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| VAPT Report – Platinum Credit Kenya  Vulnerability Assessment | |
| 31 October 2022 | Document Version 0.02 | |
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Document configuration management

Document identification

|  |  |
| --- | --- |
| Title | Vulnerability Assessment |
| Document Type | VAPT Report |
| File Name | activity\_log.docx |
| Version | Version 0.01 |
| Sensitivity Classification | Company Confidential - Client / Vendor Information |
| Document Owner | Ayub Mwangi |

Preparation

| Action | Name | Role / Function | Date |
| --- | --- | --- | --- |
| Prepared by: | Rashpal Mediratta | Information Security Engineer | 2022-11-28 |
| Reviewed/Approved by: | Ayub Mwangi | Senior Information Security Engineer | 2022-11-28 |

Release

|  | Date Released | Change Notice | Remarks |
| --- | --- | --- | --- |
| 0.01 | 2022-06-17 | Release | 1st Draft |

Contribution (C) and distribution (D) list

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Table of Contents

[1. About This Design Document 5](#_Toc115681491)

[1.1. Document Purpose 5](#_Toc115681492)

[1.2. Intended Audience 5](#_Toc115681493)

[1.3. Document Usage Guidelines 5](#_Toc115681494)

[2. Executive Summary 6](#_Toc115681495)

[2.1. Introduction 6](#_Toc115681496)

[2.2. Scope 6](#_Toc115681497)

[2.3. Risk Rating Matrix 7](#_Toc115681498)

[2.4. Vulnerability Assessment Review 8](#_Toc115681499)

[Appendix A VA Report acceptance 14](#_Toc115681500)

List of Figures

[Figure 1: Vulnerability Distribution 9](#_Toc106372946)

List of Tables

[Table 2: Risk Rating Matrix 7](#_Toc115681501)

[Table 3: Vulnerability Count Per Host 8](#_Toc115681502)

[Table 4: Summary of Key Findings 10](#_Toc115681503)

[Table 5: Security Headers 12](#_Toc115681504)

# About This Design Document

## Document Purpose

The purpose of this document is to provide in detail the recommended findings and remediations for the network. This document provides details on the findings and remediations that can be implemented to have a better overall security posture.

## Intended Audience

The intended audience of this document are Platinum Credit Kenya / Dimension Data technical staff who will be implementing and operating the new network.

## Document Usage Guidelines

The document should be used as a guideline for deriving the necessary information to ultimately remediate the findings that were discovered during the external assessment.

* This document comprises the following components: -
* In Scope URL’s
* Findings
* Remediations
* Vulnerability References
* Evidence

# Executive Summary

## Introduction

We have the pleasure of presenting the main findings on our security review of as enumerated and documented in the monthly scope. We also want to express our appreciation to for the support given by the respective staff during this review.

## Scope

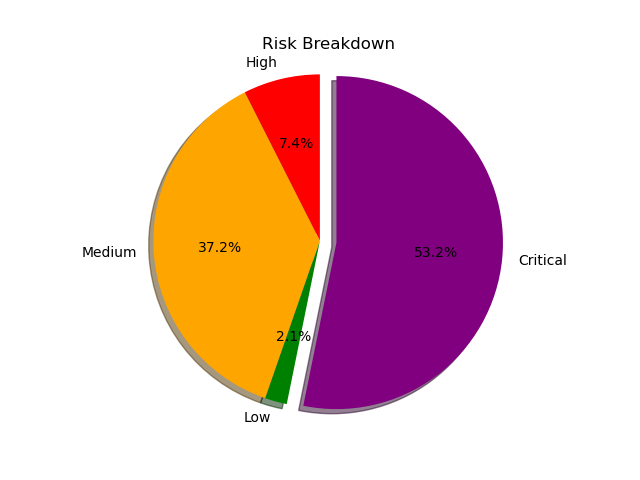
The following IP addresses were in scope for the vulnerability Assessment:

