network traffic is low. The aims of network virtualization is to use embedding algorithms to assign virtual network resources on a fewer number of physical infrastructure with an optimal approach energy usage of switches relies on a marketer and it is directed with the number of line cards and ports involved. It should be considered that power usage of both links and switches are important for reducing power consumption by network.

This energy-consuming framework recognizes the network delay when a function moves to another virtual cluster. This method had an extensive virtualization principle to supply efficient strategies of power management. Algorithms which are presented in this paper are based on DVFS and resource consumption control that is made with physical processors and CPUs. The problem of allocating the energy efficiency of Virtual Machines in virtualized heterogeneous environments. Research team has controlled the min, max and sharing factors of Virtual Machine Manager (VMM), which means minimum, maximum, and suitability of the CPU allotted to Virtual Machines sharing the equivalent resource.

The request discrimination barricaded unneeded requests to remove adverse resource consumption. The outcomes of this study indicate the efficiency of the proposed technique.

The resource in which the energy usage for performing the task is clearly or implicitly decreased without reducing the quality of services. According to the experimental results of this study, the investigated approach illustrates its auspicious energy saving ability. This method implements traffic consolidation and VM to save energy in data center networks. But redundancy equipment's prevent turning off idle nodes and virtual machine placement in network. A solution to bypass links to scale up the amount of network switches. In this way switches can be turned off under the terms of redundancy. VMs are separated into a series of groups where overall traffic between the groups is minimized while overall traffic of inside group is maximized. Network traffic accumulated into fewer routes to put the residual network components into sleep mode for reducing energy consumption.

Virtual Machine Planner (VMP) is assessed in a real data center. In order to change the active series of servers, the network switches are reconfigured dynamically as required. By putting inactive servers into power saving mode, like sleep and hibernation, energy usage is decreased. Virtualization is the key strength of wireless sensor network and one major advantage of this technology is live migration of Virtual Machine. For this reason, VM consolidation in wireless sensor network draws researcher's attention and is an active field of research in recent times. The main idea of VM consolidation is to keep minimum number of hosts active by consolidating VMs into active hosts and the remaining hosts which are not required are kept in sleep or inactive mode.

The goal was to minimize total energy consumption by considering the conflicts between processor and disk utilizations and the costs of migrating VMs. To identify the conflicts, authors presented four models, namely the target system model, the application model, the energy model, and the migration model.

Reducing power consumption is important and designing energy-efficient data centers has recently received considerable attention of research community. Energy consumption in data centers consists of two parts, including power consumed by the ICT Information and Communications Technology systems i.e. servers, storage and networking, and power consumed by infrastructure i.e. heating, ventilation and Air-Conditioning. Although many researchers have designed various algorithms to minimize energy consumption, but incorporation of the migration

Energy overhead during VM live migration with VM placement policies is very rare. Identifies the problem associated with existing multi-path routing protocols in typical fat tree network topologies. Two large traffic flows may be assigned to share the same path if their hash values collide leaving other paths under-loaded. The problem is solved with the introduction of a complex central scheduler that performs flow differentiation and analysis of flow traffic demands across the data center network.

The migration scheduler is aware of the migration delays and bandwidth resources required. As we may see, most of the existing solutions leave the networking aspect unaccounted for in an energy-efficient optimization setting. The Green scheduler is the most efficient. It releases around

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ISSN2394-3785 (Online)
Available online at www.ijartet.com

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Vol. 5, Special Issue 9, March 2018

two-thirds of servers and network switches, which considerably reduces the energy consumption levels. With the Green scheduler, the data center energy consumption is slashed in half compared to when a round-robin scheduler is utilized.

System, each of which acts like a real computer with an operating system, are created on underlying physical machines (PMs). With such virtualization, the resources can be scheduled with fine-granularity, which improves resource utilization significantly.

At the same time, though VMs share physical resources, each VM runs individually with a proprietary resource; this makes it possible to guarantee the quality of provided service. Server virtualization is an efficient way to increase resource utilization and improve quality of service.

