MLN Scan Report

Project Name	MLN
Scan Start	Friday, June 21, 2024 11:00:36 PM
Preset	Checkmarx Default
Scan Time	00h:05m:04s
Lines Of Code Scanned	3630
Files Scanned	6
Report Creation Time	Friday, June 21, 2024 11:08:28 PM
Online Results	http://WIN-BA8RD5TJ8IG/CxWebClient/ViewerMain.aspx?scanid=1050064&projectid=50054
Team	CxServer
Checkmarx Version	8.7.0
Scan Type	Full
Source Origin	LocalPath
Density	8/1000 (Vulnerabilities/LOC)
Visibility	Public

Filter Settings

Severity

Included: High, Medium, Low, Information

Excluded: None

Result State

Included: Confirmed, Not Exploitable, To Verify, Urgent, Proposed Not Exploitable

Excluded: None

Assigned to

Included: All

Categories

Included:

Uncategorized	All
Custom	All
PCI DSS v3.2	All
OWASP Top 10 2013	All
FISMA 2014	All
NIST SP 800-53	All
OWASP Top 10 2017	All
OWASP Mobile Top 10 2016	All

Excluded:

Uncategorized	None
Custom	None
PCI DSS v3.2	None
OWASP Top 10 2013	None
FISMA 2014	None

NIST SP 800-53	None
OWASP Top 10 2017	None
OWASP Mobile Top 10 2016	None

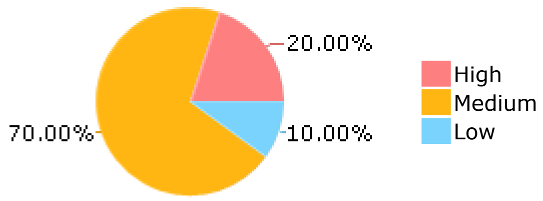
Results Limit

Results limit per query was set to 50

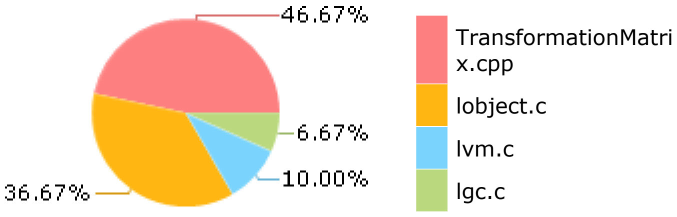
Selected Queries

Selected queries are listed in Result Summary

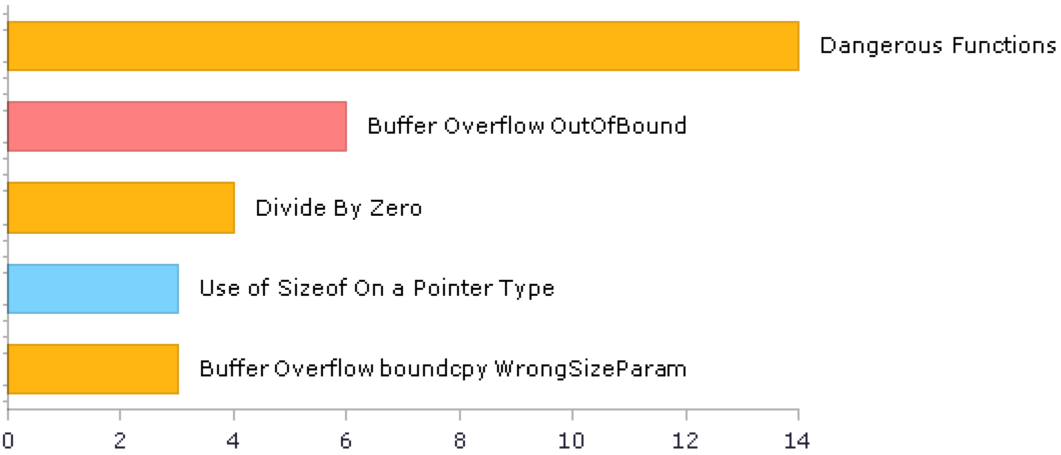
Result Summary



Most Vulnerable Files



Top 5 Vulnerabilities



Scan Summary - OWASP Top 10 2017

Further details and elaboration about vulnerabilities and risks can be found at: OWASP Top 10 2017

Category	Threat Agent	Exploitability	Weakness Prevalence	Weakness Detectability	Technical Impact	Business Impact	Issues Found	Best Fix Locations
A1-Injection	App. Specific	EASY	COMMON	EASY	SEVERE	App. Specific	9	4
A2-Broken Authentication	App. Specific	EASY	COMMON	AVERAGE	SEVERE	App. Specific	0	0
A3-Sensitive Data Exposure	App. Specific	AVERAGE	WIDESPREAD	AVERAGE	SEVERE	App. Specific	0	0
A4-XML External Entities (XXE)	App. Specific	AVERAGE	COMMON	EASY	SEVERE	App. Specific	0	0
A5-Broken Access Control*	App. Specific	AVERAGE	COMMON	AVERAGE	SEVERE	App. Specific	0	0
A6-Security Misconfiguration	App. Specific	EASY	WIDESPREAD	EASY	MODERATE	App. Specific	0	0
A7-Cross-Site Scripting (XSS)	App. Specific	EASY	WIDESPREAD	EASY	MODERATE	App. Specific	0	0
A8-Insecure Deserialization	App. Specific	DIFFICULT	COMMON	AVERAGE	SEVERE	App. Specific	0	0
A9-Using Components with Known Vulnerabilities*	App. Specific	AVERAGE	WIDESPREAD	AVERAGE	MODERATE	App. Specific	14	14
A10-Insufficient Logging & Monitoring	App. Specific	AVERAGE	WIDESPREAD	DIFFICULT	MODERATE	App. Specific	0	0

* Project scan results do not include all relevant queries. Presets and\or Filters should be changed to include all relevant standard queries.

Scan Summary - OWASP Top 10 2013

Further details and elaboration about vulnerabilities and risks can be found at: OWASP Top 10 2013

Category	Threat Agent	Attack Vectors	Weakness Prevalence	Weakness Detectability	Technical Impact	Business Impact	Issues Found	Best Fix Locations
A1-Injection	EXTERNAL, INTERNAL, ADMIN USERS	EASY	COMMON	AVERAGE	SEVERE	ALL DATA	0	0
A2-Broken Authentication and Session Management	EXTERNAL, INTERNAL USERS	AVERAGE	WIDESPREAD	AVERAGE	SEVERE	AFFECTED DATA AND FUNCTIONS	0	0
A3-Cross-Site Scripting (XSS)	EXTERNAL, INTERNAL, ADMIN USERS	AVERAGE	VERY WIDESPREAD	EASY	MODERATE	AFFECTED DATA AND SYSTEM	0	0
A4-Insecure Direct Object References	SYSTEM USERS	EASY	COMMON	EASY	MODERATE	EXPOSED DATA	0	0
A5-Security Misconfiguration	EXTERNAL, INTERNAL, ADMIN USERS	EASY	COMMON	EASY	MODERATE	ALL DATA AND SYSTEM	0	0
A6-Sensitive Data Exposure	EXTERNAL, INTERNAL, ADMIN USERS, USERS BROWSERS	DIFFICULT	UNCOMMON	AVERAGE	SEVERE	EXPOSED DATA	0	0
A7-Missing Function Level Access Control*	EXTERNAL, INTERNAL USERS	EASY	COMMON	AVERAGE	MODERATE	EXPOSED DATA AND FUNCTIONS	0	0
A8-Cross-Site Request Forgery (CSRF)	USERS BROWSERS	AVERAGE	COMMON	EASY	MODERATE	AFFECTED DATA AND FUNCTIONS	0	0
A9-Using Components with Known Vulnerabilities*	EXTERNAL USERS, AUTOMATED TOOLS	AVERAGE	WIDESPREAD	DIFFICULT	MODERATE	AFFECTED DATA AND FUNCTIONS	14	14
A10-Unvalidated Redirects and Forwards	USERS BROWSERS	AVERAGE	WIDESPREAD	DIFFICULT	MODERATE	AFFECTED DATA AND FUNCTIONS	0	0

