International Research Journal of Engineering and Technology (IRJET) e-ISSN: 2395-0056
Volume: 07 Issue: 04 | Apr 2020 www.irjet.net p-ISSN: 2395-0072

"Cloud based Datacenter in Virtual Private Network"

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Abstract - *Cloud based VPN(virtual Private Network) is help to operate servers, database securely. It is available to users over a internet network. It is used store the file and access remote location via internet. Now days word troubling by corona virus so in IT industry all employ are working from home. So all employ required secure network access for security and data loss reason. This paper describes how secure connectivity to public cloud networks with VPN.*

Key Words: *Cloud Computing, VPN, Security.*

1. INTRODUCTION

The cloud computing is latest developments of computing models. models. Its version can be considered much upgrading than that of distributed computing. A virtual private network (VPN) is a private network across a public network, and provides option users to send and obtain information across public networks. VPN is technology to make remote connections with cloud by secure connection. A company requirement private network beyond its geographic area but issue with when employ Work in remote location. The requirement will increase heavily because of the cloud flexibility and its architected. So the security of data much important and access of data to user is also important that time role of VPN is started. User made his virtual private network and accesses the data. So it's much flexible, easy and secure.

2.1 LITERATURE SURVEY

The reason will attempt to provide secure transfer of data in cloud. It is advance technology is the Virtual Private Network (VPN). With VPN private and secured. Also sub networks is constructed. This principle have been widely applied in wired local-area Network. remote access networks and can be also applied to wireless local-area network VPN usually describe with the aid of IP security (IPSec). This can be considered as the standard way for VPN implementation. The IPsec much important for acceptable data confidentiality, authentication, and access.

2.2 Elastic Compute Cloud

Elastic Compute Cloud (EC2) provides scalable computing capacity in the Web Services (AWS) cloud. Using EC2 eliminates your need to invest in hardware up front, so you can develop and deploy applications faster. You can use EC2 to launch as many or as few virtual servers as you need, configure security and networking, and manage storage. EC2 enables you to scale up or down to handle changes in requirements or spikes in popularity, reducing your need to forecast traffic.

2.3 Amazon EC2 provides the following features:

- Virtual computing environments, known as instances
- Preconfigured templates for your instances, known as Machine Images (AMIs), that package the bits you need for your server (including the operating system and additional software)
- Various configurations of CPU, memory, storage, and networking capacity for your instances, known as instance types Secure login information for your instances using key pairs (stores the public key, and you store the private key in a secure place)
- Storage volumes for temporary data that's deleted when you stop or terminate your instance, known as instance store volumes
- Persistent storage volumes for your data using Elastic Block Store (EBS), known as Amazon EBS volumes
- Multiple physical locations for your resources, such as instances and Amazon EBS volumes, known as Regions and Availability Zones
- A firewall that enables you to specify the protocols, ports, and source IP ranges that can reach your instances using security groups.

3. System Development.

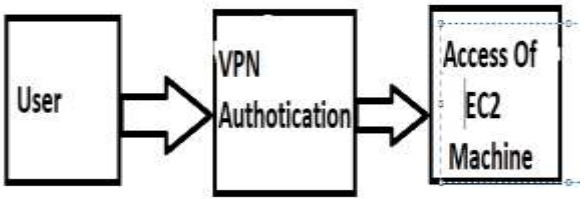

Fig.1 Block Diagram.

3.1 Identity and Access Management

AWS Identity and Access Management (IAM) is a web service that helps you securely control access to AWS resources. You use IAM to control who is authenticated (signed in) and authorized (has permissions) to use resources. When you first create an AWS account, you begin with a single sign-in identity that has complete access to all AWS services and resources in the account. This identity is called the AWS account root user and is accessed by signing in with the email address and password that you used to create the account. We strongly recommend that you do not use the root user for your everyday tasks, even the administrative ones. Instead, adhere to the best practice of using the root user only to create your first IAM user. Then securely lock away the root user credentials and use them to perform only a few account and service management tasks.

3.2 Working Block diagram

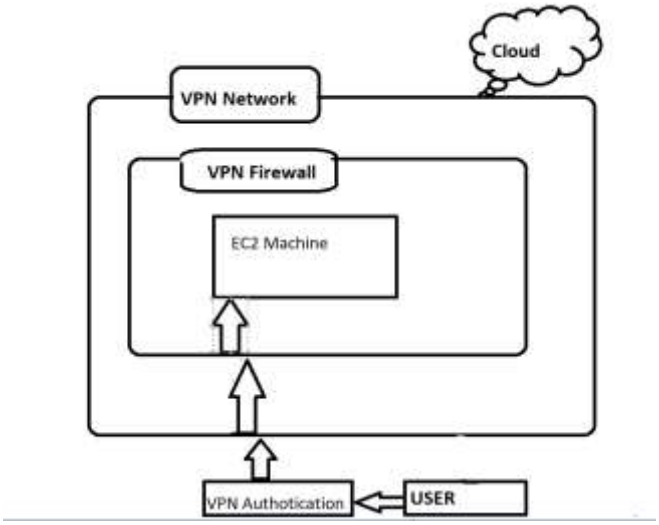

Fig.2 Working Block diagram

3.3 Advantages of Cloud computing.

1) Cloud technology is saving organizations money.

2) It is much flexible means you can use as per your demand.

3) It is able to access data at remote location.

4) No longer do IT personnel need to worry

About keeping software up to date.

4. CONCLUSION

The theme of working is user login in cloud by authentication by VPN with his/her username and password and access EC2 machine and its database.it is secure login and secure network for working also view data security. Admin can able to change authentication option and provide access.

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