Latest Review of Literature for Understanding Traditional Project Management Challenges and Need of Enterprise Cloud Project Management Practices

Vijaya Kumar A V[1] , Dr.Yogesh Kumar Sharma[2]
[1]*Research Scholar, shri JJT University, Jhunjhunu, India,*
[2]*Research Guide, Associate Professor, Shri JJT University , Jhunjhunu, India*
Corresponding Author: Vijaya Kumar A V

Abstract: One of the major regions of project management is connection management, that is extensively explained in the literature, mostly because of the good relevance that is certainly assigned to this kind of area of project administration, and due to its effect on the accomplishment of the project, particularly IT projects executed by distributed teams. At present, there isn't a typical classification or standards for Cloud Computing. It may take a while to outline the main element attributes of Cloud Computing according to routines in the industry. Cloud Computing entails a collection of crucial technologies to deal with resource sharing according to enterprise needs. Depending on our techniques in the aspects of service provisioning and alternative layout, we consider the subsequent pair of important empowering technologies might perform essential functions in this innovative stage: virtualization technologies and Service-Oriented Architecture (SOA). The key aim of the paper is to present latest state of research in the area of software project management and enterprise cloud solutions for evaluation of storage architectures.
Keywords: Cloud Computing, Service-Oriented Architecture (SOA), Software-Defined Network (SDN)

I. INTRODUCTION

Defeated software reports can be obtained from numerous documented case research and findings during the last decades. Although a lot of enhancements were accomplished in software engineering, almost all software development initiatives even now employ more resources compared to designed, acquire more time to be determined, produce fewer performance and much less quality than envisioned. Numerous research associate these kinds of breakdowns to insufficient venture management, directing to communication complications, inappropriate allocation of team expertise, lack of training, and the manager's failure to estimate and change project conduct. Also, there is data security difficulties continue to be in the case of internationally distributed teams. For this reason we also need to safeguard documentations of projects.

As cloud computing delivers on-demand, flexible, and obtainable computing services, a lot more enterprises commence to take hold of this paradigm change by relocating their data source and software in to the cloud. Concurrently, one more epochal notion of the internet architecture concerns cutting edge, i. e., Software-Defined Network (SDN). Even though cloud computing encourages the management of working out and storage space methods, SDN is recommended to cope with one more repetitious issue effecting the evolvement of today's Internet, i. e. the complex system management. Apart from the belief that, SDN has been suggested as a prospect of the subsequent generation Internet architecture, organizations such as Google formerly implemented SDN into their inner data centers. Hence, the appearance of the time as soon as cloud computing and SDN go hand-in-hand in offering enterprise IT services is emerging on the horizon.

Almost all of the strategies at present put on software project management demand that assignments possess apparent and delimited aims, there is certainly a minimum of one strategy to the issue available, development time period and assets can be exactly mentioned prior to project starts off, the functional surroundings can be properly identified, and quality metrics may be quantified for the project. These kinds of presumptions hardly ever arise in huge projects. The growth of projects for software domains together with higher specifications volatility, the importance for domain integration, complexness, discontinuity of scale, along with intricate responses loops are attributes of large projects. In practice, many tasks are be subject to skepticism.

These kinds of attributes challenge the presumptions of conventional approaches, that may perform theoretically, however are not immediately employed in practice. Nevertheless, because of several achievements come from utilizing these kind of approaches in the past; managers are likely to acquire their particular

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supporting presumptions for granted in each and every project. This belief is quite typical and risky in software project management.

II. LITERATURE REVIEW

This study has been undertaken as a systematic literature survey of software project management strategies and cloud storage analytics for global team management. In this case the goal of the is to study systematic research gaps, so this study is categorized as a multi-directional literature review. The steps followed for this review are as below.

2.1. Research questions
To identify the problem domain of proposed research, we formulated research questions as following:

RQ1. What are software project management strategies are in practice?

RQ2. How enterprise cloud solution plays key role in project asset storage?