***** Project scan results do not include all relevant queries. Presets and\or Filters should be changed to include all relevant standard queries.

Scan Summary - PCI DSS v3.2

Category	Issues Found	Best Fix Locations
PCI DSS (3.2) - 6.5.1 - Injection flaws - particularly SQL injection	0	0
PCI DSS (3.2) - 6.5.2 - Buffer overflows	9	4
PCI DSS (3.2) - 6.5.3 - Insecure cryptographic storage	0	0
PCI DSS (3.2) - 6.5.4 - Insecure communications	0	0
PCI DSS (3.2) - 6.5.5 - Improper error handling*	0	0
PCI DSS (3.2) - 6.5.7 - Cross-site scripting (XSS)	0	0
PCI DSS (3.2) - 6.5.8 - Improper access control	0	0
PCI DSS (3.2) - 6.5.9 - Cross-site request forgery	0	0
PCI DSS (3.2) - 6.5.10 - Broken authentication and session management	0	0

* Project scan results do not include all relevant queries. Presets and\or Filters should be changed to include all relevant standard queries.

Scan Summary - FISMA 2014

Category	Description	Issues Found	Best Fix Locations
Access Control	Organizations must limit information system access to authorized users, processes acting on behalf of authorized users, or devices (including other information systems) and to the types of transactions and functions that authorized users are permitted to exercise.	0	0
Audit And Accountability*	Organizations must: (i) create, protect, and retain information system audit records to the extent needed to enable the monitoring, analysis, investigation, and reporting of unlawful, unauthorized, or inappropriate information system activity; and (ii) ensure that the actions of individual information system users can be uniquely traced to those users so they can be held accountable for their actions.	0	0
Configuration Management	Organizations must: (i) establish and maintain baseline configurations and inventories of organizational information systems (including hardware, software, firmware, and documentation) throughout the respective system development life cycles; and (ii) establish and enforce security configuration settings for information technology products employed in organizational information systems.	0	0
Identification And Authentication*	Organizations must identify information system users, processes acting on behalf of users, or devices and authenticate (or verify) the identities of those users, processes, or devices, as a prerequisite to allowing access to organizational information systems.	0	0
Media Protection	Organizations must: (i) protect information system media, both paper and digital; (ii) limit access to information on information system media to authorized users; and (iii) sanitize or destroy information system media before disposal or release for reuse.	0	0
System And Communications Protection	Organizations must: (i) monitor, control, and protect organizational communications (i.e., information transmitted or received by organizational information systems) at the external boundaries and key internal boundaries of the information systems; and (ii) employ architectural designs, software development techniques, and systems engineering principles that promote effective information security within organizational information systems.	0	0
System And Information Integrity	Organizations must: (i) identify, report, and correct information and information system flaws in a timely manner; (ii) provide protection from malicious code at appropriate locations within organizational information systems; and (iii) monitor information system security alerts and advisories and take appropriate actions in response.	0	0

***** Project scan results do not include all relevant queries. Presets and\or Filters should be changed to include all relevant standard queries.

Scan Summary - NIST SP 800-53

Category	Issues Found	Best Fix Locations
AC-12 Session Termination (P2)	0	0
AC-3 Access Enforcement (P1)	0	0
AC-4 Information Flow Enforcement (P1)	0	0
AC-6 Least Privilege (P1)	0	0
AU-9 Protection of Audit Information (P1)	0	0
CM-6 Configuration Settings (P2)	0	0
IA-5 Authenticator Management (P1)	0	0
IA-6 Authenticator Feedback (P2)	0	0
IA-8 Identification and Authentication (Non-Organizational Users) (P1)	0	0
SC-12 Cryptographic Key Establishment and Management (P1)	0	0
SC-13 Cryptographic Protection (P1)	0	0
SC-17 Public Key Infrastructure Certificates (P1)	0	0
SC-18 Mobile Code (P2)	0	0
SC-23 Session Authenticity (P1)*****	0	0
SC-28 Protection of Information at Rest (P1)	0	0
SC-4 Information in Shared Resources (P1)	0	0
SC-5 Denial of Service Protection (P1)*****	0	0
SC-8 Transmission Confidentiality and Integrity (P1)	0	0
SI-10 Information Input Validation (P1)*****	6	1
SI-11 Error Handling (P2)*****	0	0
SI-15 Information Output Filtering (P0)	0	0
SI-16 Memory Protection (P1)	0	0

***** Project scan results do not include all relevant queries. Presets and\or Filters should be changed to include all relevant standard queries.

Scan Summary - OWASP Mobile Top 10 2016

Category	Description	Issues Found	Best Fix Locations
M1-Improper Platform Usage	This category covers misuse of a platform feature or failure to use platform security controls. It might include Android intents, platform permissions, misuse of TouchID, the Keychain, or some other security control that is part of the mobile operating system. There are several ways that mobile apps can experience this risk.	0	0
M2-Insecure Data Storage	This category covers insecure data storage and unintended data leakage.	0	0
M3-Insecure Communication	This category covers poor handshaking, incorrect SSL versions, weak negotiation, cleartext communication of sensitive assets, etc.	0	0
M4-Insecure Authentication	This category captures notions of authenticating the end user or bad session management. This can include: -Failing to identify the user at all when that should be required -Failure to maintain the user's identity when it is required -Weaknesses in session management	0	0
M5-Insufficient Cryptography	The code applies cryptography to a sensitive information asset. However, the cryptography is insufficient in some way. Note that anything and everything related to TLS or SSL goes in M3. Also, if the app fails to use cryptography at all when it should, that probably belongs in M2. This category is for issues where cryptography was attempted, but it wasnt done correctly.	0	0
M6-Insecure Authorization	This is a category to capture any failures in authorization (e.g., authorization decisions in the client side, forced browsing, etc.). It is distinct from authentication issues (e.g., device enrolment, user identification, etc.). If the app does not authenticate users at all in a situation where it should (e.g., granting anonymous access to some resource or service when authenticated and authorized access is required), then that is an authentication failure not an authorization failure.	0	0
M7-Client Code Quality	This category is the catch-all for code-level implementation problems in the mobile client. That's distinct from server-side coding mistakes. This would capture things like buffer overflows, format string vulnerabilities, and various other code-level mistakes where the solution is to rewrite some code that's running on the mobile device.	0	0
M8-Code Tampering	This category covers binary patching, local resource modification, method hooking, method swizzling, and dynamic memory modification. Once the application is delivered to the mobile device, the code and data resources are resident there. An attacker can either directly modify the code, change the contents of memory dynamically, change or replace the system APIs that the application uses, or	0	0

