**Lab Assignment DMZ**

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**What is DMZ Network?**

In computer security, a DMZ Network (sometimes referred to as a “demilitarized zone”) functions as a subnetwork containing an organization's exposed, outward-facing services. It acts as the exposed point to untrusted networks, commonly the Internet.

The goal of a DMZ is to add an extra layer of security to an organization's local area network. A protected and monitored network node that faces outside the internal network can access what is exposed in the DMZ, while the rest of the organization's network is safe behind a firewall.

When implemented properly, a DMZ Network gives organizations extra protection in detecting and mitigating security breaches before they reach the internal network, where valuable assets are stored.

**Purpose of DMZ?**

The DMZ Network exists to protect the hosts most vulnerable to attack. These hosts usually involve services that extend to users outside of the local area network, the most common examples being email, web servers, and DNS servers. Because of the increased potential for attack, they are placed into the monitored subnetwork to help protect the rest of the network if they become compromised.

**Lab:**

Part 1: As a group, research, discuss and define the high level components needed to build the following systems. And identify which components within the system needed to be put inside a DMZ. Explain your reason.

a. Implementation of text based chat systems such as the feature in whatsapp, facebook messenger or wechat.

b. Implementation of voice and video based chat systems such as the feature in whatsapp, facebook messenger or wechat.

c. Implementation of an e-commerce system with payment such as ebay + paypal.

Part 2: if you are to implement any of the above systems using a "cloud" solution, what would you need from the cloud provider?

Components to be used in Text based Chat System

1. Db Server : to store chats
2. Web Server: to host the application
3. FTP Server: to transfer media,txt files
4. Proxy Server- load management and security

**Web and Proxy Server should be placed in DMZ because they are exposed to the public internet.**

Components to be used in Video based Chat System

1. Web Server
2. Proxy Server
3. Media Server
4. DB Server

**Again similar to chat systems we need the web and proxy server in DMZ.**

Components to be used in e-commerce systems

1. Web Server
2. DB Server
3. Proxy Server
4. Payment Gateway Server

**Here we will put Web, Proxy and Payment Gateway server in the DMZ**

Cloud Equivalent Solution for Above systems

1. Storage Serves: AWS S3 Bucket Service
2. DB Servers: AWS RDS and DynamDb Service
3. Web Server: AWS EC2
4. Web Proxy Server: Virtual Private Cloud
5. Payment Services: Cloud Based