

# RESEARCH IMPLICATIONS OF CLOUD COST CONTAINMENT

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## Keywords

Cloud user  
Cloud service provider  
Capital expenditure  
Operational expenditure  
Cloud vendor  
Return on Investment  
Cloud Services  
Business Intelligence.

## Abstract

So far, in cloud computing all services and processes are processed as a form of resource pooling to various dependent users. All service specific applications are running in a secured cloud platform, the various components are iterated and application specific module can be integrated with generic based service strategies. The various services can be optimized in cloud vendor to produce an effective outcome for various cloud based service development levels. Proposed mechanism of cloud cost containment will facilitate the process to cut down investment on service usage end and also reducing the cost in cloud infrastructure by maintaining the proper CAPEX and OPEX control level expenditures. Through the proposed approach, user level investment can be reduced and the unwanted services can be eradicated with cloud based access control. Depends on user level application and services cost value can be monitored and directed to the cloud service provider to process all cost cutting strategies. Cloud sim is used as the simulator in the proposed model to optimize cost value of cloud resources.

## 1. INTRODUCTION

The cloud cost containment mechanism is very essential to keep cut down costs to meet the financial targets. Growth of cloud accelerates all enterprises and organizations to adopt with cloud based cost cutting strategies. Cloud computing offer services in a long-term-cost-cutting process to reduce expenditure in CAPEX (capital expenditure) and OPEX (operational expenditure) modes. Reducing of cloud infrastructure expenditures will analyze the accessibility and productivity outcomes by considering ROI (return of investment). The major objective of cloud cost containment is, reducing operational cost and infrastructure cost to obtain utility performances of distinct cloud services. Nowadays, all IT projects can work with the principle of cost containment which based on the factor of market strategy. The cloud developers are accelerating mainstream functional component of cost containment of cloud resources and ensure supporting factors of robustness and easy accessibility factors.

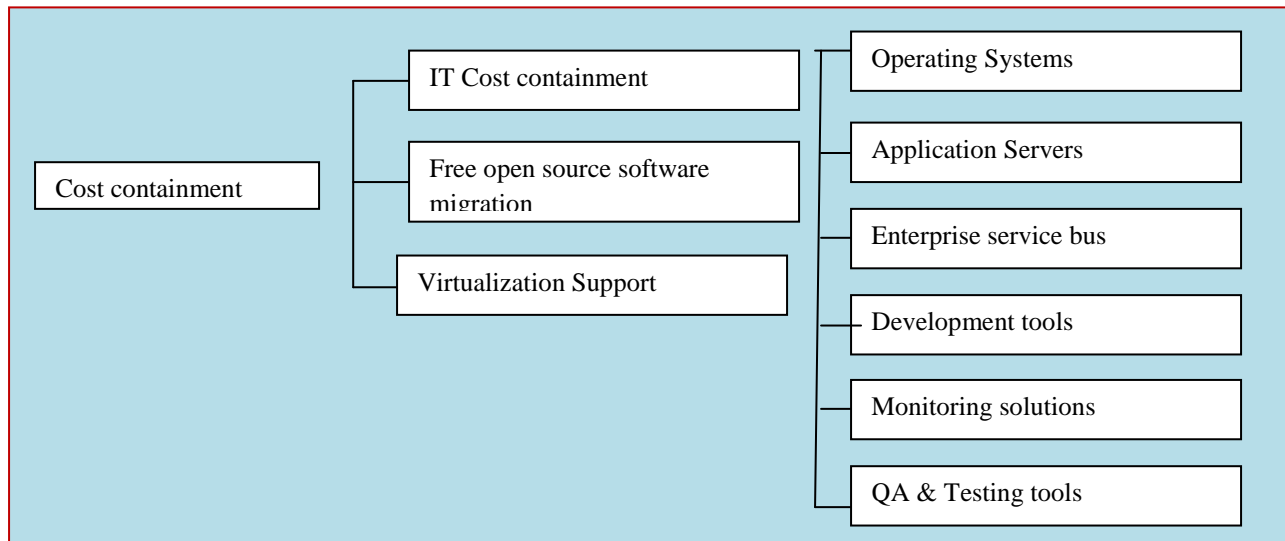
Cost containment policy will process the functions in the various areas by using heterogeneous cloud components depicted in figure 1. All

functional specific components are iterated its performance by using software migration and mitigation policies. Various freeware tools can be used to optimize controlling segment of cost containment factor.