	modify the application's data and resources. This can provide the attacker a direct method of subverting the intended use of the software for personal or monetary gain.		
M9-Reverse Engineering	This category includes analysis of the final core binary to determine its source code, libraries, algorithms, and other assets. Software such as IDA Pro, Hopper, otool, and other binary inspection tools give the attacker insight into the inner workings of the application. This may be used to exploit other nascent vulnerabilities in the application, as well as revealing information about back end servers, cryptographic constants and ciphers, and intellectual property.	0	0
M10-Extraneous Functionality	Often, developers include hidden backdoor functionality or other internal development security controls that are not intended to be released into a production environment. For example, a developer may accidentally include a password as a comment in a hybrid app. Another example includes disabling of 2-factor authentication during testing.	0	0

Scan Summary - Custom

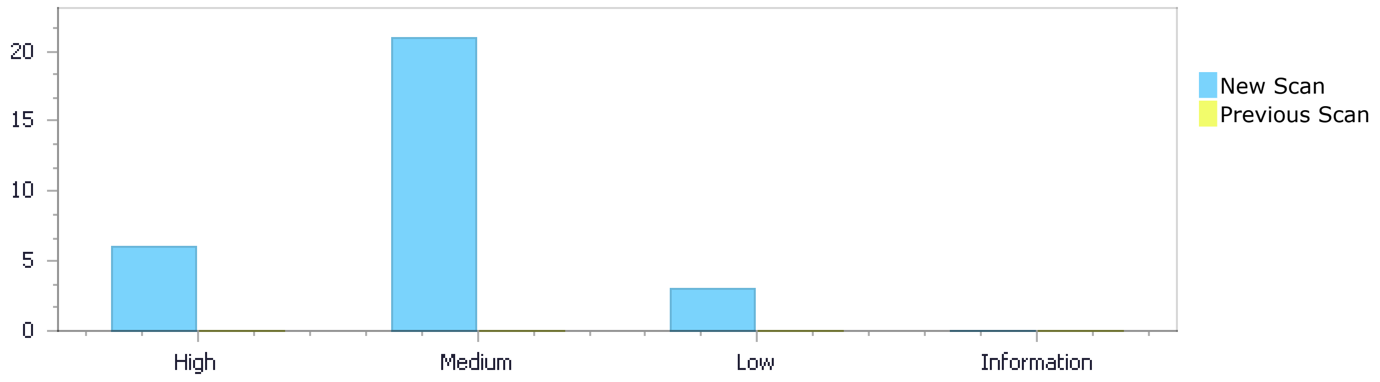
Category	Issues Found	Best Fix Locations
Must audit	0	0
Check	0	0
Optional	0	0

Results Distribution By Status

First scan of the project

	High	Medium	Low	Information	Total
New Issues	6	21	3	0	30
Recurrent Issues	0	0	0	0	0
Total	6	21	3	0	30

Fixed Issues	0	0	0	0	0



Results Distribution By State

	High	Medium	Low	Information	Total
Confirmed	0	0	0	0	0
Not Exploitable	0	0	0	0	0
To Verify	6	21	3	0	30
Urgent	0	0	0	0	0
Proposed Not Exploitable	0	0	0	0	0
Total	6	21	3	0	30

Result Summary

Vulnerability Type	Occurrences	Severity
Buffer Overflow OutOfBound	6	High
Dangerous Functions	14	Medium
Divide By Zero	4	Medium
Buffer Overflow boundcpy WrongSizeParam	3	Medium
Use of Sizeof On a Pointer Type	3	Low

10 Most Vulnerable Files

High and Medium Vulnerabilities

File Name	Issues Found
MLN/TransformationMatrix.cpp	14
MLN/lobject.c	10
MLN/lvm.c	3

Scan Results Details

Buffer Overflow OutOfBound

Query Path:
CPP\Cx\CPP Buffer Overflow\Buffer Overflow OutOfBound Version:1

Categories

PCI DSS v3.2: PCI DSS (3.2) - 6.5.2 - Buffer overflows
NIST SP 800-53: SI-10 Information Input Validation (P1)
OWASP Top 10 2017: A1-Injection

Description

Buffer Overflow OutOfBound\Path 1:

Severity	High
Result State	To Verify
Online Results	http://WIN-BA8RD5TJ8IG/CxWebClient/ViewerMain.aspx?scanid=1050064&projectid=50054&pathid=1
Status	New

The size of the buffer used by decompose in row, at line 296 of MLN/TransformationMatrix.cpp, is not properly verified before writing data to the buffer. This can enable a buffer overflow attack, using the source buffer that decompose passes to row, at line 296 of MLN/TransformationMatrix.cpp, to overwrite the target buffer.

	Source	Destination
File	MLN/TransformationMatrix.cpp	MLN/TransformationMatrix.cpp
Line	363	368
Object	row	row

Code Snippet
File Name MLN/TransformationMatrix.cpp
Method static bool decompose(const TransformationMatrix::Matrix4& mat, TransformationMatrix::DecomposedType& result)

```
....
363.        Vector3 row[3], pdum3;
....
368.          row[i][1] = localMatrix[i][1];
```

Buffer Overflow OutOfBound\Path 2:

Severity	High
Result State	To Verify
Online Results	http://WIN-BA8RD5TJ8IG/CxWebClient/ViewerMain.aspx?scanid=1050064&projectid=50054&pathid=2
Status	New

The size of the buffer used by decompose in row, at line 296 of MLN/TransformationMatrix.cpp, is not properly verified before writing data to the buffer. This can enable a buffer overflow attack, using the source buffer that decompose passes to row, at line 296 of MLN/TransformationMatrix.cpp, to overwrite the target buffer.

	Source	Destination
File	MLN/TransformationMatrix.cpp	MLN/TransformationMatrix.cpp
Line	363	367
Object	row	row

Code Snippet

File Name	MLN/TransformationMatrix.cpp
Method	static bool decompose(const TransformationMatrix::Matrix4& mat, TransformationMatrix::DecomposedType& result)

```
....
363.      Vector3 row[3], pdum3;
....
367.        row[i][0] = localMatrix[i][0];
```

Buffer Overflow OutOfBound\Path 3:

Severity	High
Result State	To Verify
Online Results	http://WIN-BA8RD5TJ8IG/CxWebClient/ViewerMain.aspx?scanid=1050064&projectid=50054&pathid=3
Status	New

The size of the buffer used by decompose in row, at line 296 of MLN/TransformationMatrix.cpp, is not properly verified before writing data to the buffer. This can enable a buffer overflow attack, using the source buffer that decompose passes to row, at line 296 of MLN/TransformationMatrix.cpp, to overwrite the target buffer.

