LAMP2C-GOV: LEGACY APPLICATION MIGRATION GOVERNANCE – AN APPROACH

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Abstract: -Migration strategy and plan are important for anyapplication migration project as migration projectis a complex andmammoth task. Keeping project criticality in view, governance plays an important aspect of entire migration strategy and plan by continuous monitoringand enforces adoption of best practicesfor successful project delivery.Enterprise shouldgetestablish a formal governance structure referred as Migration Governance board (MGB), for monitoring the migration project at the very project beginning as enterprise can't effort of leave migration unfished due to business criticality of the application for the business.This papertries to introduces governance importance and proposesa governance model specially for legacy application migration projects.

Key words: **Application Migration;Corporate Governance; Governance; IT Governance; LAMP2C; LAMP2C-GOV;Legacy Application; Migration Process; Migration strategy,**

I. INTRODUCTION

As technology paradigm is fast changing so is enterprise's need to serve its customer better. Now a day's technologies are also business driven i.e. they also think how their customer's customer will get benefited by implementing the technology. At times other than business reasons, technology features also motivate enterprises to embrace new technology. For example, Cloud Computing; it helps in reducing capital expenditure by leveraging cloud business model of pay-as-you use and delivers hardware and software resource as virtualize service(Doaa M. Shawky, 2013). Multiple other benefits are offered by Cloudfor example lower operating cost, no up-front investment, ease of maintenance, etc.

One of thefeasible options to embrace new technology is by migrating the existing, in use, business critical applicationand infrastructure (can't be discarded), it will save the effort, time and cost gone into building the application for over a period of time. Infact,it required an elaborate planning for successful migration as cloud computing will brings changes such as economic, legal, privacy/security (Ali Khajeh-Hosseini, *at al.*), etc.

Migration is a complex and has its own set of challenges which comes along with migration projects specially migration to cloud is a serious step to take in a holistic manner(Ali Khajeh-Hosseini, *et. al.)* because cloud concepts and approach are different from the traditional software concept and approach. Cloud covers all application layers i.e. application (SaaS), platform (PaaS) and Infrastructure (IaaS), which makes legacy application migration not a straight forward task as it may looks(Rashmi, *et al.* 2012), especially when migrating tightly coupled legacy application(Jesus Bisbal, *et al.* 1997) as compare to cloud application.

Keeping a complex nature of migrating legacy application to cloud, a strong governance needs to be in place to monitor these migration projects. There is a common saying in IT world that "What is not Defined can't be Controlled." and "What can't be Controlled can't be Measured" and "What can't be Measured can't be Improved" similarly for Governance, it can be said that "*without Governance, it will be a challenge to provide the guidelines and control the project*" and "there will be no bench mark to improve further".

Governance helps to improve repeatability and enforce adoption of best practices, which is best for enterprise to avoid issues/challenges. Along with best use of resources utilization in optimum manner (Dr. Gad J Selig, 2011). Utilization of resources in optimum manner will be best seen, if an organization has multiple project running simultaneously and management need to decide the priority based on the business requirement.At the same time poor governance will be will reduce the chances of migration project meeting the business vision and mission.

Governance brings in or helps to develop the accountability culture within an organization as it gets evolved over a period of time, in case governance is not existing or in nascent stage in an enterprise. Whatever may be the governance case or approach, we can safely say that project governance add value to entire business (Razvan NISTOR, *et al.* 2014).

II. GOVERNANCE OVERVIEW

Let us understand, how Governance and its type are definedby online dictionary before proceeding further.

As per Businessdictionary.com**Governance** is "Establishment of policies,and continuous monitoring of their proper implementation, by the members of the governing body of an organization. It includes the mechanisms required to balance the powers of the members (with the associated accountability), and their primary duty of enhancing the prosperity and viability of the organization[1]".It is also mentioned that Corporate governance broadly refers to the mechanisms, relations, and processes by which a corporation is controlled and is directed; involves balancing the many interests of the stakeholders of a corporation[2].

BusinessDictionary.com defines **Corporate Governance** as the framework of rules and practices by which a board of directors ensures accountability, fairness, and transparency in a company'srelationship with its all stakeholders (financiers, customers, management, employees, government, and the community).

The corporate governance framework consists of (1) explicit and implicit contracts between the company and the stakeholders for distribution of responsibilities, rights, and rewards, (2) procedures for reconciling the sometimes conflicting interests of stakeholders in accordance with their duties, privileges, and roles, and (3) procedures for proper supervision, control, and information-flows to serve as a system of checks-and-balances(Doaa M. Shawky, 2013).