RQ3. Which cloud framework is secure?

RQ4. How can we focus over green cloud computing with service oriented architecture (SOA) for better project management?

2.2. Database Search Process
We followed systematic method to generate literature database. Initially, we identified significant electronic databases as: IEEE, ACM, John Willey, Springer, and Elsevier for publications search with phrase "cloud infrastructure for project management". Following search string is developed and applied:

(((cloud computing∗) OR (SOA) OR (project management code of conduct) OR))) AND ((cloud server networking) OR (cloud security∗))) The outcomes of the above query over the selected databases are given in Table 1, 2 and 3. We excluded few tables due to paper space limitations.

Table 1: IEEE Database Search

Input String	No. of papers (Primary Search)			
	conference	Journals / Magazines	eBooks	Miscellaneous
cloud computing	129	205	12	0
SOA	95	75	2	14
project management code of conduct	54	37	12	23
cloud server networking	165	201	0	29
cloud security	237	356	5	0

Table 2: ACM Database Search

Input String	No. of papers (Primary Search)			
	Transaction	Journals	eBooks	Miscellaneous
cloud computing	87	267	0	14
SOA	168	124	0	5
project management code of conduct	162	265	1	8
cloud server networking	324	546	6	1
cloud security	385	293	0	16

Table 3: Elsevier Database Search

Input String	No. of papers (Primary Search)			
	Transaction	Journals	eBooks	Miscellaneous
cloud computing	N/A	104	0	N/A
SOA	N/A	67	0	N/A
project management code of conduct	N/A	76	0	N/A
cloud server networking	N/A	156	0	N/A
cloud security	N/A	134	4	N/A

2.3. Data Extraction Criteria
In the second stage, we physically examined conference and journal paper titles (eBooks and miscellaneous omitted) of each one of the 1651 (IEEE), 2672 (ACM), 541 (Elsevier), 641 (Springer).

Publications analyzed from rest of libraries as an introductory search, rejected any which are not related to our domain of research and also multiple abstract similarity data rejected if published on more than one database. We filtered the unique data as per our domain of proposed research and finalized 116 documents with an immediate significance to our work. These were most significant and the information is about the social networking models, frameworks and algorithms. For immediate pilot study, we extracted 22 papers, as demonstrated in Fig. 1.
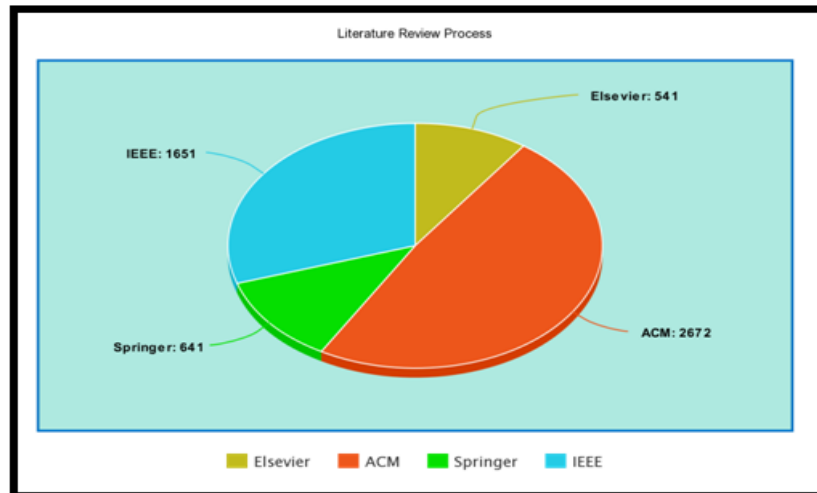

Figure 1: Literature review chart

2.4. Quality assessment

We evaluated shortlisted papers for following aspects,

Q1: Is author cited related and appropriate publications?

Q2: Is information provided by author is with high index of citation?

Q3: Is cloud computing storage analysis is used in market with green computing architecture?