|  |  |
| --- | --- |
| IPs | platinumcredit.co.ke,helpdesk.platinumcredit.co.ke,legal.platinumcredit.co.ke,payroll.platinumcredit.co.ke,lbfapp.platinumcredit.co.ke,chqtracker.platinumcredit.co.ke,hr.platinumcredit.co.ke,lbfupdates.platinumcredit.co.ke,recordings.platinumcredit.co.ke,cms.platinumcredit.co.ke,dms.platinumcredit.co.ke,lms.platinumcredit.co.ke,ess.platinumcredit.co.ke,academy.platinumcredit.co.ke |

## **Risk Summary**

The breakdown of the vulnerabilities is as follows: Critical Vulnerabilities account for 53.19% of the total vulnerabilities, High Vulnerabilities account for 7.45% of the total vulnerabilities, Medium Vulnerabilities account for 37.23% of the total vulnerabilities, Low Vulnerabilities account for 2.13% of the total vulnerabilities.   
Highest risk is Critical

## **Risk Break down**



## **Host Breakdown**

The host with the highest risk is academy.platinumcredit.co.ke with 58 vulnerabilities,which accounts for 61.7% of the total vulnerabilities.  
The Top 5 hosts with the most vulnerabilities are: ['academy.platinumcredit.co.ke', 'cms.platinumcredit.co.ke', 'ess.platinumcredit.co.ke', 'helpdesk.platinumcredit.co.ke', 'lbfapp.platinumcredit.co.ke'] with [58, 6, 3, 6, 8] vulnerabilities which accounts for 86.17% of the total vulnerabilities respectively.

## **Common Vulnerabilities**

The most common vulnerability is Apache 2.4.x 2.4.54 Multiple Vulnerabilities with 16 occurences and a risk of Critical. Its solution is to Upgrade to Apache version 2.4.54 or later.  
The second most common vulnerability is Apache 2.4.x 2.4.47 Multiple Vulnerabilities with 14 occurences and a risk of Critical. Its solution is to Upgrade to Apache version 2.4.47 or later.  
The third most common vulnerability is Apache 2.4.x 2.4.53 Multiple Vulnerabilities with 8 occurences

## **Critical Vulnerabilities**

The vulnerability with Critical risk is Apache 2.4.x 2.4.54 Multiple Vulnerabilities with 16 occurencesand a risk of Critical. Its solution is to Upgrade to Apache version 2.4.54 or later.   
The Second Highest Critical vulnerability is Apache 2.4.x 2.4.47 Multiple Vulnerabilities with 14 occurences and a risk of Critical. Its solution is to Upgrade to Apache version 2.4.47 or later.   
The Third Highest Critical vulnerability is Apache 2.4.x 2.4.53 Multiple Vulnerabilities with 8 occurences and a risk of Critical. Its solution is to Upgrade to Apache version 2.4.53 or later.

## Risk Rating Matrix

Risks are classified as Critical, High, Moderate or Low as per the matrix defined below.

| Rating | Description |
| --- | --- |
| Critical | Loss of [confidentiality | integrity | availability] is proven and is currently being exploited in the wild.  Countermeasures recommended to mitigate these risks should be implemented as soon as possible and the environment should be reviewed for any signs of  compromise. |
| High | Loss of [confidentiality | integrity | availability] is likely to have a serious adverse effect on the organization or individuals associated with the organization (e.g.,  employees, customers).  Countermeasures recommended to mitigate these risks should be implemented as soon as possible |
| Medium | Loss of [confidentiality | integrity | availability] is likely to have a moderately adverse effect on the organization or individuals associated with the organization (e.g.,  employees, customers).  Countermeasure implementation should be planned for the near future |
| Low | Loss of [confidentiality | integrity | availability] is likely to have only a limited to little adverse effect on the organization or individuals associated with the organization (e.g., employees, customers).  Countermeasure implementation will enhance security and  is of less urgency than the above risks. |

Table 1: Risk Rating Matrix

## Vulnerability Assessment Review

### Vulnerability Assessment Summary Findings

This section details the summary findings of the vulnerability Assessment conducted on the IPs in scope.