	Source	Destination
File	MLN/TransformationMatrix.cpp	MLN/TransformationMatrix.cpp
Line	363	369
Object	row	row

Code Snippet

File Name	MLN/TransformationMatrix.cpp
Method	static bool decompose(const TransformationMatrix::Matrix4& mat, TransformationMatrix::DecomposedType& result)

```
....
363.      Vector3 row[3], pdum3;
....
369.        row[i][2] = localMatrix[i][2];
```

Buffer Overflow OutOfBound\Path 4:

Severity	High
Result State	To Verify
Online Results	http://WIN-BA8RD5TJ8IG/CxWebClient/ViewerMain.aspx?scanid=1050064&projectid=500

	54&pathid=4
Status	New

The size of the buffer used by decompose in row, at line 296 of MLN/TransformationMatrix.cpp, is not properly verified before writing data to the buffer. This can enable a buffer overflow attack, using the source buffer that decompose passes to row, at line 296 of MLN/TransformationMatrix.cpp, to overwrite the target buffer.

	Source	Destination
File	MLN/TransformationMatrix.cpp	MLN/TransformationMatrix.cpp
Line	363	408
Object	row	row

Code Snippet
File Name MLN/TransformationMatrix.cpp
Method static bool decompose(const TransformationMatrix::Matrix4& mat, TransformationMatrix::DecomposedType& result)

```
....
363.      Vector3 row[3], pdum3;
....
408.          row[i][0] *= -1;
```

Buffer Overflow OutOfBound\Path 5:

Severity	High
Result State	To Verify
Online Results	http://WIN-BA8RD5TJ8IG/CxWebClient/ViewerMain.aspx?scanid=1050064&projectid=50054&pathid=5
Status	New

The size of the buffer used by decompose in row, at line 296 of MLN/TransformationMatrix.cpp, is not properly verified before writing data to the buffer. This can enable a buffer overflow attack, using the source buffer that decompose passes to row, at line 296 of MLN/TransformationMatrix.cpp, to overwrite the target buffer.

	Source	Destination
File	MLN/TransformationMatrix.cpp	MLN/TransformationMatrix.cpp
Line	363	409
Object	row	row

Code Snippet
File Name MLN/TransformationMatrix.cpp
Method static bool decompose(const TransformationMatrix::Matrix4& mat, TransformationMatrix::DecomposedType& result)

```
....
363.      Vector3 row[3], pdum3;
....
409.          row[i][1] *= -1;
```

Buffer Overflow OutOfBound\Path 6:

Severity	High
Result State	To Verify
Online Results	http://WIN-BA8RD5TJ8IG/CxWebClient/ViewerMain.aspx?scanid=1050064&projectid=50054&pathid=6
Status	New

The size of the buffer used by decompose in i, at line 296 of MLN/TransformationMatrix.cpp, is not properly verified before writing data to the buffer. This can enable a buffer overflow attack, using the source buffer that decompose passes to row, at line 296 of MLN/TransformationMatrix.cpp, to overwrite the target buffer.

	Source	Destination
File	MLN/TransformationMatrix.cpp	MLN/TransformationMatrix.cpp
Line	363	410
Object	row	i

Code Snippet
File Name MLN/TransformationMatrix.cpp
Method static bool decompose(const TransformationMatrix::Matrix4& mat, TransformationMatrix::DecomposedType& result)

```
....
363.       Vector3 row[3], pdum3;
....
410.           row[i][2] *= -1;
```

Dangerous Functions

Query Path:
CPP\Cx\CPP Medium Threat\Dangerous Functions Version:1

Categories

OWASP Top 10 2013: A9-Using Components with Known Vulnerabilities
OWASP Top 10 2017: A9-Using Components with Known Vulnerabilities

Description

Dangerous Functions\Path 1:

Severity	Medium
Result State	To Verify
Online Results	http://WIN-BA8RD5TJ8IG/CxWebClient/ViewerMain.aspx?scanid=1050064&projectid=50054&pathid=17
Status	New

The dangerous function, memcpy, was found in use at line 278 in MLN/lvm.c file. Such functions may expose information and allow an attacker to get full control over the host machine.

	Source	Destination
File	MLN/lvm.c	MLN/lvm.c
Line	302	302
Object	memcpy	memcpy

Code Snippet	
File Name	MLN/lvm.c
Method	void luaV_concat (lua_State *L, int total, int last) {

```
....
302.          memcpy(buffer+tl, svalue(top-i), l);
```

Dangerous Functions\Path 2:

Severity	Medium
Result State	To Verify
Online Results	http://WIN-BA8RD5TJ8IG/CxWebClient/ViewerMain.aspx?scanid=1050064&projectid=50054&pathid=18
Status	New

The dangerous function, memcpy, was found in use at line 296 in MLN/TransformationMatrix.cpp file. Such functions may expose information and allow an attacker to get full control over the host machine.

	Source	Destination
File	MLN/TransformationMatrix.cpp	MLN/TransformationMatrix.cpp
Line	299	299
Object	memcpy	memcpy

Code Snippet	
File Name	MLN/TransformationMatrix.cpp
Method	static bool decompose(const TransformationMatrix::Matrix4& mat, TransformationMatrix::DecomposedType& result)

```
....
299.      memcpy(localMatrix, mat,
sizeof(TransformationMatrix::Matrix4));
```

Dangerous Functions\Path 3:

Severity	Medium
Result State	To Verify
Online Results	http://WIN-BA8RD5TJ8IG/CxWebClient/ViewerMain.aspx?scanid=1050064&projectid=50054&pathid=19
Status	New

The dangerous function, memcpy, was found in use at line 296 in MLN/TransformationMatrix.cpp file. Such functions may expose information and allow an attacker to get full control over the host machine.

	Source	Destination
File	MLN/TransformationMatrix.cpp	MLN/TransformationMatrix.cpp
Line	313	313
Object	memcpy	memcpy

Code Snippet
File Name MLN/TransformationMatrix.cpp
Method static bool decompose(const TransformationMatrix::Matrix4& mat, TransformationMatrix::DecomposedType& result)

```
....
313.      memcpy(perspectiveMatrix, localMatrix,
sizeof(TransformationMatrix::Matrix4));
```

Dangerous Functions\Path 4:

Severity	Medium
Result State	To Verify
Online Results	http://WIN-BA8RD5TJ8IG/CxWebClient/ViewerMain.aspx?scanid=1050064&projectid=50054&pathid=20
Status	New

The dangerous function, strcat, was found in use at line 182 in MLN/lobject.c file. Such functions may expose information and allow an attacker to get full control over the host machine.

	Source	Destination
File	MLN/lobject.c	MLN/lobject.c
Line	196	196
Object	strcat	strcat

Code Snippet
File Name MLN/lobject.c
Method void luaO_chunkid (char *out, const char *source, size_t bufflen) {

```
....
196.          strcat(out, "...");
```

Dangerous Functions\Path 5:

Severity	Medium
Result State	To Verify
Online Results	http://WIN-BA8RD5TJ8IG/CxWebClient/ViewerMain.aspx?scanid=1050064&projectid=50054&pathid=21
Status	New

The dangerous function, strcat, was found in use at line 182 in MLN/lobject.c file. Such functions may expose information and allow an attacker to get full control over the host machine.