III. DATA ANALYSIS

Data is organized in tabular format for further analysis (refer table 2). The tabulated data contains pilot search.

Table 2: Final Documents for review

Reference No.	Author	Year of publication
[1]	Arachchi et. al.	2018
[2]	Ren et. al.	2018
[3]	Batrouni et. al.	2018
[4]	Rawal et. al.	2018
[5]	Wang et. al.	2018
[6]	Zuo et. al.	2018
[7]	Chen et. al.	2018
[8]	Anderson et. al.	2018
[9]	Colomo-Palacios et. al.	2018
[10]	Qiu et. al.	2018
[11]	Mishra et. al.	2018
[12]	Alreshidi et. al.	2018
[13]	Khan et. al.	2018
[14]	Li, Meng, et al.	2018
[15]	Kaushal et. al.	2019
[16]	Wei et. al.	2018
[17]	Luong et. al.	2018
[18]	Usman et. al.	2018
[19]	Gaggero et. al.	2018
[20]	Koko et. al.	2018
[21]	Stergiou et. al.	2018
[22]	Chawla et. al.	2018

3.1 Key Research Gaps

Agile practices with Continuous Integration and Continuous Delivery (CICD) pipeline approach has increased the efficiency of projects. In agile, new features are introduced to the system in each sprint delivery, and although it may be well developed, the delivery failures are possible due to performance issues. By considering delivery timeline, moving for system scaling is common solution in such situations. But, how much system should be scaled? System scale requires current system benchmark status and expected system status. Benchmarking the production is a critical task, as it interrupts the live system [1]. To avoid this problem, virtual cloud architecture can play important role.

Cloud storage allows users to store their data in a remote server to get rid of expensive local storage and management costs and then access data of interest anytime anywhere. A number of solutions have been proposed to tackle the verification of remote data integrity and retrievability in cloud storage systems. Most of existing schemes, however, do not support efficient data dynamics and/or suffer from security vulnerabilities when involving dynamic data operations. In this paper, author proposed a dynamic proof of retrievability scheme supporting public auditability and communication-efficient recovery from data corruptions [2]. This model can be further improved by privacy preservation of data by designing new data flow architecture.

Today, the cloud offers a large array of possibilities for storage, with this flexibility comes also complexity. This complexity stems from the variety of storage mediums, such as, blob storage or NoSQL tables, and also from the different cost tiers within these systems. A strategic thinking to navigate this complex cloud storage landscape is important, not only for cost saving but also for prioritizing information; this prioritization has wider implications in other domains such as the Big Data realm, especially for governance and efficiency. In this paper author proposed a strategy centered around probabilistic graphical model (PGM), this heuristic oriented management and organizational strategy allows more tractability and efficiency, we also illustrate this approach with a case study applied to the insurance field.

IV. CONCLUSION

Based on latest shortlisted research papers, as a key service delivery platform in the field of service computing Cloud Computing provides environments to enable resource sharing in terms of scalable infrastructures, middleware and application development platforms, and value-added business applications. The operation models may include pay-as go utility models, free infrastructure services with value-added platform services, fee-based infrastructure services with value-added application services, or free services for vendors but sharing of revenues generated from consumers.

REFERENCES

[1]. Arachchi, S. A. I. B. S., and Indika Perera. "Continuous Integration and Continuous Delivery Pipeline Automation for Agile Software Project Management." 2018 *Moratuwa Engineering Research Conference (MERCon)*. IEEE, 2018.

[2]. Ren, Zhengwei, et al. "Dynamic proofs of retrievability for coded cloud storage systems." *IEEE Transactions on Services Computing 11.4 (2018): 685-698*.

[3]. Batrouni, Marwan, et al. "Intelligent Cloud Storage Management for Layered Tiers." International Conference on Cooperative Design, Visualization and Engineering. *Springer, Cham*, 2018.

[4]. Rawal, Bharat S., et al. "Secure disintegration protocol for privacy preserving cloud storage." *Wireless Personal Communications (2018): 1-17*.

