

Penetration Testing Validation Report Neptune Mutual Application

for



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Application Vulnerability Assessment and Penetration Testing

Report Created By

CyRAAC Services Private Limited [CyRAACS]



Report Created For

Chain Commit Limited



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Details of Vulnerabilities

INFORMATIONAL

1. Slowloris DOS Vulnerable

Summary:

It was observed that the application is vulnerable to Slowloris which affects the target web server only, with almost no side effects on other services and ports.

Risk:

Slowloris attack which is DDoS attack software that enables a single computer to take down a web server.

Impact:

With minimum bandwidth requirement, it aims to use up server resources with requests that seem slower than normal but otherwise mimic regular traffic.

Reference:

OWASP: A5 - Security Misconfiguration

https://owasp.org/Top10/A05_2021-Security_Misconfiguration/

https://owasp.org/www-pdf-archive/Owasp_KS_slowDoS.pdf

Advisory:

<https://cwe.mitre.org/data/definitions/400.html>

POC(s):

From the screenshot below, it can be observed that the application is vulnerable to Slowloris DOS attack.

```
test.neptunemutual.com
Starting Nmap 7.92 ( https://nmap.org ) at 2022-11-02 12:00 India Standard Time
Nmap scan report for test.neptunemutual.com (76.76.21.93)
Host is up (0.012s latency).
Other addresses for test.neptunemutual.com (not scanned): 76.76.21.22
Not shown: 998 filtered tcp ports (no-response)
PORT      STATE SERVICE
80/tcp    open  http
443/tcp   open  https
| http-slowloris-check:
|   VULNERABLE:
|   Slowloris DOS attack
|   State: LIKELY VULNERABLE
|   IDs: CVE:CVE-2007-6750
|   Slowloris tries to keep many connections to the target web server open and hold
|   them open as long as possible. It accomplishes this by opening connections to
|   the target web server and sending a partial request. By doing so, it starves
|   the http server's resources causing Denial Of Service.
|
|   Disclosure date: 2009-09-17
|   References:
|   http://ha.ckers.org/slowloris/
|   https://cve.mitre.org/cgi-bin/cvename.cgi?name=CVE-2007-6750
|_
Nmap done: 1 IP address (1 host up) scanned in 516.64 seconds
```

Remediation:

Increase server availability - Increasing the maximum number of clients the server will allow at any one time will increase the number of connections the attacker must make before they can overload the server. Realistically, an attacker may scale the number of attacks to overcome server capacity regardless of increases. Rate limit incoming requests - Restricting access based on certain usage factors will help mitigate a Slowloris attack. Techniques such as limiting the maximum number of connections a single IP address is allowed to make, restricting slow transfer speeds, and limiting the maximum time a client is allowed to stay connected are all approaches for limiting the effectiveness of low and slow attacks.

Vulnerable URL(s):

<https://test.neptunemutual.com/>