**NB: The detailed findings have been shared as an addendum to this report. It serves as the remediation tracker**

### Vulnerability Count

| IP Address | Critical | High | Medium | Low |
| --- | --- | --- | --- | --- |
| academy.platinumcredit.co.ke | 14 | 4 | 4 | 0 |
| chqtracker.platinumcredit.co.ke | 0 | 0 | 0 | 0 |
| cms.platinumcredit.co.ke | 0 | 1 | 4 | 0 |
| dms.platinumcredit.co.ke | 0 | 0 | 0 | 0 |
| ess.platinumcredit.co.ke | 0 | 0 | 3 | 0 |
| helpdesk.platinumcredit.co.ke | 0 | 0 | 5 | 0 |
| hr.platinumcredit.co.ke | 0 | 0 | 0 | 0 |
| lbfapp.platinumcredit.co.ke | 0 | 1 | 7 | 0 |
| lbfupdates.platinumcredit.co.ke | 0 | 0 | 2 | 0 |
| payroll.platinumcredit.co.ke | 0 | 1 | 7 | 2 |
| Total | 0 | 0 | 0 | 0 |

Table 2: Vulnerability Count Per Host

### Summary of Key Findings

This section defines the Vulnerabilities found as well as their risks.

| Vulnerability | Count | Severity |
| --- | --- | --- |
| Terminal Services Encryption Level is not FIPS-140 Compliant | 1 | Low |
| SSL/TLS Diffie-Hellman Modulus = 1024 Bits (Logjam) | 1 | Low |
| web.config File Information Disclosure | 1 | Medium |
| Terminal Services Encryption Level is Medium or Low | 1 | Medium |
| SSL Self-Signed Certificate | 1 | Medium |
| SSL RC4 Cipher Suites Supported (Bar Mitzvah) | 1 | Medium |
| SSL Certificate Expiry | 1 | Medium |
| Remote Desktop Protocol Server Man-in-the-Middle Weakness | 1 | Medium |
| Web Application Potentially Vulnerable to Clickjacking | 2 | Medium |
| nginx 1.17.7 Information Disclosure | 2 | Medium |
| JQuery 1.2 3.5.0 Multiple XSS | 2 | Medium |
| Browsable Web Directories | 2 | Medium |
| TLS Version 1.1 Protocol Deprecated | 3 | Medium |
| TLS Version 1.0 Protocol Detection | 3 | Medium |
| SSL Certificate Cannot Be Trusted | 6 | Medium |
| HSTS Missing From HTTPS Server (RFC 6797) | 6 | Medium |
| Apache >= 2.4.30 2.4.49 mod\_proxy\_uwsgi | 2 | High |
| Apache >= 2.4.17 2.4.49 mod\_http2 | 2 | High |
| SSL Medium Strength Cipher Suites Supported (SWEET32) | 3 | High |
| Apache 2.4.49 Multiple Vulnerabilities | 2 | Critical |
| Apache 2.4.49 Multiple Vulnerabilities | 2 | Critical |
| Apache 2.4.x >= 2.4.7 / 2.4.52 Forward Proxy DoS / SSRF | 2 | Critical |
| Apache 2.4.x 2.4.54 Multiple Vulnerabilities | 2 | Critical |
| Apache 2.4.x 2.4.53 Multiple Vulnerabilities | 2 | Critical |
| Apache 2.4.x 2.4.52 mod\_lua Buffer Overflow | 2 | Critical |
| Apache 2.4.x 2.4.47 Multiple Vulnerabilities | 2 | Critical |

Table 3: Summary of Key Findings

### Prioritizations

This section indicates which vulnerabilities on which asset poses the greatest risk to Platinum Credit Kenya We recommend that they are addressed first to address the highest risks.

