A STUDY ON AMAZON WEB SERVICES PERSPECTIVES

U.Prathibha[1], M.Thillainayaki[2], A.Jenneth[3]

ABSTRACT

Amazon Web Services (AWS) offers many advantages over business dynamics and flexibility, as well as reduced costs. However, employees need to get new skills, develop or upgrade key functions to better understand these benefits. In doing so, the business value can be increased and the cloud adoption can reduce the business risk. AWS Cloud Adoption Framework (AWS CAF) helps companies understand how the Cloud Diploma works, which provides the system to identify and configure gaps in skills and processes. This is the guidelines to guide the performance of the AWS CAF in the corporate company with an efficient way based on the performance plan. This structure helps their experiences and best practices through their cloud adoption process around the world. By introducing various functions and services, including dedicated Elastic Compute Cloud (EC2) instances that ensure cloud computing protection for highly regulated companies, Amazon Web Services (AWS) sought to secure corporate security and compliance concerns in cloud computing.

Key words : Amazon Web Services (AWS), AWS CAF, Security, EC2

1,2,3 Assistant Professor, Department of CS, CA & IT, Karpagam Academy of Higher Education, Coimbatore

prathibha.prathi4@gmail.com, thillainayakim@gmail.com, jennethismail@gmail.com

I. INTRODUCTION

At the highest level, AWS CAF sets six focus areas. We describe these core areas as perspectives. Fig 1 shows six viewpoints (Perspectives) of AWS CAF. Generally, business, people and personality are central to business skills, stage, security and performance perspectives focus on technical skills.

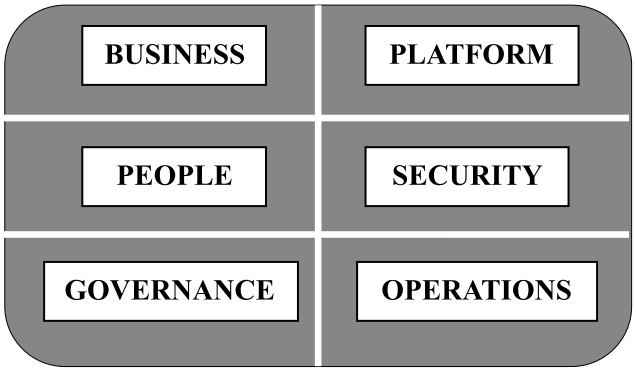

Fig 1: AWS Cloud Adoption Framework

Business perspective - Common Roles: Business managers, financial managers, budget owners and strategic partners. By moving more steps, promoting business value helps shareholders understand how to improve staff and company activities.

People's Perspective - Common Roles: Human Resources, Staff and People Managers. It provides guidance for shareholders in charge of public development, training and communications. It helps to understand how the shareholders need to improve the staff efficiency, organizational processes, maintain their employees, and ensure timely validation skills.

Governance Perspective - Common Roles: CIO, project managers, corporate architects, business analysts and service managers. Helpers understand how to improve efficiency and institutional mechanisms to ensure the business personality over the top, to manage more investments and to assess their business outcomes.

Platform Perspective - Common Roles: CTO, IT Managers, and Solution Orchids. Helpers understand how to improve efficiency and organizational processes to improve the efficiency and improvement of cloud solutions and services.

Security Perspective - Common Roles: CISO, IT security managers, and IT security analysts. Partners can understand how to update the structure of the overlay to the staff and enterprise processes needed to ensure the company regulates the security requirements, freezing, and compatibility requirements.

Operations perspective - Common Roles: IT Operations Managers, IT Support Managers and Scientists understand how to improve staff and enterprise processes in order to ensure computer health and reliability during the operations of cloud and then actively work with active, current and cloud computing best practices.

II. AMAZON WEB SERVICES

AWS is a collection of remote computing services (also called web services) that together make up a internet cloud computing platform, offered over the Internet by Amazon.com web site". The well-known and most used of these services are Amazon S3 and Amazon EC2.

Fig 2: Architecture of AWS

The service is advertised as providing a large computing capacity (potentially many servers) cheaper and much faster than building a physical server farm

In 8 geographical 'Regions', AWS is located: US West (Northern California), US East (Northern Virginia), US West (Oregon), Ireland, São Paulo (Brazil), Singapore, Sydney and Tokyo.

For US Government customers, there is also a "GovCloud" in the USA provided. Each Region is wholly contained within a single country and all of its services and data stay within the designated Region.

Each Region has multiple of 'Availability Zones' [4] i.e. those are distinct centers for data, providing services of AWS. To prevent outages from spreading between Zones and availability Zones are isolated from each other. Across Availability Zones, several services operate (e.g. Dynamo DB, S3) while others can be configured to replicate across Zones to avoid from failures.