## 2. BACKGROUND AND LITERATURE REVIEW

The study reports, it shows that healthcare cost containment has been processed in cloud to effectively analyze services and operational cost of healthcare domain. Various applications specific components are analyzed and it is optimized in cloud service access platform. [1]

Author Marco V. Barbera, Sokol Kosta, "Cloud Shield: Efficient anti-malware smart phone patching with a P2P network on cloud", this paper shows that, how peer-to-peer network computations has been processed in cloud and also efficiently anti-malwares can be detected in smart phone devices by using the desired functional elements of cloud cost containment policy. [2]



**Figure: 1** Cost Containment Tools and Services

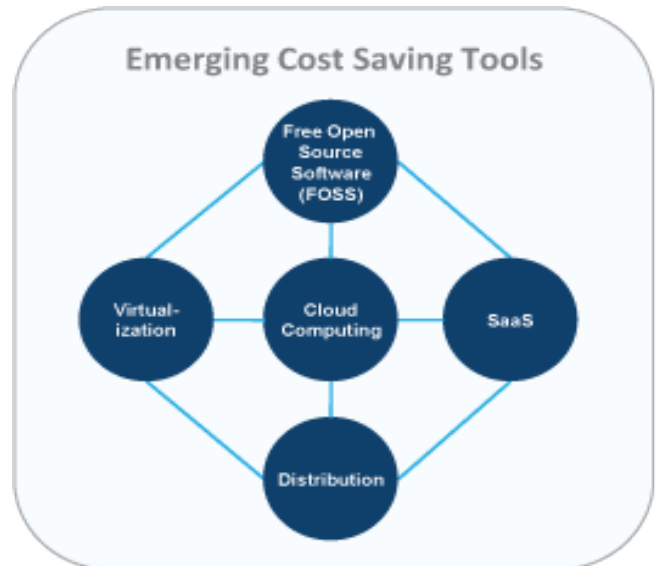
Author Suganthi.J, Abinaya.B et.al, “Hybrid cloud cost optimization an ongoing opportunity for partners”,this paper shows the work of optimizing cloud cost value in hybrid cloud access platform among ongoing partners. Trading users will prefer an application hosting and processing through private cloud and public cloud model type. This specific paper has implemented on cloud cost optimization policy in hybrid cloud access environment. [3]

So, from literature study analysis it has been proved that, there are limited works only available in cloud cost containment. All survey papers are focused the work in improving and optimizing their applications in optimized way of cost containment policies.

### 3. PROPOSED WORK

In proposed model and future enhancement of cloud cost containment can be widely used by the various service specific environments and all functional controls can be implemented and executed on data centre location. However, cloud will operates all functionalities based on pay-as-you-go model. User can pay the cost only for the used services. Research implications can be focused more on, how to reduce capital cost of the infrastructure and finding the feasibility of all control based access mechanism. The vital function has been used as a resource pooling function and it will operate on cloud customized environment. Customized applications are executed and iterated in the specific functional based service components to incorporate the cost cutting strategies in various domain specific processes. The pricing to win policy can be achieved by the various cloud developers and cloud users to optimize cloud based services and its utility outcome in the cost cut down factor.

The following diagram depicts the functional operations of how energy efficient platforms are effectively using freeware and paid ware services. By using service tools the function can be illustrated in the diagram figure 2.



**Figure: 2** Illustration of Cost Saving Tools over Cloud Environment

Virtualization process can be used as the backbone for the entire functional element environment. Service distribution study shows that, cost cutting functions are gradually increased for various service sectors. The service distribution and migration policies will execute distinct piece of work modules to running environment for the cloud optimized control set outcomes. Business agility process can be examined by using various business analytics, clustered data sets, functional instance creation and segment level service deployments.

In recent cases, amazon web services (AWS) has announced an application instance creation is per second billing for launching EC2instance migrations. Multi-cloud deployments have been used to calculate the cost of cloud services and other resource based pricing plans. Cloud vendor will monitors the service optimization value along with optimized service segment control. There are lot of tools that can be managed all companies to achieve the utility rate.

### 4. MATERIAL AND METHODS

The cloud cost can be implemented in multi-cloud platforms and also enabling different functions over cloud services. Various service level optimizations can be initiated in cloud access environment to facilitate the functional components of all generic based services. Various service level factors can be considered during the time of service deployment.

