Stream Ripper 32 & Frigate

Vulnerability Report

Friday, June 11, 2021

MODIFICATIONS HISTORY

Version	Date	Author	Description
1.0	11/06/2021	Niharika Viswanadhuni	Initial Version

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General Information

Scope

VIT-AP University has mandated us to perform security tests on the following scope:

- Software Security

Organisation

The testing activities were performed between 11/06/2021 and 11/06/2021.

Executive Summary

VULNERABILITIES SUMMARY

Following vulnerabilities have been discovered:

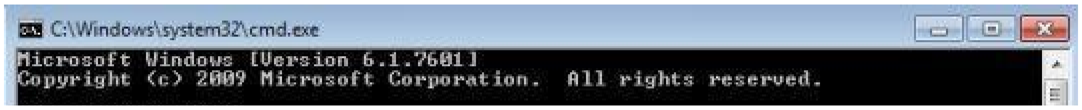
Risk	ID	Vulnerability	Affected Scope
High	IDX-003	Shell Code Injection	
High	IDX-001	Buffer Overflow	
Medium	VULN-002	Denial of Service	

Technical Details

Shell Code Injection

CVSS Severity	**High**		**CVSSv3 Score**	**8.2**
CVSSv3 criterias	Attack Vector :	**Network**	Scope :	**Changed**
	Attack Complexity :	**High**	Confidentiality :	**High**
	Required Privileges :	**None**	Integrity :	**Low**
	User Interaction :	**Required**	Availability :	**High**
Affected scope				
Description	Shell code injection is a hacking technique where the hacker exploits vulnerable programs. The hacker infiltrates the vulnerable programs and makes them execute their own code. The injection is used by an attacker to introduce (or "inject") code into a vulnerable computer program and change the course of execution.This injection can result in data loss or corruption, lack of accountability, or denial of access.			
Observation	We have identified that this Vulnerability can execute different malicious code and can even trigger different applications including Command Prompt.			

Test details



```
C:\Windows\system32\cmd.exe
Microsoft Windows [Version 6.1.7601]
Copyright (c) 2009 Microsoft Corporation.  All rights reserved.
```

Image 1 – sh1.JPG

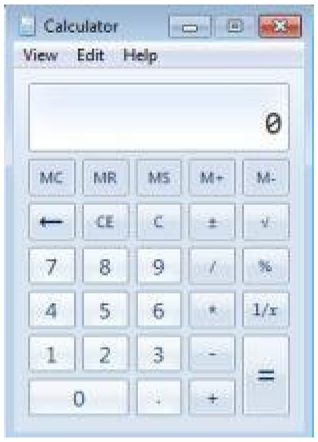
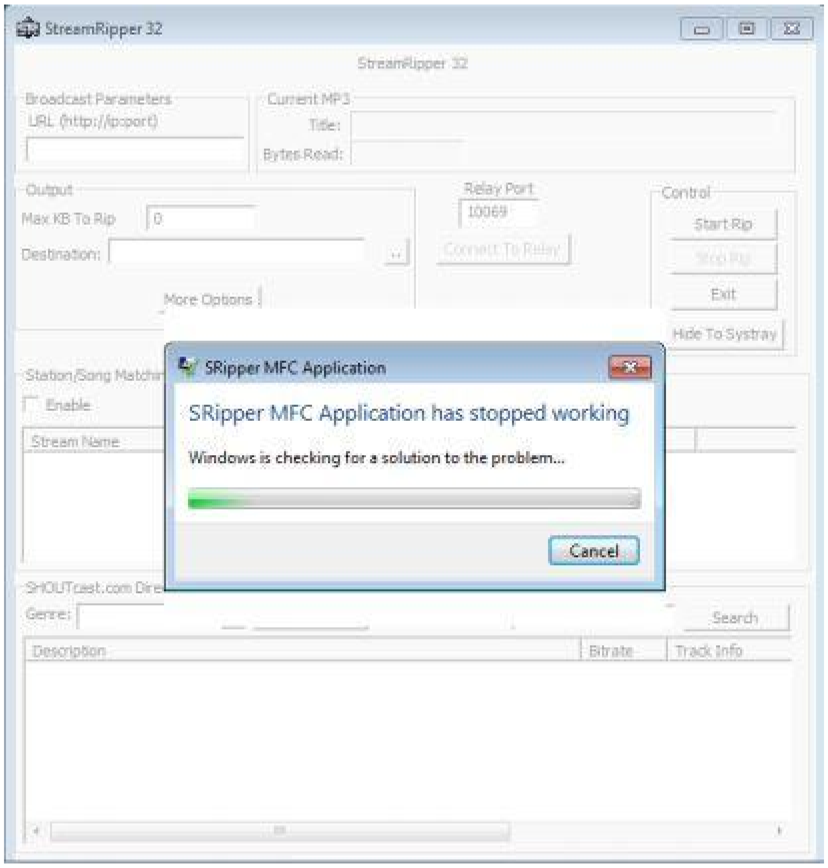


