# Malware Analysis Report: Effects on System Performance

## 1. Introduction

This report investigates the effects of various ransomware samples on system performance. Specifically, it evaluates how they manipulate system parameters like the number of processes, folders, CPU usage, and RAM usage. These tests were conducted using a Bash script to monitor these parameters.  
  
Only ransomware samples that affect system performance have been included in the analysis.

## 2. Methodology

Tools Used:

* A Bash script was created to monitor system parameters such as:
* Number of processes
* CPU usage
* RAM usage

Ransomware Samples Analyzed:

1. Wannacry
2. Coronavirus
3. SporaRansomware
4. Dharma
5. Cryptolocker
6. Viralock

Approach:

The Bash script logs changes in the above-mentioned parameters continuously while the ransomware is executed on the system.

## 3. Malware Impact on System Performance

### 3.1 Ransomware that Affects Number of Processes

#### Wannacry

Impact: Wannacry ransomware affects number of processes by causing system anomalies.

Observed Changes: [Provide specific numbers or trends observed in your logs.]

#### Coronavirus

Impact: Coronavirus ransomware affects number of processes by causing system anomalies.

Observed Changes: [Provide specific numbers or trends observed in your logs.]

#### SporaRansomware

Impact: SporaRansomware ransomware affects number of processes by causing system anomalies.

Observed Changes: [Provide specific numbers or trends observed in your logs.]

#### Dharma

Impact: Dharma ransomware affects number of processes by causing system anomalies.

Observed Changes: [Provide specific numbers or trends observed in your logs.]

#### Cryptolocker

Impact: Cryptolocker ransomware affects number of processes by causing system anomalies.

Observed Changes: [Provide specific numbers or trends observed in your logs.]

#### Viralock

Impact: Viralock ransomware affects number of processes by causing system anomalies.

Observed Changes: [Provide specific numbers or trends observed in your logs.]

### 3.2 Ransomware that Affects Number of Folders

#### Wannacry

Impact: Wannacry ransomware affects number of folders by causing system anomalies.

Observed Changes: [Provide specific numbers or trends observed in your logs.]

#### Coronavirus

Impact: Coronavirus ransomware affects number of folders by causing system anomalies.

Observed Changes: [Provide specific numbers or trends observed in your logs.]

#### SporaRansomware

Impact: SporaRansomware ransomware affects number of folders by causing system anomalies.

Observed Changes: [Provide specific numbers or trends observed in your logs.]

#### Dharma

Impact: Dharma ransomware affects number of folders by causing system anomalies.

Observed Changes: [Provide specific numbers or trends observed in your logs.]

#### Cryptolocker

Impact: Cryptolocker ransomware affects number of folders by causing system anomalies.

Observed Changes: [Provide specific numbers or trends observed in your logs.]

#### Viralock

Impact: Viralock ransomware affects number of folders by causing system anomalies.

Observed Changes: [Provide specific numbers or trends observed in your logs.]

### 3.3 Ransomware that Affects CPU Usage

#### Wannacry

Impact: Wannacry ransomware affects cpu usage by causing system anomalies.

Observed Changes: [Provide specific numbers or trends observed in your logs.]

#### Coronavirus

Impact: Coronavirus ransomware affects cpu usage by causing system anomalies.

Observed Changes: [Provide specific numbers or trends observed in your logs.]

#### SporaRansomware

Impact: SporaRansomware ransomware affects cpu usage by causing system anomalies.

Observed Changes: [Provide specific numbers or trends observed in your logs.]

#### Dharma

Impact: Dharma ransomware affects cpu usage by causing system anomalies.

Observed Changes: [Provide specific numbers or trends observed in your logs.]

#### Cryptolocker

Impact: Cryptolocker ransomware affects cpu usage by causing system anomalies.

Observed Changes: [Provide specific numbers or trends observed in your logs.]

#### Viralock

Impact: Viralock ransomware affects cpu usage by causing system anomalies.

Observed Changes: [Provide specific numbers or trends observed in your logs.]

### 3.4 Ransomware that Affects RAM Usage

#### Wannacry

Impact: Wannacry ransomware affects ram usage by causing system anomalies.

Observed Changes: [Provide specific numbers or trends observed in your logs.]

#### Coronavirus

Impact: Coronavirus ransomware affects ram usage by causing system anomalies.

Observed Changes: [Provide specific numbers or trends observed in your logs.]

#### SporaRansomware

Impact: SporaRansomware ransomware affects ram usage by causing system anomalies.

Observed Changes: [Provide specific numbers or trends observed in your logs.]

#### Dharma

Impact: Dharma ransomware affects ram usage by causing system anomalies.

Observed Changes: [Provide specific numbers or trends observed in your logs.]

#### Cryptolocker

Impact: Cryptolocker ransomware affects ram usage by causing system anomalies.

Observed Changes: [Provide specific numbers or trends observed in your logs.]

#### Viralock

Impact: Viralock ransomware affects ram usage by causing system anomalies.

Observed Changes: [Provide specific numbers or trends observed in your logs.]

## 4. Summary of Findings

All ransomware samples tested in this study show significant effects on system performance, particularly on the number of processes, CPU usage, and RAM usage. Folders are also manipulated by most samples, often to store encrypted data or to further propagate the malware.

## 5. Conclusion

This report emphasizes the importance of monitoring system performance metrics, as ransomware that does not encrypt files can still cause significant system resource degradation. The analysis of these malware samples shows that without encryption, such malware still uses system resources in a highly detrimental manner.