

# Email Solution For Enhancement Of Email Service

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## Abstract

*The (e-mail) Electronic Mail is the evolutionary product that changed the whole perspective of the businesses. It became easy to send and receive the mails from the customer. Now a days the businesses are growing and new businesses are starting up. These businesses require their private domain name with their own email service. They look for the best value for the money service. There are many such email service providers but some of them have some faults. This paper is about the implementation of the email service which is designed in such a way that it is the best value for the money package to the businesses.*

**Keywords:** e-mail; server; user id; authentication; security; domain name; etc.

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## I. INTRODUCTION

Electronic Mail or e-mail is the method of exchanging the message between the two people or institutes using the electronic device. The e-mail was invented by the Ray Tomlinson. The electronic mail operates across the internet. As number of users of the E-Mail continue to increase rapidly, there is increase in the demand of the powerful, reliable and secure E-mail servers and service.

According to the study and the research, there are very few companies which provide the reliable and secure E-Mail service. Also there are very few researches available on the topic of E-Mail server as compared with the other. In this paper we focus on the quality of the E-Mail service which is provided to the small businesses and also the factors which are related to it such as the security, user friendliness and hardware performance. This paper introduce you to the new aspects of the E-Mail service which can help to improve the service provided to the small businesses.

From our research we came across the following results:

- Inability of the E-Mail service providers to provide the user-friendly user interface :

That is, the user interface provided by the companies is not efficient for the users.

- Lack of the available services and less number of E-Mail addresses with private E-Mail service providers :

The E-Mail service providers provide the E-Mail service to their customers with less numbers of the E-Mails available for creation. Also, they try to use less number of the servers to provide the service to large number of customers.

- Lack of the security :

Using the same server to provide the service to as much possible customers, it stores unnecessary data on the server. It is the great threat for the server's security.

- Less amount of storage available for the effective amount that is charged.
- Due to hardware problems, unavailability of 24\*7 service.

## I. EXISTING E-MAIL SERVICE PROVIDERS

[1]The E-Mail service providers are those who provide you E-Mail service with your private domain name. There are many E-Mail service providers with whom you can host your E-Mail with your private domain name. Following are some major companies which provide the E-Mail service with the private domain names:

- Gmail Apps For Work
- Microsoft Office 365 Essentials
- Zoho
- atMail
- GoDaddy

Work of all above companies is same to provide the customer the E-Mail service with their own domain. All these companies charge you as you use their services. There are some fix charges such as, yearly domain name charge, maintenance charge, etc. Excluding these charges customers have to pay extra charges for the every extra E-Mail created.

The customer chooses their service on the basis of different factors. These factors which are taken into account are as follows:

1. Spam Filter - Spam filter is most important factor that is considered while choosing the E-Mail service provider. Everyone don't want to waste their valuable time in deleting the spam messages and hence the spam filter service is provided, which detects the spam mails and filters them out of the inbox.
2. Security - The security is one of the important factors. Now a days there are many hackers who attack on the E-Mail system and steal the crucial information. Hence the security is the most facility that the service providers should provide to the customers.
3. Reliability - The E-Mail server of the provider should be always up whenever you need it. Your E-Mail should be always available to your clients. E-Mail server downtime can result in the loosing of customers.
4. Integration - The E-Mail service should work with the different business tools such as, calendars and productivity tools. The businesses select the service which provide them the better integration service.
5. Ease Of Use - As the business grows more and more the E-Mail accounts are needed to be created for employees. The user interface of the E-Mail should be easy to use i.e. user friendly. The businesses select such a service that require no training to use the E-Mail service.
6. Storage - The storage is one of the most important part while choosing the E-Mail service provider. As every business grows more amount of the data needs to be stored and transferred. E-Mail service which provide less amount of the storage is unusable for the growing businesses.
7. Advance Features - E-Mail service provider needs to provide the advance E-Mail features such as scheduling the task in E-Mail, saving it as a draft, categorising the E-Mails, etc.

Archive Capability - The way in which the E-Mail service stores, saves and organize the E-Mails, drafts is very important.

## II. DRAWBACKS OF THE EXISTING E-MAIL SERVICES

As mentions earlier, the businesses look for the E-Mail services that have most of above the features. All the existing E-Mail service providers provide almost the same type of the E-Mail service but with different price tag. These E-Mail services have some major drawbacks that should be taken into account.

Drawbacks of the existing E-Mail systems are :

1. Limited number of E-Mails addresses :

This is the major disadvantage of the existing E-Mail services. They provide the customer limited number of the E-Mail addresses the can be used with the package. If the customer requires more E-Mail addresses then customer have to buy that addresses buy paying extra charges per E-Mail address. This causes increase in number of the expenses of the company. Limited number of available E-Mail addresses means limited amount of storage available. As the business grows the company requires more and more storage and E-Mail addresses for transferring the large amount of data. For the extra storage company have to pay extra charges according to the policy of the provider company.

2. DNS Lookup Time :

The DNS lookup time is the time taken by the DNS server to identify the ip address of the specific website. If the user searches for their domain name then the time required by the DNS should to find the ip of the E-Mail server should be very small. This ensures the faster connectivity of the server. The shortest lookup time is for the google server, which is

369.75 MS (Mili Second). The google domains are on an average 107.25 MS faster than the other domains. Hence the proper hardware with the secure and stable network is necessary for the shorter DNS lookup time.