	Source	Destination
File	MLN/lobject.c	MLN/lobject.c
Line	198	198
Object	strcat	strcat

Code Snippet

File Name	MLN/lobject.c
Method	void luaO_chunkid (char *out, const char *source, size_t bufflen) {

```
....
198.        strcat(out, source);
```

Dangerous Functions\Path 6:

Severity	Medium
Result State	To Verify
Online Results	http://WIN-BA8RD5TJ8IG/CxWebClient/ViewerMain.aspx?scanid=1050064&projectid=50054&pathid=22
Status	New

The dangerous function, strcat, was found in use at line 182 in MLN/lobject.c file. Such functions may expose information and allow an attacker to get full control over the host machine.

	Source	Destination
File	MLN/lobject.c	MLN/lobject.c
Line	207	207
Object	strcat	strcat

Code Snippet

File Name	MLN/lobject.c
Method	void luaO_chunkid (char *out, const char *source, size_t bufflen) {

```
....
207.          strcat(out, "...");
```

Dangerous Functions\Path 7:

Severity	Medium
Result State	To Verify
Online Results	http://WIN-BA8RD5TJ8IG/CxWebClient/ViewerMain.aspx?scanid=1050064&projectid=50054&pathid=23
Status	New

The dangerous function, strcat, was found in use at line 182 in MLN/lobject.c file. Such functions may expose information and allow an attacker to get full control over the host machine.

	Source	Destination
File	MLN/lobject.c	MLN/lobject.c
Line	210	210
Object	strcat	strcat

Code Snippet

File Name	MLN/lobject.c
Method	void luaO_chunkid (char *out, const char *source, size_t bufflen) {

```
....
210.          strcat(out, source);
```

Dangerous Functions\Path 8:

Severity	Medium
Result State	To Verify
Online Results	http://WIN-BA8RD5TJ8IG/CxWebClient/ViewerMain.aspx?scanid=1050064&projectid=50054&pathid=24
Status	New

The dangerous function, strcat, was found in use at line 182 in MLN/lobject.c file. Such functions may expose information and allow an attacker to get full control over the host machine.

	Source	Destination
File	MLN/lobject.c	MLN/lobject.c
Line	211	211
Object	strcat	strcat

Code Snippet
File Name MLN/lobject.c
Method void luaO_chunkid (char *out, const char *source, size_t bufflen) {

```
....
211.         strcat(out, "\"]");
```

Dangerous Functions\Path 9:

Severity	Medium
Result State	To Verify
Online Results	http://WIN-BA8RD5TJ8IG/CxWebClient/ViewerMain.aspx?scanid=1050064&projectid=50054&pathid=25
Status	New

The dangerous function, strcpy, was found in use at line 182 in MLN/lobject.c file. Such functions may expose information and allow an attacker to get full control over the host machine.

	Source	Destination
File	MLN/lobject.c	MLN/lobject.c
Line	193	193
Object	strcpy	strcpy

Code Snippet
File Name MLN/lobject.c
Method void luaO_chunkid (char *out, const char *source, size_t bufflen) {

```
....
193.        strcpy(out, "");
```

Dangerous Functions\Path 10:

Severity	Medium
Result State	To Verify
Online Results	http://WIN-BA8RD5TJ8IG/CxWebClient/ViewerMain.aspx?scanid=1050064&projectid=50054&pathid=26
Status	New

The dangerous function, strcpy, was found in use at line 182 in MLN/lobject.c file. Such functions may expose information and allow an attacker to get full control over the host machine.

	Source	Destination
File	MLN/lobject.c	MLN/lobject.c
Line	204	204
Object	strcpy	strcpy

Code Snippet

File Name	MLN/lobject.c
Method	void luaO_chunkid (char *out, const char *source, size_t bufflen) {

```
....
204.        strcpy(out, "[string \"");
```

Dangerous Functions\Path 11:

Severity	Medium
Result State	To Verify
Online Results	http://WIN-BA8RD5TJ8IG/CxWebClient/ViewerMain.aspx?scanid=1050064&projectid=50054&pathid=27
Status	New

The dangerous function, strlen, was found in use at line 182 in MLN/lobject.c file. Such functions may expose information and allow an attacker to get full control over the host machine.

	Source	Destination
File	MLN/lobject.c	MLN/lobject.c
Line	192	192
Object	strlen	strlen

Code Snippet

File Name	MLN/lobject.c
Method	void luaO_chunkid (char *out, const char *source, size_t bufflen) {

```
....
192.        l = strlen(source);
```

Dangerous Functions\Path 12:

Severity	Medium
Result State	To Verify
Online Results	http://WIN-BA8RD5TJ8IG/CxWebClient/ViewerMain.aspx?scanid=1050064&projectid=50054&pathid=28
Status	New

The dangerous function, strlen, was found in use at line 199 in MLN/lvm.c file. Such functions may expose information and allow an attacker to get full control over the host machine.

	Source	Destination
File	MLN/lvm.c	MLN/lvm.c
Line	208	208
Object	strlen	strlen

Code Snippet

File Name	MLN/lvm.c
Method	static int l_strcmp (const TString *ls, const TString *rs) {

```
....
208.        size_t len = strlen(l);  /* index of first `\0' in both
strings */
```

Dangerous Functions\Path 13:

Severity	Medium
Result State	To Verify
Online Results	http://WIN-BA8RD5TJ8IG/CxWebClient/ViewerMain.aspx?scanid=1050064&projectid=50054&pathid=29
Status	New

The dangerous function, strncat, was found in use at line 182 in MLN/lobject.c file. Such functions may expose information and allow an attacker to get full control over the host machine.

	Source	Destination
File	MLN/lobject.c	MLN/lobject.c
Line	206	206
Object	strncat	strncat

Code Snippet

File Name	MLN/lobject.c
Method	void luaO_chunkid (char *out, const char *source, size_t bufflen) {

```
....
206.            strncat(out, source, len);
```

Dangerous Functions\Path 14:

Severity	Medium
Result State	To Verify
Online Results	http://WIN-BA8RD5TJ8IG/CxWebClient/ViewerMain.aspx?scanid=1050064&projectid=50054&pathid=30
Status	New

The dangerous function, strncpy, was found in use at line 182 in MLN/lobject.c file. Such functions may expose information and allow an attacker to get full control over the host machine.

	Source	Destination
File	MLN/lobject.c	MLN/lobject.c
Line	184	184
Object	strncpy	strncpy

Code Snippet
File Name	MLN/lobject.c
Method	void luaO_chunkid (char *out, const char *source, size_t bufflen) {

```
....
184.        strncpy(out, source+1, bufflen);  /* remove first char */
```

Divide By Zero

Query Path:
CPP\Cx\CPP Medium Threat\Divide By Zero Version:1

Description

Divide By Zero\Path 1:

Severity	Medium
Result State	To Verify
Online Results	http://WIN-BA8RD5TJ8IG/CxWebClient/ViewerMain.aspx?scanid=1050064&projectid=50054&pathid=10
Status	New

The application performs an illegal operation in TransformationMatrix::rotate3d, in MLN/TransformationMatrix.cpp. In line 627, the program attempts to divide by length, which might be evaluate to 0 (zero) at time of division. This value could be a hard-coded zero value, or received from external, untrusted input length in TransformationMatrix::rotate3d of MLN/TransformationMatrix.cpp, at line 627.