IT governance is a framework that ensures organisation's IT infrastructure supports and enables the achievement of its corporate strategies and objectives. There are three widely recognized, vendor-neutral, third-party frameworks that are often described as 'IT governance frameworks':
  i. ITIL - IT Infrastructure Library
 ii. COBIT - Control Objectives for Information and Related Technology)
iii. ISO

It can be safely assumed that IT governance is an integral part of overall enterprise governance and IT governance provides:
  i. A structure for aligning IT strategy with business strategy and enables the achievement of its corporate strategies and objectives by following a formal framework, organizations can produce measurable results toward achieving their strategies and goals.
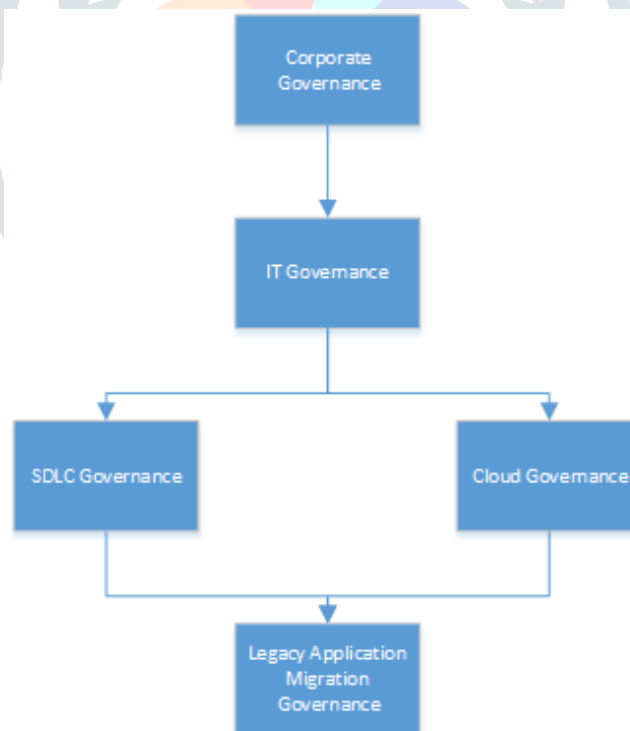 ii. Support to responsible utilization of available resources

Figure 1-Governance Flow

To understand how governance and its type related to software development and migration are defined are as follows:

Any kind of Governance within an enterprise is derived from Corporate Governance, so is IT Governance. IT Governance is the super-set of SDLC and Cloud Governance, which in turn is the super-set of Legacy Application Migration governance, Ref. Figure

[1]http://www.businessdictionary.com/definition/governance.html
[2]http://www.businessdictionary.com/definition/corporate-governance.html#ixzz3zMMiSLfO)

1,as it involves both aspect of governance, specially focused on the application migration; towards the achievement of the desired goal by It will provide a framework for the organization of responsibilities and decision-making capabilities. Legacy Application Migration Governance can be achieved with the help of Migration Governance Board (MGB), which should be appointed even before the pre-migration process of LAMP2C framework, and should be active for the entire duration of the migration projects.

A well-defined governance model is generally the system of rules, practice and process by which a company/organisation/enterprise is directed and controlled that means that governance ensure clarity of purpose and set forth responsibilities.

III. LAMP2C - APPROACH &FRAMEWORK

Any journey needs to be well planned even before we start the journey, if we wantjourney to end well, so is legacy application migration, which is a journey in itself. Legacy Application migration, willbe called successfully completed only if application getsmigrated to desired platform/technology as envisaged before start with pre-migration phase of the LAMP2C framework and in line with enterprise vision.

To make legacy application migration journey smooth,

aframework is proposed for legacy application migration called "**L**egacy **A**pplication **M**igration **P**rocess Framework to **C**loud"; referred as LAMP2C. It will help enterprise to sail through the migration journey in a structured and defined way. LAMP2C will acts as a guiding principle.

LAMP2C is divided into four area and these areas are a) Pre-migration, b) Migration and c) Post-migration; with an umbrella of d) Governance, which cut across otherthree area of framework.
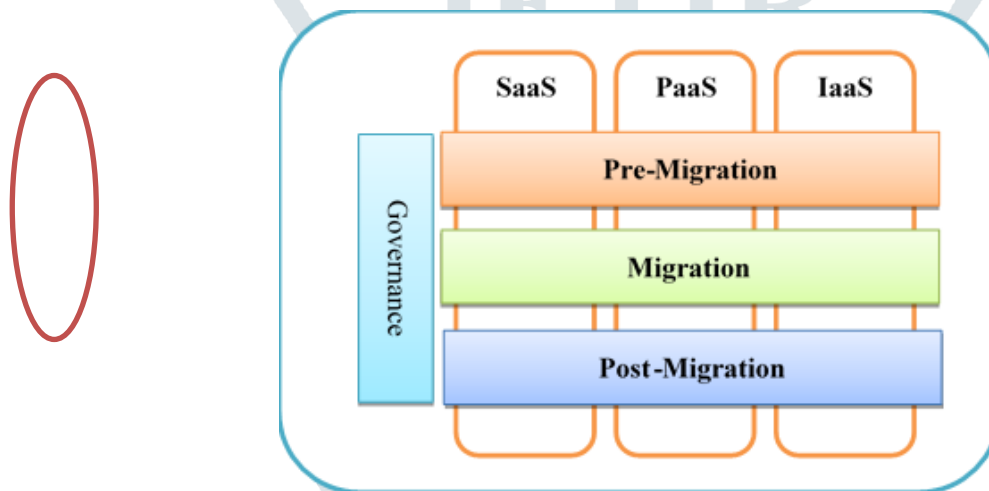

Figure 2-LAMP2C Framework

Proposed LAMP2C framework is a flexible and customizable framework depending on the migration project or organization requirement. Frameworkcan be tweaked based on application or enterprise's requirement and does not force to follow the process end-to-end as it is.