### 3. Security :

The security is the most important factor while choosing the E-Mail service. Also it is the drawback of the existing E-Mail services. Every time the hackers try to penetrate the security of the E-Mail server and tries to access the confidential information which is being shared or stored on the server. Hackers also records the private information of the customers so that it can be used latter. Hence the security of the E-Mail server is important. The security of the E-Mail server depends on the two major factors -

- I. Hardware
- II. Software

#### I. Hardware :

The hardware plays very important role in the security of the E-Mail servers. The hardware security is the protection against the vulnerabilities against the physical devices. Now a day in the IoT environment, many devices are connected in the same network. The server needs the protection against the other physical devices. The condition of the hardware used also affects the security of the E-Mail server. The latest hardware used for the server comes with the self-encryption technology which the old hardware systems lack. This can cause great harm to the system. Hence time to time upgradation and maintenance of the hardware is important. Though the hardware of the server can be controlled according to our will using software, it can get damaged by ageing and fluctuating voltage. Also one can corrupt the hardware by using the software also. If the hardware of the server is up to the mark then there are less possibilities that server can get destroyed using the hardware perspective.

#### II. Software :

Along with the hardware the software is most important part of the E-Mail server system. The E-Mail server system uses Linux platform for the execution of the required packages. [2]The E-Mail server uses the different services such as MTA (Mail Transfer Agent), MDA (Mail Delivery Agent) and IMAP/POP3. These software services are essential for the implementation of the E-Mail server. After that the provider can add the features for enabling the business essential applications as extension and many more. The software services used in the E-Mail server needs to be secured. For that not only the hardware firewall but also the special security system is used. The hackers always try to attack the server through the software viruses and malware. In such conditions the software protection system should protect the system against the any hazardous attacks by the hacker. The software used to configure the E-Mail server should be reliable and compatible with the hardware used. If the incompatible hardware is used with the software then there are higher chances of system getting crashed. For this basically the 32 and 64 bit architecture of the software system and the hardware should be taken into account.

The software used is not only for deploying the E-Mail serve but also for providing the security to the customers. The software installed on the server consists of the software packages which are used for filtering the spams from the E-Mails, scanning the E-Mails for viruses, etc. These are the important parts that the software system of the E-Mail server should be focused on. If the spam filters are not up to the mark or the virus scanner for mails is not updated with the latest malware then it is great threat for the privacy of the customer. Due to the fault in the security of the E-Mails, the hackers can attack not only the server but also the customer's private computer. To prevent all these, a software system of the E-Mail server is needed to be updated time to time. The customers access their E-Mails through the provider's website. [3]That website should be secured with the SSL certificate. This verifies that the E-Mail server is securely connected to the browser through which the customer is accessing the E-Mail.

### 4. User Interface :

The user interface is the one of the most part of providing the E-Mail service. The user accesses their E-Mails through the dedicated website provided by the service provider. As mentioned earlier that website should be secured with the SSL certificate. Also that website's user interface should be user-friendly. The E-Mails should be easily accessible through the website. Customers should not have to search for the different functionality provided, it should be easily available. The user should easily use the applications provided without any hesitations. Consider the example of the Google's free E-Mail service Gmail, the user interface of the Gmail is easy to use and anyone who is not aware of using the email should be able to use the email. The user interface of the website should be self-explanatory.

## III. PROPOSED WORK FOR IMPROVEMENT

As seen earlier the existing E-Mail server systems have drawbacks that can cause harm to the E-Mail system and also to the user. The E-Mail server service can be improved by using the following methods :

- Using authentication for the E-Mails :

The E-Mails are the way to share the important information and its users are increasing day by day. The E-Mails are shared with the intended user with secure encrypting technique but the authentication is not used in E-Mails. By using the authentication technique with the E-Mails, the E-Mail service can get more security. By using the authentication methods such as digital signature and MAC functions can secure from the attacks by hackers.

- Using the user-friendly user interface :

Currently there are many E-Mail services that provide the E-Mail service for the customers with the private domain name. But according to our research, the customers are not satisfied with the type of the service they are getting. Customers are facing the problems while accessing the E-Mails through the dedicated website. The servers used by these companies are not working well with the webmail also. The service providers have problems in their functionalities such as forwarding emails fails 80% of the time. Hence for seamless experience the user-friendly website with the working functions is essential.

- Updating the servers time to time :

The average lifespan of the server is 3-5 years depending upon its usage. In this time period the server's software system and the packages need to be updated time to time. Many companies use the server even after it's expired. This can cause a threat for the mailing system. At least the server components need to be updated and serviced time to time.

- Using the appropriate spam filters and virus scanner :

The spam filters and the virus scanners are the important part of the E-Mail system. Without the virus scanner there are possibilities of getting the system affected of malware. It can cause loosing the customer's private information. Hence with the E-Mail service appropriate spam filters and virus scanners are necessary to use.

#### FUTURE SCOPE

- Using Artificial Intelligence for the filtering of the spams and viruses.
- Using the machine learning algorithms for improving the service.

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