|  |  |  |
| --- | --- | --- |
| **Vulnerability Title** | **Apache 2.4.x 2.4.53 Multiple Vulnerabilities** | |
| Risk Profile | CVSS3 Score | 7.5 |
| Risk Factor | High |
| Exploitability | Ease | No known exploits are available |
| Exploit Available | false  Exploited by malware: |
| IP | academy.platinumcredit.co.ke | |
| Synopsis | The remote web server is affected by multiple vulnerabilities. | |
| Solution | Upgrade to Apache version 2.4.53 or later. | |
| Reference | CVE | CVE-2022-23943 |
| Links | http://www.apache.org/dist/httpd/Announcement2.4.html https://httpd.apache.org/security/vulnerabilities\_24.html |
| **Vulnerability Title** | **Apache 2.4.x 2.4.54 Multiple Vulnerabilities** | |
| Risk Profile | CVSS3 Score | 7.5 |
| Risk Factor | High |
| Exploitability | Ease | No known exploits are available |
| Exploit Available | false  Exploited by malware: |
| IP | academy.platinumcredit.co.ke | |
| Synopsis | The remote web server is affected by multiple vulnerabilities. | |
| Solution | Upgrade to Apache version 2.4.54 or later. | |
| Reference | CVE | CVE-2022-31813 |
| Links | https://httpd.apache.org/security/vulnerabilities\_24.html |
| **Vulnerability Title** | **Apache 2.4.49 Multiple Vulnerabilities** | |
| Risk Profile | CVSS3 Score | 6.8 |
| Risk Factor | Medium |
| Exploitability | Ease | Exploits are available |
| Exploit Available | true  Exploited by malware: |
| IP | academy.platinumcredit.co.ke | |
| Synopsis | The remote web server is affected by a vulnerability. | |
| Solution | Upgrade to Apache version 2.4.49 or later. | |
| Reference | CVE | CVE-2021-40438 |
| Links | https://downloads.apache.org/httpd/CHANGES\_2.4 https://httpd.apache.org/security/vulnerabilities\_24.html |
| **Vulnerability Title** | **Apache 2.4.x 2.4.47 Multiple Vulnerabilities** | |
| Risk Profile | CVSS3 Score | 7.5 |
| Risk Factor | High |
| Exploitability | Ease | No known exploits are available |
| Exploit Available | Exploited by malware: |
| IP | academy.platinumcredit.co.ke | |
| Synopsis | The remote web server is affected by multiple vulnerabilities. | |
| Solution | Upgrade to Apache version 2.4.47 or later. | |
| Reference | CVE | CVE-2021-26691 |
| Links | https://downloads.apache.org/httpd/CHANGES\_2.4 |
| **Vulnerability Title** | **Apache 2.4.49 Multiple Vulnerabilities** | |
| Risk Profile | CVSS3 Score | 7.5 |
| Risk Factor | High |
| Exploitability | Ease | No known exploits are available |
| Exploit Available | Exploited by malware: |
| IP | academy.platinumcredit.co.ke | |
| Synopsis | The remote web server is affected by a vulnerability. | |
| Solution | Upgrade to Apache version 2.4.49 or later. | |
| Reference | CVE | CVE-2021-39275 |
| Links | https://downloads.apache.org/httpd/CHANGES\_2.4 https://httpd.apache.org/security/vulnerabilities\_24.html |
| **Vulnerability Title** | **Apache 2.4.x >= 2.4.7 / 2.4.52 Forward Proxy DoS / SSRF** | |
| Risk Profile | CVSS3 Score | 7.5 |
| Risk Factor | High |
| Exploitability | Ease | No known exploits are available |
| Exploit Available | false  Exploited by malware: |
| IP | academy.platinumcredit.co.ke | |
| Synopsis | The remote web server is affected by a denial of service or server-side request forgery vulnerability. | |
| Solution | Upgrade to Apache version 2.4.52 or later. | |
| Reference | CVE | CVE-2021-44790 |
| Links |  |
| **Vulnerability Title** | **Apache 2.4.x 2.4.52 mod\_lua Buffer Overflow** | |
