



A Survey of Distributed Denial of Service (DDoS) Attacks in Cloud Computing, Preventive Measures and Defense Mechanisms.



Motivation

- In February 2018, The largest DDoS attack took a cloud-based hosting service, GitHub offline for less than 10mins. Again in February 2020, Amazon said its AWS Shield service mitigated the largest DDoS attack ever recorded, stopping a 2.3 Tbps attack.
- Other organizations that have suffered DDoS attacks includes ebay, yahoo, CNN, Microsoft, etc.
- DDoS attacks is among the largest threats faced by web applications and the cloud computing environment. Hence, an in-depth analysis and survey about it preventive measures is worth researching into.



Objective

- Understand the various forms of DDoS attacks in relation to cloud computing.
- Get the most effective preventive measure, tools and technique against DDoS attacks.
- Get the most effective defense mechanism during a DDoS attack.



Methodology

- Review surveys on DDoS attack techniques in the cloud computing environment.
- Review several preventive mechanisms, tools and techniques used in preventing these attacks.
- Review several defensive mechanisms, tools and techniques to be used during a DDoS attack.
- Demonstrate the use of a selected system used in preventing DDoS attacks in web applications and cloud computing.