	Source	Destination
File	MLN/TransformationMatrix.cpp	MLN/TransformationMatrix.cpp
Line	635	635
Object	length	length

Code Snippet	
File Name	MLN/TransformationMatrix.cpp
Method	TransformationMatrix& TransformationMatrix::rotate3d(double x, double y, double z, double angle)

```
....
635.         x /= length;
```

Divide By Zero\Path 2:

Severity	Medium
Result State	To Verify
Online Results	http://WIN-BA8RD5TJ8IG/CxWebClient/ViewerMain.aspx?scanid=1050064&projectid=50054&pathid=11
Status	New

The application performs an illegal operation in TransformationMatrix::rotate3d, in MLN/TransformationMatrix.cpp. In line 627, the program attempts to divide by length, which might be evaluate to 0 (zero) at time of division. This value could be a hard-coded zero value, or received from external, untrusted input length in TransformationMatrix::rotate3d of MLN/TransformationMatrix.cpp, at line 627.

	Source	Destination
File	MLN/TransformationMatrix.cpp	MLN/TransformationMatrix.cpp
Line	636	636
Object	length	length

Code Snippet	
File Name	MLN/TransformationMatrix.cpp
Method	TransformationMatrix& TransformationMatrix::rotate3d(double x, double y, double z, double angle)

```
....
636.         y /= length;
```

Divide By Zero\Path 3:

Severity	Medium
Result State	To Verify
Online Results	http://WIN-BA8RD5TJ8IG/CxWebClient/ViewerMain.aspx?scanid=1050064&projectid=50054&pathid=12
Status	New

The application performs an illegal operation in TransformationMatrix::rotate3d, in MLN/TransformationMatrix.cpp. In line 627, the program attempts to divide by length, which might be evaluate to 0 (zero) at time of division. This value could be a hard-coded zero value, or received from external, untrusted input length in TransformationMatrix::rotate3d of MLN/TransformationMatrix.cpp, at line 627.

	Source	Destination
File	MLN/TransformationMatrix.cpp	MLN/TransformationMatrix.cpp

Line	637	637
Object	length	length

Code Snippet
File Name MLN/TransformationMatrix.cpp
Method TransformationMatrix& TransformationMatrix::rotate3d(double x, double y, double z, double angle)

```
....
637.            z /= length;
```

Divide By Zero\Path 4:

Severity	Medium
Result State	To Verify
Online Results	http://WIN-BA8RD5TJ8IG/CxWebClient/ViewerMain.aspx?scanid=1050064&projectid=50054&pathid=13
Status	New

The application performs an illegal operation in v3Scale, in MLN/TransformationMatrix.cpp. In line 263, the program attempts to divide by len, which might be evaluate to 0 (zero) at time of division. This value could be a hard-coded zero value, or received from external, untrusted input len in v3Scale of MLN/TransformationMatrix.cpp, at line 263.

	Source	Destination
File	MLN/TransformationMatrix.cpp	MLN/TransformationMatrix.cpp
Line	267	267
Object	len	len

Code Snippet
File Name MLN/TransformationMatrix.cpp
Method static void v3Scale(Vector3 v, double desiredLength)

```
....
267.            double l = desiredLength / len;
```

Buffer Overflow boundcpy WrongSizeParam

Query Path:
CPP\Cx\CPP Buffer Overflow\Buffer Overflow boundcpy WrongSizeParam Version:1

Categories

PCI DSS v3.2: PCI DSS (3.2) - 6.5.2 - Buffer overflows
OWASP Top 10 2017: A1-Injection

Description

Buffer Overflow boundcpy WrongSizeParam\Path 1:

Severity	Medium
Result State	To Verify
Online Results	http://WIN-BA8RD5TJ8IG/CxWebClient/ViewerMain.aspx?scanid=1050064&projectid=500

	54&pathid=14
Status	New

The size of the buffer used by decompose in ::, at line 296 of MLN/TransformationMatrix.cpp, is not properly verified before writing data to the buffer. This can enable a buffer overflow attack, using the source buffer that decompose passes to ::, at line 296 of MLN/TransformationMatrix.cpp, to overwrite the target buffer.

	Source	Destination
File	MLN/TransformationMatrix.cpp	MLN/TransformationMatrix.cpp
Line	299	299
Object	::	::

Code Snippet

File Name	MLN/TransformationMatrix.cpp
Method	static bool decompose(const TransformationMatrix::Matrix4& mat, TransformationMatrix::DecomposedType& result)

```
....
299.        memcpy(localMatrix, mat,
sizeof(TransformationMatrix::Matrix4));
```

Buffer Overflow boundcpy WrongSizeParam\Path 2:

Severity	Medium
Result State	To Verify
Online Results	http://WIN-BA8RD5TJ8IG/CxWebClient/ViewerMain.aspx?scanid=1050064&projectid=50054&pathid=15
Status	New

The size of the buffer used by decompose in ::, at line 296 of MLN/TransformationMatrix.cpp, is not properly verified before writing data to the buffer. This can enable a buffer overflow attack, using the source buffer that decompose passes to ::, at line 296 of MLN/TransformationMatrix.cpp, to overwrite the target buffer.

	Source	Destination
File	MLN/TransformationMatrix.cpp	MLN/TransformationMatrix.cpp
Line	313	313
Object	::	::

Code Snippet

File Name	MLN/TransformationMatrix.cpp
Method	static bool decompose(const TransformationMatrix::Matrix4& mat, TransformationMatrix::DecomposedType& result)

```
....
313.        memcpy(perspectiveMatrix, localMatrix,
sizeof(TransformationMatrix::Matrix4));
```

Buffer Overflow boundcpy WrongSizeParam\Path 3:

Severity	Medium
Result State	To Verify
Online Results	http://WIN-

	BA8RD5TJ8IG/CxWebClient/ViewerMain.aspx?scanid=1050064&projectid=50054&pathid=16
Status	New

The size of the buffer used by luaV_concat in l, at line 278 of MLN/lvm.c, is not properly verified before writing data to the buffer. This can enable a buffer overflow attack, using the source buffer that luaV_concat passes to l, at line 278 of MLN/lvm.c, to overwrite the target buffer.

