Sensitive Data Availability in High-Level Language Applications

**Layer 2**

![Layer 2 Diagram](Image 27x2295 to 297x2565)

**METHODS & ASSUMPTIONS**

It is assumed that the application’s source code is available for analysis. This assumption allows the team to identify potential vulnerabilities and test various strategies to reduce data sensitivity.

It is assumed that the application does not implement stringent authentication within the application. This assumption prevents unnecessary difficulties during research and analysis, as most authentication platforms are third-party and separate from the application.

It is assumed that the performance and latency issues caused by the decompilation process are minimal. This assumption allows for data collection regarding collection performance without the complications caused by the decompilation process.

Research into the sensitivity of data begins using a Virtual Private Server (VPS) leased by one of the researchers through Amazon hosting. Based on the current size/usage of the data, the VPS will be scaled up or down to accommodate the data.

The VPS supports the SSL and the VPS has been configured to enable web-based debugging, as well as to control the application.

A period of open access will be allowed to allow testing of Java’s memory management, performance, and other objectives. The application features a test entity, database access, and Java’s standard database APIs, and can be processed and stored.

The application will follow best practices when handling data, such as verifying data, sanitizing, and storing. The application will follow best practices when handling data, regardless of how sensitive or protected the data may be. Code quality is determined by code readability or maintainability (to be defined in a way that is understandable and measurable).

The goal is to identify sensitive data and determine the impact of potential vulnerabilities.

**REFERENCES & RESOURCES**

1. TIOBE Index (2016, February). "TIOBE Index for February 2016." (Software quality company. Retrieved from [this source].)


**Figure 4** Simplified Diagram of Layered VPN Vulnerabilities

Layer 1

Layer 2

Network containing sensitive data

Network containing highly sensitive data

Layer 1

Layer 2

Network containing sensitive data

Network containing highly sensitive data

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1. TIOBE Index (2016, February). "TIOBE Index for February 2016." (Software quality company. Retrieved from [this source].)

