**Dynamic Resource Allocation Using Virtual Machines for Cloud Computing Environment**

**Introduction**

Virtual machine monitors (VMMs) like Xen provide a mechanism for mapping virtual machines (VMs) to physical resources [3]. This mapping is largely hidden from the cloud users. Users with the Amazon EC2 service [4], for example, do not know where their VM instances run. It is up to the cloud provider to make sure the underlying physical machines (PMs) have sufficient resources to meet their needs. VM live migration technology makes it possible to change the mapping between VMs and PMs while applications are running [5], [6].

However, a policy issue remains as how to decide the mapping adaptively so that the resource demands of VMs are met while the number of PMs used is minimized. This is challenging when the resource needs of VMs are heterogeneous due to the diverse set of applications they run and vary with time as the workloads grow and shrink. The capacity of PMs can also be heterogeneous because multiple generations of hardware co-exist in a data center

**Scope**

* Overload avoidance: the capacity of a PM should be sufficient to satisfy the resource needs of all VMs running on it. Otherwise, the PM is overloaded and can lead to degraded performance of its VMs.
* Green computing: the number of PMs used should be minimized as long as they can still satisfy the needs of all VMs. Idle PMs can be turned off to save energy.

**Motivation**

* We develop a resource allocation system that can avoid overload in the system effectively while minimizing the number of servers used.

**Importance**

Literature [survey](http://www.blurtit.com/q876299.html) is the most important step in software development process. Before developing the tool it is necessary to determine the time factor, economy n company strength. Once these things r satisfied, ten next steps is to determine which operating system and language can be used for developing the tool. Once the [programmers](http://www.blurtit.com/q876299.html) start building the tool the programmers need lot of external support. This support can be obtained from senior programmers, from [book](http://www.blurtit.com/q876299.html) or from websites. Before building the system the above consideration r taken into account for developing the proposed system.

We have to analysis the **Cloud Computing Outline Survey**:

**Cloud Computing**

* Cloud computing providing unlimited infrastructure to store and execute customer data and program. As customers you do not need to own the infrastructure, they are merely accessing or renting; they can forego capital expenditure and consume resources as a service, paying instead for what they use.

**Benefits of Cloud Computing:**

* Minimized Capital expenditure
* Location and Device independence
* Utilization and efficiency improvement
* Very high Scalability
* High Computing power

**Security a major Concern:**

* Security concerns arising because both customer data and program are residing in Provider Premises.
* Security is always a major concern in Open System Architectures

**Data centre Security?**

* Professional Security staff utilizing video surveillance, state of the art intrusion detection systems, and other electronic means.
* When an employee no longer has a business need to access datacenter his privileges to access datacenter should be immediately revoked.
* All physical and electronic access to data centers by employees should be logged and audited routinely.
* Audit tools so that users can easily determine how their data is stored, protected, used, and verify policy enforcement.

**Data Location:**

* When user uses the cloud, user probably won't know exactly where your data is hosted, what country it will be stored in?
* Data should be stored and processed only in specific jurisdictions as define by user.
* Provider should also make a contractual commitment to obey local privacy requirements on behalf of their customers,
* Data-centered policies that are generated when a user provides personal or sensitive information, that travels with that information throughout its lifetime to ensure that the information is used only in accordance with the policy

**Backups of Data :**

* Data store in database of provider should be redundantly store in multiple physical location.
* Data that is generated during running of program on instances is all customer data and therefore provider should not perform backups.
* Control of Administrator on Databases.

**Data Sanitization:**

* Sanitization is the process of removing sensitive information from a storage device.
* What happens to data stored in a cloud computing environment once it has passed its user’s “use by date”
* What data sanitization practices does the cloud computing service provider propose to implement for redundant and retiring data storage devices as and when these devices are retired or taken out of service.