	Source	Destination
File	MLN/lvm.c	MLN/lvm.c
Line	302	302
Object	l	l

Code Snippet
File Name MLN/lvm.c
Method void luaV_concat (lua_State *L, int total, int last) {

```
....
302.          memcpy(buffer+tl, svalue(top-i), l);
```

Use of Sizeof On a Pointer Type

Query Path:
CPP\Cx\CPP Low Visibility\Use of Sizeof On a Pointer Type Version:1

Description

Use of Sizeof On a Pointer Type\Path 1:

Severity	Low
Result State	To Verify
Online Results	http://WIN-BA8RD5TJ8IG/CxWebClient/ViewerMain.aspx?scanid=1050064&projectid=50054&pathid=7
Status	New

	Source	Destination
File	MLN/lgc.c	MLN/lgc.c
Line	312	312
Object	sizeof	sizeof

Code Snippet
File Name MLN/lgc.c
Method static l_mem propagatemark (global_State *g) {

```
....
312.                            sizeof(Proto *) * p->sizep +
```

Use of Sizeof On a Pointer Type\Path 2:

Severity	Low
Result State	To Verify
Online Results	http://WIN-BA8RD5TJ8IG/CxWebClient/ViewerMain.aspx?scanid=1050064&projectid=50054&pathid=8

Status	New

	Source	Destination
File	MLN/lgc.c	MLN/lgc.c
Line	316	316
Object	sizeof	sizeof

Code Snippet
File Name MLN/lgc.c
Method static l_mem propagatemark (global_State *g) {

```
....
316.                                sizeof(TString *) * p->sizeupvalues;
```

Use of Sizeof On a Pointer Type\Path 3:

Severity	Low
Result State	To Verify
Online Results	http://WIN-BA8RD5TJ8IG/CxWebClient/ViewerMain.aspx?scanid=1050064&projectid=50054&pathid=9
Status	New

	Source	Destination
File	MLN/lobject.c	MLN/lobject.c
Line	144	144
Object	sizeof	sizeof

Code Snippet
File Name MLN/lobject.c
Method const char *luaO_pushvfstring (lua_State *L, const char *fmt, va_list argp) {

```
....
144.          char buff[4*sizeof(void *) + 8]; /* should be enough space
for a `%p' */
```

Buffer Overflow OutOfBound

Risk

What might happen

Buffer overflow attacks, in their various forms, could allow an attacker to control certain areas of memory. Typically, this is used to overwrite data on the stack necessary for the program to function properly, such as code and memory addresses, though other forms of this attack exist. Exploiting this vulnerability can generally lead to system crashes, infinite loops, or even execution of arbitrary code.

Cause

How does it happen

Buffer Overflows can manifest in numerous different variations. In it's most basic form, the attack controls a buffer, which is then copied to a smaller buffer without size verification. Because the attacker's source buffer is larger than the program's target buffer, the attacker's data overwrites whatever is next on the stack, allowing the attacker to control program structures.
Alternatively, the vulnerability could be the result of improper bounds checking; exposing internal memory addresses outside of their valid scope; allowing the attacker to control the size of the target buffer; or various other forms.

General Recommendations

How to avoid it

- Always perform proper bounds checking before copying buffers or strings.
- Prefer to use safer functions and structures, e.g. safe string classes over `char*`, `strncpy` over `strcpy`, and so on.
- Consistently apply tests for the size of buffers.
- Do not return variable addresses outside the scope of their variables.

Source Code Examples

CPP

Overflowing Buffers

```
const int BUFFER_SIZE = 10;
char buffer[BUFFER_SIZE];

void copyStringToBuffer(char* inputString)
{
    strcpy(buffer, inputString);
}
```

Checked Buffers

```
const int BUFFER_SIZE = 10;
const int MAX_INPUT_SIZE = 256;
char buffer[BUFFER_SIZE];

void copyStringToBuffer(char* inputString)
{
    if (strnlen(inputString, MAX_INPUT_SIZE) < sizeof(buffer))
    {
        strncpy(buffer, inputString, sizeof(buffer));
    }
}
```

Divide By Zero

Risk

What might happen

When a program divides a number by zero, an exception will be raised. If this exception is not handled by the application, unexpected results may occur, including crashing the application. This can be considered a DoS (Denial of Service) attack, if an external user has control of the value of the denominator or can cause this error to occur.

Cause

How does it happen

The program receives an unexpected value, and uses it for division without filtering, validation, or verifying that the value is not zero. The application does not explicitly handle this error or prevent division by zero from occuring.

General Recommendations

How to avoid it

- Before dividing by an unknown value, validate the number and explicitly ensure it does not evaluate to zero.
- Validate all untrusted input from all sources, in particular verifying that it is not zero before dividing with it.
- Verify output of methods, calculations, dictionary lookups, and so on, and ensure it is not zero before dividing with the result.
- Ensure divide-by-zero errors are caught and handled appropriately.

Source Code Examples

Java

Divide by Zero

```
public float getAverage(HttpServletRequest req) {
      int total = Integer.parseInt(req.getParameter("total"));
      int count = Integer.parseInt(req.getParameter("count"));

      return total / count;
}
```

Checked Division

```
public float getAverage(HttpServletRequest req) {
      int total = Integer.parseInt(req.getParameter("total"));
      int count = Integer.parseInt(req.getParameter("count"));
      if (count > 0)
              return total / count;
      else
              return 0;
}
```

Buffer Overflow boundcpy WrongSizeParam

Risk

What might happen

Buffer overflow attacks, in their various forms, could allow an attacker to control certain areas of memory. Typically, this is used to overwrite data on the stack necessary for the program to function properly, such as code and memory addresses, though other forms of this attack exist. Exploiting this vulnerability can generally lead to system crashes, infinite loops, or even execution of arbitrary code.

Cause

How does it happen

Buffer Overflows can manifest in numerous different variations. In it's most basic form, the attack controls a buffer, which is then copied to a smaller buffer without size verification. Because the attacker's source buffer is larger than the program's target buffer, the attacker's data overwrites whatever is next on the stack, allowing the attacker to control program structures.
Alternatively, the vulnerability could be the result of improper bounds checking; exposing internal memory addresses outside of their valid scope; allowing the attacker to control the size of the target buffer; or various other forms.

General Recommendations

How to avoid it

- Always perform proper bounds checking before copying buffers or strings.
- Prefer to use safer functions and structures, e.g. safe string classes over `char*`, `strncpy` over `strcpy`, and so on.
- Consistently apply tests for the size of buffers.
- Do not return variable addresses outside the scope of their variables.

Source Code Examples

Dangerous Functions

Risk

What might happen

Use of dangerous functions may expose varying risks associated with each particular function, with potential impact of improper usage of these functions varying significantly. The presence of such functions indicates a flaw in code maintenance policies and adherence to secure coding practices, in a way that has allowed introducing known dangerous code into the application.

Cause

How does it happen

A dangerous function has been identified within the code. Functions are often deemed dangerous to use for numerous reasons, as there are different sets of vulnerabilities associated with usage of such functions. For example, some string copy and concatenation functions are vulnerable to Buffer Overflow, Memory Disclosure, Denial of Service and more. Use of these functions is not recommended.

General Recommendations

How to avoid it

- Deploy a secure and recommended alternative to any functions that were identified as dangerous.
    - If no secure alternative is found, conduct further researching and testing to identify whether current usage successfully sanitizes and verifies values, and thus successfully avoids the use-cases for whom the function is indeed dangerous
- Conduct a periodical review of methods that are in use, to ensure that all external libraries and built-in functions are up-to-date and whose use has not been excluded from best secure coding practices.