When implementing the cloud based services in the custom application or generic application type then the user will analyze the process over the elements and controls specific operational procedure. Outcomes are optimized by the various control based sequence, and all the instance creation and migration policy which is related to the service interleaved value ser. The following factors have been considered and used in the proposed model which is given below:

- \* Costs Optimization
- \* Service Provisioning
- \* Transparency
- \* Information about clients application

Cloud vendor will process the massive request for the requested users and iterates the cost cutting performance over the cloud services. The cost consumption of all generic services are examined the security and privacy factor to enable the service access platform as an attacker-free environment.

#### 4.1 Benefits of Cloud Cost Containment:

Cloud cost containment is a technological evolution to offer the massive amount of services with the minimal expenditure. Following are the major advantages of cost containment given below:

- On-demand services without financial commitments.
- Transfer of cost from CAPEX to OPEX
- Reduction of operating costs
  - Energy consumption
  - Managing system resources
  - Less time delays

### 5. STRATEGIES SOLUTION FOR CLOUD COST CONTAINMENT

After brief survey reports are found and studied, the cloud cost containment is the major future focus in all cloud vendor applications. Cloud based service operational value will shows that, how the strategy based results has been taken for the distinct cloud services. Study reports are tabulated as follows:

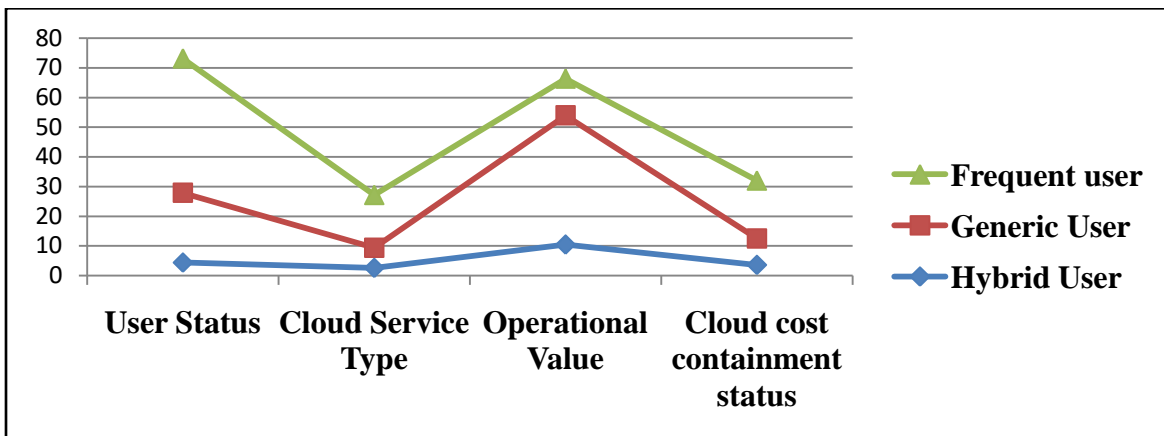
**Table: 1** Outcomes of Processed Cloud Cost Containment Values

User Status	Cloud Service Type	Operational Value State Indication	Cost Containment Status
Generic user	SaaS	Accepted	Optimized
Abnormal user	PaaS / IaaS	Iterated	Iterated
Frequent user	CaaS, MaaS/ DaaS	Accepted	Controlled
Hybrid user	IaaS, XaaS	Optimized	Validated
Malware user	XaaS	Declined	Not Processed

Above table 1 depicts the functional operations of how the cloud services are optimized in the service process environment and achieving the user credentials to reduce the unused services and defining the cost component based on the accepting level of user application and their service usages.

### 6. RESULTS AND DISCUSSION

The research strategy results are implicated with various access control values and cost containment parameters, it is processed that how to optimize the control segment value over cloud computing environment. The distinct functional values are incorporated in cloud access platform to enable the service specific operations in hybrid cloud environment. The following graph illustrates the functional and study outcomes of cloud cost containment process.



**Figure: 4** Depicting the research process of cloud cost containment

Above figure 4 shows the outcomes of cost containment process by specifying the functional components of cloud optimized set values of user mode operation. An optimized set of components are processed and iterated in research study reports.

## 7. CONCLUSION

Cloud cost containment policies are found in functional elements of the specific operational components. The various elements are iterated and processed in cloud application engine. Cloud services can be specified in the form of cost containment operational value which indicates the process of user applications and the specified results.

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