Image 2 – sh2.JPG

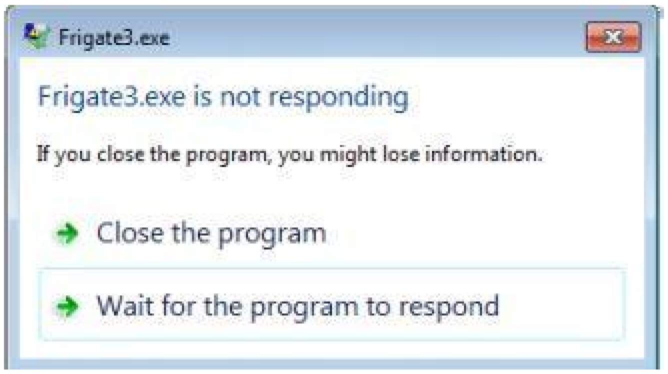
Remediation	1. Addressing Buffer Overflow Vulnerability 2. Input Sanitization 3. Implementing ASLR, DEP, SEH
References	

Buffer Overflow

CVSS Severity	High		CVSSv3 Score	7.6
CVSSv3 criterias	Attack Vector :	**Local**	Scope :	**Changed**
	Attack Complexity :	**High**	Confidentiality :	**High**
	Required Privileges :	**None**	Integrity :	**Low**
	User Interaction :	**Required**	Availability :	**High**
Affected scope				
Description	A buffer overflow, or buffer overrun, is an anomaly where a program, while writing data to a buffer, overruns the buffer's boundary and overwrites adjacent memory locations. It exists when a program attempts to put more data in a buffer than it can hold or when a program attempts to put data in a memory area past a buffer. In this case, a buffer is a sequential section of memory allocated to contain anything from a character string to an array of integers. Writing outside the bounds of a block of allocated memory can corrupt data, crash the program, or cause the execution of malicious code.			
Observation	We have observed that this buffer overflow can potentially crash an application and unknowingly allows command injection attacks.			
Test details	 StreamRipper 32 Broadcast Parameters URL (http://ip:port) Current MP3 Title: Bytes Read: Output Max KB To Rip Destination: More Options Relay Port Connect To Relay Control Start Rip Stop Rip Exit Hide To Systray Station/Song Matching Enable Stream Name SHOUTcast.com Directory Genre: Search Description Bitrate Track Info SRipper MFC Application Cancel Max KB To Rip: 0; Relay Port: 10069 SRipper MFC Application has stopped working Windows is checking for a solution to the problem... Image 3 – doc.JPG			
Remediation	1. Address space randomization (ASLR)			

	2. Data execution prevention (DEP) 3. Structured exception handler overwrite protection (SEHOP)
References	

Denial of Service

CVSS Severity	Medium		CVSSv3 Score	5.5
CVSSv3 criterias	Attack Vector :	**Local**	Scope :	**Unchanged**
	Attack Complexity :	**Low**	Confidentiality :	**None**
	Required Privileges :	**None**	Integrity :	**None**
	User Interaction :	**Required**	Availability :	**High**
Affected scope				
Description	The Denial of Service (DoS) attack is focused on making software unavailable for the purpose it was designed. If a service receives a very large number of requests, it may cease to be available to legitimate users. In the same way, a service may stop if a programming vulnerability is exploited, or the way the service handles resources it uses.			
Observation	We have observed that the software crashes immediately as a result of large string input due to Buffer overflow vulnerability. This could impact the availability of software			
Test details	 Frigate3.exe Frigate3.exe is not responding If you close the program, you might lose information. Close the program Wait for the program to respond Image 4 – buff.JPG			
Remediation	!. Input Sanitization 2. Addressing Buffer Overflow			
References				