| Risk Profile | CVSS3 Score | 7.5 |
| Risk Factor | High |
| Exploitability | Ease | No known exploits are available |
| Exploit Available | false  Exploited by malware: |
| IP | academy.platinumcredit.co.ke | |
| Synopsis | The remote web server is affected by a buffer overflow vulnerability. | |
| Solution | Upgrade to Apache version 2.4.52 or later. | |
| Reference | CVE | CVE-2021-44790 |
| Links |  |
| **Vulnerability Title** | **JQuery 1.2 3.5.0 Multiple XSS** | |
| Risk Profile | CVSS3 Score | 4.3 |
| Risk Factor | Medium |
| Exploitability | Ease | Exploits are available |
| Exploit Available | true  Exploited by malware: |
| IP | helpdesk.platinumcredit.co.ke cms.platinumcredit.co.ke | |
| Synopsis | The remote web server is affected by multiple cross site scripting vulnerability. | |
| Solution | Upgrade to JQuery version 3.5.0 or later. | |
| Reference | CVE | CVE-2020-11022 |
| Links | https://blog.jquery.com/2020/04/10/jquery-3-5-0-released/ https://security.paloaltonetworks.com/PAN-SA-2020-0007 |
| **Vulnerability Title** | **SSL Medium Strength Cipher Suites Supported (SWEET32)** | |
| Risk Profile | CVSS3 Score | 5.0 |
| Risk Factor | Medium |
| Exploitability | Ease |  |
| Exploit Available | Exploited by malware: |
| IP | lbfapp.platinumcredit.co.ke cms.platinumcredit.co.ke payroll.platinumcredit.co.ke | |
| Synopsis | The remote service supports the use of medium strength SSL ciphers. | |
| Solution | Reconfigure the affected application if possible to avoid use of medium strength ciphers. | |
| Reference | CVE | CVE-2016-2183 |
| Links | https://www.openssl.org/blog/blog/2016/08/24/sweet32/ https://sweet32.info |
| **Vulnerability Title** | **Apache >= 2.4.17 2.4.49 mod\_http2** | |
| Risk Profile | CVSS3 Score | 5.0 |
| Risk Factor | Medium |
| Exploitability | Ease | No known exploits are available |
| Exploit Available | Exploited by malware: |
| IP | academy.platinumcredit.co.ke | |
| Synopsis | The remote web server is affected by a vulnerability. | |
| Solution | Upgrade to Apache version 2.4.49 or later. | |
| Reference | CVE | CVE-2021-33193 |
| Links | https://downloads.apache.org/httpd/CHANGES\_2.4 https://httpd.apache.org/security/vulnerabilities\_24.html |

Table 4: Prioritizations

### Strategic Recommendations

To continuously map out and manage the attack surface, have a patch management process in place to:

* + - 1. Remove unused dependencies, unnecessary features, components, files, and documentation.
      2. Continuously inventory the versions of both client-side and server-side components (e.g., frameworks, libraries) and their dependencies
      3. Monitor for libraries and components that are unmaintained or do not create security patches for older versions. If patching is not possible, consider deploying a virtual patch to monitor, detect, or protect against the discovered issue.
      4. A penetration test should be done when considerable change has been introduced to the system.

1. VAPT Report acceptance

I hereby confirm acceptance and agreement of VAPT Report document for the Internet Banking Penetration Testing and Vulnerability Assessment for and the contents contained within, excluding the exceptions described in the notes below.

Notes:

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| Print Name and Title |  | Print Name and Title |
|  |  |  |
| Date |  | Date |

should send this signed VAPT Report Acceptance Sheet to ayub.mwangi@dimensiondata.com