IV. LAMP2C-GOV - PROPOSED GOVERNANCE FRAMEWORK

One of the most important area of LAMP2Cframework is Governance, referred as **LAMP2C-GOV**. LAMP2C-GOV cut across all the other three area of framework. Ref.Figure 2; act as an umbrella area of LAMP2C framework. LAMP2C gives importance to migration within the given standardized set of processes with appropriate stakeholders' responsibilities.LAMP2C understands that one-size fits-all governance will work as each enterprise is unique in nature, so the governance need to be either customized based on enterprise requirement or evolve its own governance model.

A formal governance structure needs to be established for migration project for smooth and transparent execution, which will be govern by the body called Migration Governance board (MGB). MGB should be appointed to govern the entire governance process at the very start of the migration project. Setting up of MGB helps in:
  i. Aligning strategic migration goal to enterprise goals and strategy.
 ii. Bringing in the consistency and compliance w.r.t set of rules, practice and process by which enterprise is directed and controlled.
iii. Decreasing the probability of poor control during legacy application migration.
 iv. Providingthe required leadership and decision-making support for the migration project team.

However, level of governance will depend on enterprise requirement based on project size, cost and criticality.

Successful IT Governance require multi-level and multi-functional governance structure (Dr. Gad J Selig, 2011), which is adaptable and scalable as per the project or enterprise requirement because moving application to cloud increases the governance complexity and effective governance. Complexity also increases as service provider control many of the things, which earlier was within enterprise.

In LAMP2C, there will be three major review by MGB apart from the other review. These major reviews will be on or before the migration project kick-off and then whenever migration project progress from one area to another.Ref. Figure 3.
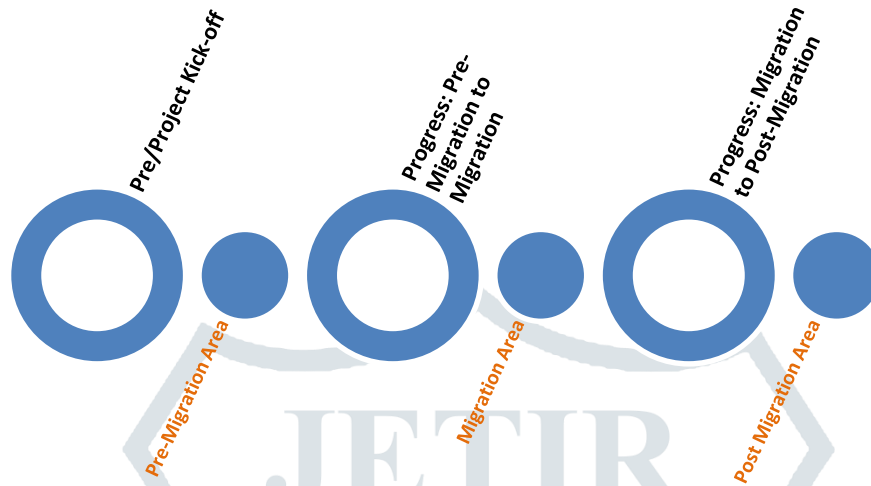

Figure 3-Important Governance Point

These three reviews will be main review and almost like a gating review i.e. in these reviews, progress will be reviewed in detail and a decision will be taken whether to proceed further or not (Go-No Go decision)

Governance is the system of rules, practice and process by which a company is directed and controlled which means that without management support, governance can't be successful.

V. CONCLUSION

Governance is an important andintegral part of LAMP2C framework as same is recommended to be part of the Master Migration Strategy and Plan in LAMP2C framework.

Governance becomes extra important for legacy migration project because a)migration projects are business critical and enterprise has so much on stake b) investment made in building/migrating application to new platform or technology c) multiple stakeholder need to be taken care d) In-house application is moving to cloud, where control will not be the same as it was during in-house application.

Enterprise, which effectively implement the governance via MGB across three area of migration; make judicious use of governance rule, practice and processes consistently at different migration project stages will improve the likelihood of successfully migrating application in line with enterprise vision.It will be the responsibility of MGB to keep a tab on the migration progress across layers and approve the progress.

In last, would like to highlight that governance helps any project to maximise the business value.

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