Source Code Examples

CPP

Buffer Overflow in gets()

```
int main()
{
       char buf[10];

       printf("Please enter your name: ");
       gets(buf); // veryveryverylongname
       if (buf == ACCEPTED_NAME)
       {
              // Do something
       }
       return 0;
}
```

Safe reading from user

```
int main()
{
        char buf[10];

        printf("Please enter your name: ");
        fgets(buf, sizeof(buf), stdin); //setting the amount of bytes to read
        if (buf == ACCEPTED_NAME)
        {
                //Do something
        }
        return 0;
}
```

Unsafe function for string copy

```
int main(int argc, char* argv[])
{
        char buf[10];
        strcpy(buf, argv[1]); // overflow occurs when len(argv[1]) > 10 bytes

        return 0;
}
```

Safe string copy

```
int main(int argc, char* argv[])
{
        char buf[10];
        strncpy(buf, argv[1], sizeof(buf));
        buf[9]= '\0'; //strncpy doesn't NULL terminates

        return 0;
}
```

Unsafe format string

```
int main(int argc, char* argv[])
{
        printf(argv[1]); // If argv[1] contains a format token, such as %s,%x or %d, will cause
an access violation
        return 0;
}
```

Safe format string

```
int main(int argc, char* argv[])
{
      printf("%s", argv[1]); // Second parameter is not a formattable string

      return 0;
}
```

Use of sizeof() on a Pointer Type

Weakness ID: 467 *(Weakness Variant)* **Status:** Draft

Description

Description Summary

The code calls sizeof() on a malloced pointer type, which always returns the wordsize/8. This can produce an unexpected result if the programmer intended to determine how much memory has been allocated.

Time of Introduction

- Implementation

Applicable Platforms

Languages

C

C++

Common Consequences

Scope	Effect
Integrity	This error can often cause one to allocate a buffer that is much smaller than what is needed, leading to resultant weaknesses such as buffer overflows.

Likelihood of Exploit

High

Demonstrative Examples

Example 1

Care should be taken to ensure sizeof returns the size of the data structure itself, and not the size of the pointer to the data structure.

In this example, sizeof(foo) returns the size of the pointer.

(Bad Code)

Example Languages: **C and C++**

```
double *foo;
...
foo = (double *)malloc(sizeof(foo));
```

In this example, sizeof(*foo) returns the size of the data structure and not the size of the pointer.

(Good Code)

Example Languages: **C and C++**

```
double *foo;
...
foo = (double *)malloc(sizeof(*foo));
```

Example 2

This example defines a fixed username and password. The AuthenticateUser() function is intended to accept a username and a password from an untrusted user, and check to ensure that it matches the username and password. If the username and password match, AuthenticateUser() is intended to indicate that authentication succeeded.

(Bad Code)

```
/* Ignore CWE-259 (hard-coded password) and CWE-309 (use of password system for authentication) for this example. */

char *username = "admin";
char *pass = "password";

int AuthenticateUser(char *inUser, char *inPass) {
```

```
printf("Sizeof username = %d\n", sizeof(username));
printf("Sizeof pass = %d\n", sizeof(pass));

if (strncmp(username, inUser, sizeof(username))) {
printf("Auth failure of username using sizeof\n");
return(AUTH_FAIL);
}
/* Because of CWE-467, the sizeof returns 4 on many platforms and architectures. */
if (! strncmp(pass, inPass, sizeof(pass))) {
printf("Auth success of password using sizeof\n");
return(AUTH_SUCCESS);
}
else {
printf("Auth fail of password using sizeof\n");
return(AUTH_FAIL);
}
}

int main (int argc, char **argv)
{
int authResult;

if (argc < 3) {
ExitError("Usage: Provide a username and password");
}
authResult = AuthenticateUser(argv[1], argv[2]);
if (authResult != AUTH_SUCCESS) {
ExitError("Authentication failed");
}
else {
DoAuthenticatedTask(argv[1]);
}
}
```

In AuthenticateUser(), because sizeof() is applied to a parameter with an array type, the sizeof() call might return 4 on many modern architectures. As a result, the strncmp() call only checks the first four characters of the input password, resulting in a partial comparison (CWE-187), leading to improper authentication (CWE-287).

Because of the partial comparison, any of these passwords would still cause authentication to succeed for the "admin" user:

(Attack)

```
pass5
passABCDEFGH
passWORD
```

Because only 4 characters are checked, this significantly reduces the search space for an attacker, making brute force attacks more feasible.

The same problem also applies to the username, so values such as "adminXYZ" and "administrator" will succeed for the username.

Potential Mitigations

Phase: Implementation

Use expressions such as "sizeof(*pointer)" instead of "sizeof(pointer)", unless you intend to run sizeof() on a pointer type to gain some platform independence or if you are allocating a variable on the stack.

Other Notes

The use of sizeof() on a pointer can sometimes generate useful information. An obvious case is to find out the wordsize on a platform. More often than not, the appearance of sizeof(pointer) indicates a bug.

Weakness Ordinalities

Ordinality	Description
Primary	*(where the weakness exists independent of other weaknesses)*

Relationships

Nature	Type	ID	Name	View(s) this relationship pertains to
ChildOf	Category	465	Pointer Issues	**Development Concepts (primary)699**
ChildOf	Weakness Class	682	Incorrect Calculation	**Research Concepts (primary)1000**
ChildOf	Category	737	CERT C Secure Coding Section 03 - Expressions (EXP)	**Weaknesses Addressed by the CERT C Secure Coding Standard (primary)734**
ChildOf	Category	740	CERT C Secure Coding Section 06 - Arrays (ARR)	Weaknesses Addressed by the CERT C Secure Coding Standard734
CanPrecede	Weakness Base	131	Incorrect Calculation of Buffer Size	Research Concepts1000

Taxonomy Mappings

Mapped Taxonomy Name	Node ID	Fit	Mapped Node Name
CLASP			Use of sizeof() on a pointer type
CERT C Secure Coding	ARR01-C		Do not apply the sizeof operator to a pointer when taking the size of an array
CERT C Secure Coding	EXP01-C		Do not take the size of a pointer to determine the size of the pointed-to type

White Box Definitions

A weakness where code path has:

1. end statement that passes an identity of a dynamically allocated memory resource to a sizeof operator
2. start statement that allocates the dynamically allocated memory resource

References

Robert Seacord. "EXP01-A. Do not take the sizeof a pointer to determine the size of a type". <https://www.securecoding.cert.org/confluence/display/seccode/EXP01-A.+Do+not+take+the+sizeof+a+pointer+to+determine+the+size+of+a+type>.

Content History

Submissions

Submission Date	Submitter	Organization	Source
	CLASP		Externally Mined

Modifications

Modification Date	Modifier	Organization	Source
2008-07-01	Eric Dalci	Cigital	External
	updated Time of Introduction		
2008-08-01		KDM Analytics	External
	added/updated white box definitions		
2008-09-08	CWE Content Team	MITRE	Internal
	updated Applicable Platforms, Common Consequences, Relationships, Other Notes, Taxonomy Mappings, Weakness Ordinalities		
2008-11-24	CWE Content Team	MITRE	Internal
	updated Relationships, Taxonomy Mappings		
2009-03-10	CWE Content Team	MITRE	Internal
	updated Demonstrative Examples		
2009-12-28	CWE Content Team	MITRE	Internal
	updated Demonstrative Examples		
2010-02-16	CWE Content Team	MITRE	Internal
	updated Relationships		

BACK TO TOP

Scanned Languages

Language	Hash Number	Change Date
CPP	4541647240435660	6/19/2024
Common	0105849645654507	6/19/2024