[5]. Wang, Weikai, et al. "Intrusion detection and security calculation in industrial cloud storage based on an improved dynamic immune algorithm." Information Sciences (2018).[6] Zuo, Cong, et al. "Fine-grained two-factor protection mechanism for data sharing in cloud storage." *IEEE Transactions on Information Forensics and Security 13.1 (2018)*: 186-196.

[6]. Chen, You-Shyang, et al. "Analysis of performance measures in cloud-based ubiquitous SaaS CRM project systems." *The Journal of Supercomputing 74.3 (2018)*: 1132-1156.

[7]. Anderson, John, and Robert Bishop. "An ITSM For A New Era: Leaving A Self-Supported Internal Legacy System For A Brighter Future In The Cloud (s)." Proceedings of the 2018 ACM on SIGUCCS Annual Conference. *International World Wide Web Conferences Steering Committee*, 2018.

[8]. Colomo-Palacios, Ricardo, et al. "A case analysis of enabling continuous software deployment through knowledge management." *International Journal of Information Management 40* (2018): 186-189.

[9]. Qiu, Chenxi, Haiying Shen, and Liuhua Chen. "Towards green cloud computing: Demand allocation and pricing policies for cloud service brokerage." *IEEE Transactions on Big Data*(2018).

[10]. Mishra, Sambit Kumar, et al. "An adaptive task allocation technique for green cloud computing." *The Journal of Supercomputing 74.1* (2018): 370-385.

[11]. Mishra, Sambit Kumar, et al. "An adaptive task allocation technique for green cloud computing." *The Journal of Supercomputing 74.1* (2018): 370-385.

[12]. Khan, Minhaj Ahmad, et al. "IEEE Access Special Section Editorial: Green Cloud and Fog Computing: Energy Efficiency and Sustainability Aware Infrastructures, Protocols, and Applications." *IEEE Access 6 (2018): 12280-12283*.

[13]. Li, Meng, et al. "Green Machine-to-Machine Communications with Mobile Edge Computing and Wireless Network Virtualization." *IEEE* Communications Magazine 56.5 (2018): 148-154.

[14]. Kaushal, Shatakshi, Dweep Gogia, and Bishwesh Kumar. "Recent Trends in Green Cloud Computing." Proceedings of 2nd International Conference on Communication, Computing and Networking. Springer, Singapore, 2019.

[15]. Wei, Wei, et al. "Imperfect information dynamic stackelberg game based resource allocation using hidden Markov for cloud computing." IEEE Transactions on Services Computing11.1 (2018): 78-89.

[16]. Luong, Phuong, et al. "Joint virtual computing and radio resource allocation in limited fronthaul green C-RANs." IEEE Transactions on Wireless Communications 17.4 (2018): 2602-2617.

[17]. Usman, Mohammed Joda, et al. "Energy-Efficient Resource Allocation Technique Using Flower Pollination Algorithm for Cloud Datacenters." International Conference of Reliable Information and Communication Technology. *Springer, Cham,* 2018.

[18]. Gaggero, Mauro, and Luca Caviglione. "Model Predictive Control for Energy-Efficient, Quality-Aware, and Secure Virtual Machine Placement." *IEEE Transactions on Automation Science and Engineering 99* (2018): 1-13.

[19]. Koko, S. P., K. Kusakana, and H. J. Vermaak. "Optimal Sizing of a Micro-Hydrokinetic Pumped-Hydro-Storage Hybrid System for Different Demand Sectors." Sustainable Cloud and Energy Services. *Springer, Cham,* 2018. 219-242.

[20]. Stergiou, Christos, et al. "Secure integration of IoT and cloud computing." *Future Generation Computer Systems 78 (2018)*: 964-975.

[21]. Chawla, Amanpreet, and Navtej Singh Ghumman. "Package-Based Approach for Load Balancing in Cloud Computing." *Big Data Analytics. Springer*, Singapore, 2018. 71-77.