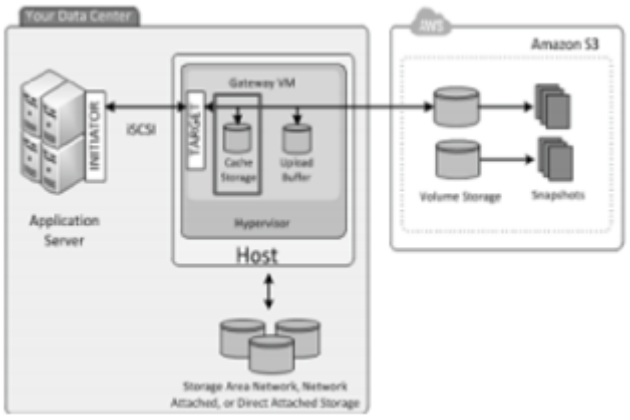

Fig 3: Data Center for AWS

III.AWS WELL-ARCHITECTED FRAMEWORK

In every AWS CAF view, the participants will have to carry out organizational and operational changes to their area.AWS is based on pillars for well-structured configuration - functional specialty, security, reliability, performance efficiency, and cost optimization. General Design Principles a well-structured structure identifies general design principles to ease the good design in the clou d:

Stop Guessing the Capacity needs: Get rid of your infrastructure needs without thinking. When user takes a decision before installing a system, it may be able to reduce cost-effective performance impacts or engage in less efficient performance. With cloud computing, these problems will go away. We can use as much or as little as you need, and can automatically move down.

Production-level Test Systems : The Cloud can create product-level testing environment, complete the tests, and rearrange resources. If the users are running the test environment it can simulate a portion of the costs that users test in their live environment.

- **Automated Automation to make architectural testing easy:** Automation allows user to create and copy to the computers at low cost and avoid cost of manual effort. It can monitor the automation changes, impact audit and return the previous factors when necessary.

- **Allow for evolutionary structures :** Allow for evolutionary structures. In a traditional context, architectural results are a standard method, onetime events, and a few important versions of its lifetime. As a business and its environment are changing, these early decisions may block the ability of the system to change business changes. This allows time to change time by finding jobs in practice.

- **Drive Design using Data:** It can collect data about how the workshop choices affect the workload. It helps to make real-based decisions based on how to improve the workload. Assume cloud infrastructure is an index, so over time user can use that data to display their architecture choices and improvements.

- **Enhance through game periods:** Check how your construction and processes are continuously planned by the game days to simulate production and events. It helps to understand where progresses can be made, and helps to improve the enterprise experience in handling events.

Five pillars of well-structured structure like building software. The foundation will determine the integrity and function of the building if it is not in solid structural problems. When building up technical performance user can ignore the five pillars of functional features, safety, reliability, performance efficiency, and spending strategies and also challenge to create a system that meets the customer expectations and needs.

IV. AWS CLOUD CREATION

AWS Cloud Creation is the essential AWS services key,

which is used to create a template based on best practices. It helps the employees with valid and consistent sources of productive environments for the growth. The following services and features support three functions:

Prepare : AWS Config and AWS Config rules can be used to create standards for workloads and determine if the conditions are compliant with those standards before making them for production.

Operate : Amazon Cloud watch allows user to monitor a workload health function.

Evolution : The Amazon Elastic search Service (Amazon ES) allows user to get the record data quicker and more secure. Amazon Web Services (AWS) offers a large range of available and reliable cloud computing platforms, providing tools that enable customers to run high-level applications.

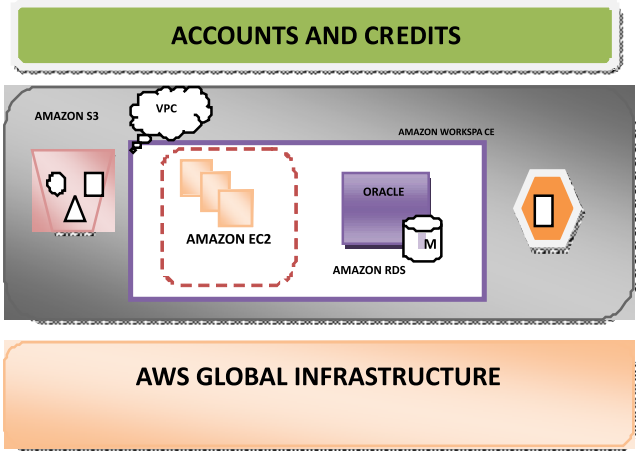

Fig 4: Amazon Cloud Creation

By maintaining customer confidence and trust, it helps to preserve the secrets, integrity and availability of our customers' organizations and data. Specifically, AWS Health and Performance Safety Network, Server Infrastructure and security implementations are described in the AWS administration.