Wireless sensor network delivers infrastructure, platform, and software as services, which are made available to consumers as subscription-based services under the pay-as-you-go model. In industry these services are referred to as Infrastructure as a Service, Platform as a Service, and Software as a Service respectively. A recent Berkeley report stated “Wireless sensor network, the long-held dream of computing as a utility, has the potential to transform a large part of the IT industry, making software even more attractive as a service. Virtualization is virtual machine placement (VMP), which is to select some suitable PM to deploy each newly-created VM in runtime. VMP is a primary problem, while it is a highly complex task caused by various constraints, including performance, scalability, availability, network, cost, etc.

The resources are assigned and removed according to consumer demand. As there is no knowledge of the location, this give a sense of location independence and higher degree of abstraction. In server virtualization the resources of the server itself are hidden, or masked, from users, and software is used to divide the physical server into multiple virtual environments, called virtual or private servers. Energy consumption is a growing concern for data centers operators. Energy usage in a wireless sensor network model has received more attention through the use of large storage units and shared servers, wireless sensor network can recommend energy savings in the provision of computing and storage services. Applications run on virtual servers that are constructed using virtual machines, and one or more virtual servers are mapped onto each physical server in the system. There may be resource fragments in the fully loaded PM.

Obviously, the resource fragment is wasted, and the phenomenon of resource wasting is named a resource leak in this paper. In order to minimize the number of PMs under a given VM sequence, it is necessary to reduce the resource fragment. To represent the D-dimensional resource utilization of PM, we propose a multi-dimensional space partition model, which can also judge the suitability of resource utilization for the VM placement, and thereby guide VM placement.

The metrics for evaluating performance of energy-aware virtual network embedding. The author also proposed an energy aware virtual network-embedding algorithm. It is used to reduce computational complexity to construct a hierarchy of non-dominated Pareto fronts. Each virtual network embedding is assigned by rank value. It is based on its dominance level and crowding distance value. To enhance the virtual network embedding solution local search is applied.

The advantage of this proposed system is to reduce the packet delay and detect the attacker. Improve the network performance. Data delivery quickly from source to destination. Efficient data transmission on network. Without any loss data will be send in destination

IV. SIMULATION RESULTS

Simulation of the single threshold policy using greedy heuristics was done. The metric is the energy consumed by the servers during the simulation of single threshold policy. Workloads were introduced into the source virtual machine and are run repeatedly. The source host CPU consumption was observed using a shell script run separately in the source host. Virt-manager was run in both the machines. When the CPU utilization in the source machine exceeds the particular threshold the migration starts. The migration in the virt-manager is pre-copy migration as there is iterative copying and migration of the virtual machine CPU status. When the entire virtual machine is transferred to the destination, it continues to run there until stopped manually.

The source host CPU consumption was observed using a shell script run separately in the source host. Virt-manager was run in both the machines. When the CPU utilization in the source machine exceeds the particular threshold the migration starts. The author also proposed an energy aware virtual network-embedding algorithm. It is used to reduce computational complexity to construct a hierarchy of non-dominated Pareto fronts.

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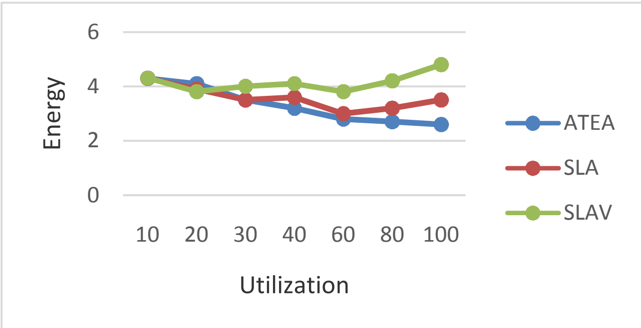

Fig. 1 Utilization Threshold-Energy graph

We assume that the destination system is able to provide the necessary resources for the migrating VM as it was idle.Here the performance degradation that may occur due to lack of resources is prevented and hereafter only the destination system needs to run. In the case of datacenters where there are many servers and VMs, this technique will certainly help in shutting down some of the under-utilized Servers and preserve the QoS (Quality of Service) of the applications in the over-utilized servers.

The single threshold policy implemented depicts that the increase in utilization threshold helps to reduce the energy consumed by the server. The live demonstration of energy consumption by the system during migration and with a single threshold was done on a small scale.

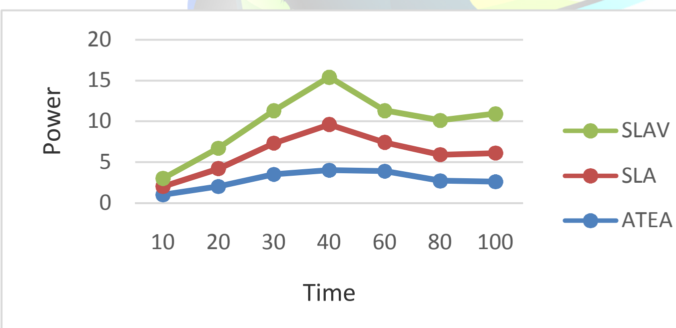

Fig. 2 Energy-Time graph – virt manager

The Energy-time graph was generated when the migration of virtual machine was taking place. The smaller curve in the beginning appears when the virtual machine along with an application within it starts running.

It gradually stabilizes and when the threshold is reached it starts to migrate to the destination host which is indicated by the increase in power consumption. In this graph, the power in watts across time in minutes are plotted to formulate the power consumption of the physical host at various stages. The idle system power consumption is almost constant throughout the graph. When a VM is started there is a tremendous increase in the power consumed which linearly decreases and becomes almost constant. During migration the resource utilization always increases and therefore the power also increases but at a slower rate.

The setting up of utilization threshold for a particular host system helps to reduce the power consumed by the entire system as the VM is migrated entirely to the destination and now only the destination system needs to run and henceforth shutting down the source machine will eventually reduce the total power consumption of the entire system.

V. Conclusion

Wireless sensor network is quite a new computing paradigm and from the very beginning it has been growing rapidly in terms of scale, reliability, and availability. The proposed system uses simulator to capture the details of energy consumed by Wireless sensor network components as well as packet-level communication patterns in realistic setups. The proposed approach optimizes the tradeoff between job consolidation to minimize the amount of computing servers and distribution of traffic patterns to avoid hotspots in the data center network. Wireless sensor network plays a significant role in the reduction of data center energy consumption costs and thus helps to develop a strong, competitive Wireless sensor network industry. VMs deployment algorithm based on the combination of adaptive three-threshold algorithm and VMs selection policies. This paper shows that dynamic thresholds are more energy efficient than fixed threshold.

The proposed algorithms are expected to be applied in real-world wireless sensor network platforms, aiming at reducing the energy costs for wireless sensor network. A big data provisioning service has been presented that incorporates hierarchical and peer-to-peer data distribution techniques to speed up data loading into the VMs used for data processing. The method is based on a modified VM is dynamically configured by the multilevel priority scheduling combines the features of the maximum precedence algorithm that modifying distribute the data to make it send periodic data. An energy efficient VMP algorithm, which can balance the utilization of multi-dimensional resources, lower down the number of running PMs, and thus cut down energy consumption. The proposed approach optimizes the tradeoff between job consolidation to minimize the amount of computing servers and distribution of traffic patterns to avoid hotspots in the data center network. These algorithms enhance a high processing overhead and long end-to-end data transmission delay due to the starvation of high priority real-time data packets due to the transmission of a large data packet in non-preemptive priority scheduling, and improper allocation of data packets to queues in multilevel distribution data. The results confirm that the discovery Success rate and the message reduction to increase the performance of Wireless sensor network and improve the energy efficiency.

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