The AWS is coordinated and managed with IT infrastructure security and best security practices and various security standards for its customers:

- SOC 1 / SSAE 16 / ISAE 3402 (formerly SAS 70)
- SOC 2
- SOC 3
- Fisma, DIACAP, and FedRAMP
- DOD CSM Levels 1-5
- PCI DSS Level 1
- ISO 9001 / ISO 27001
- ITAR
- Main 140-2
- MTCS level 3

In addition, the flexibility and controls offered by the AWS site allow customers to offer solutions that meet customers

Many industrial standards include:

- Criminal Justice Information Services (CJIS)
- Cloud Security Alliance (CSA)
- Family Education Rights and Privacy Act (FERPA)
- Health Insurance Portability and Accountability Act (HIPAA)
- Motion Picture Association of America (MPAA)

Power

Data center power systems attack Top operations, maintained 24 hours a day and seven days a week. Uninterrupted power supply (UPS) blocks the power of

power and electricity in units. Data centers use power to generate generators comfortably.

Climate and temperature

Servers and other hardware require climate control to maintain a sustained operating temperature, which reduces the possibility of disabling the service. Data centers determine optimal levels of care. Staff and systems monitor to control the temperature and humidity inappropriate.

Storage device disables

AWS procedures are a removal process that prevents users from discontinuing customer rankings. Removing the magnetic storage devices will be destroyed by professional practices.

Amazon glacier protection

Like Amazon S3, the Amazon Glacier Service offers low cost, safe and durable storage. But where Amazon S3 is designed for quick recovery, Amazon Glacier data is often used to access the archival service and any recovery mode is suitable for several hours.

Data upload

To convert knowledge into Amazon glacier service, it transfers an archive in a transfer function or a multi-card. Within the single transfer method, it transfer archives up to 4 GB. However, customers can heal results exploitation Multipart transfer API to transfer quite 100 MB archives. Using the multipart transfer API permits up to 400 TB to continue massive archives. The huge transfer API decision is meant to enhance the transfer expertise for larger archives; this implements the components to be uploaded.

Data recovery

Retrieving the archives from the Amazon iceberg requires a recovery job opening, which completes 3 to 5 hours of the generator. It can access data via HTTP GET requests. The data will be available for 24 hours. Retrieve the entire archive or multiple files from an archive.

Data storage

Amazon's iceberg automatically encrypts data using AES-256, and stores it in an animated format. The Amazon iceberg is designed to provide an average annual life of 99.9% for an archive. It saves each archive with multiple features and multiple devices. Unlike traditional systems requiring labor data verification and manual repairs, Amazon's icebergs are self-healing automatically by regular, systematic data integration checks.

V. AWS GATEWAY STORAGE PROTECTION

The AWS gateway storage service connects the on-campus software application. Cloud-based storage provides the weakest and safer synchronization between the IT

environment and AWS storage infrastructure

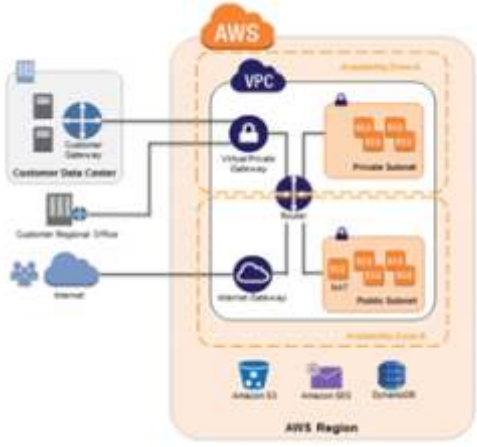

Fig 5: AWS Gateway Storage protection

This service permits uploading of AWS's enlargement, reliable and secure Amazon S3 storage service for cost-upgrading and fast disaster recovery.

The AWS Savings Gateway offers three options :

Gateway-stored volume. In this option, the volume of data is locally, and then Amazon is pushed to S3, where it is stored in a fired, encoded format, and is available in the form of ELASTIC BLOCK STORAGE (EBS) snapshots. When using this model, Toyor accesses the small space, providing the entire database, the storage in the premises is primary, and cloud storage is back up. Gateway-Cached Volumes (where cloud is the primary). Recent data has a gap for local access to localized latency. When we use this model, the cloud storage is primary, but we are receiving low- latency access functionality in the cache block on the premises.

Gateway-Virtual Tape Library (VTL). With this option, it can configure Gateway-VTL with 1 virtual tape drives per gateway, 1 media conversion and 1500 virtual gadgets. Each virtual tape drive responds to the SCSI command structure so that it can back up the applications (disc-to-tape or disk-to-disk-typing) or modify it. The information is encoded using Amazon S3 exploitation, the Advanced encryption standard (AES) 256-bit secret writing keys using a symmetric-encryption secret writing system. The AWS storage gateway can only scale back the number of knowledge transmitted over the web and transfer only the information that modified.

During the installation and configuration method are able to produce up to 12 saved volumes and 20 check modules. Once put in, every gateway can automatically refresh, update and install updates.

VI. CONCLUSION

The AWS Cloud Adoption Framework, which enables you to review and improve your cloud-based style and better understand the business impact of the planning selections. We address general design principles as well as specific best practices and guidance in five conceptual areas that we define as the pillars of the Well-Architected Framework. Cloud-based storage provides the weakest and safer synchronization between the IT

environment and AWS storage infrastructure.

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