**System Test Report**

(TINF18C, SWE I, II Psraxisprojekt 2019/2020)

Projekt: AMLEngine-DLL Interfaces

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| 0.1 | 27.04.2020 | Joshua, Kevin, Krister, Lucas, Markus | Dokument erstellt |
| 0.2 | 01.05.2020 | Joshua, Kevin, Krister, Lucas, Markus | Testdaten hinzugefügt |
| 1.0 | 06.05.2020 | Kevin | Kleine Anpassungen vor Veröffentlichung |
| 1.1 | 11.05.2020 | Markus | Final review |

[1. Scope 3](#_Toc40126209)

[2. Definitions 3](#_Toc40126210)

[3. Product names and attributes 3](#_Toc40126211)

[4. Test Equipment 3](#_Toc40126212)

[5. Appendix: Test Cases 4](#_Toc40126213)

[5.1. Testsuite <TS-001 C++ Wrapper> 4](#_Toc40126214)

[5.1.1. <TC-001-001> (Follow Wrapper instructions) 4](#_Toc40126215)

[5.2. Testsuite <TS-002 JS Wrapper> 5](#_Toc40126216)

[5.2.1. <TC-002-001> Wrapper import 5](#_Toc40126217)

[5.2.2. <TC-002-002> Valid call and invalid call handling 6](#_Toc40126218)

[5.2.3. <TC-002-003> Supported functions 8](#_Toc40126219)

[5.3. Testsuite <TS-003 Console Application> 9](#_Toc40126220)

[5.3.1. <TC-003-001> UI-Test 9](#_Toc40126221)

[5.3.2. <TC-003-002> Validation Test 11](#_Toc40126222)

[5.3.3. <TC-003-003> (De-)Compression Test 12](#_Toc40126223)

[5.3.4. <TC-003-004> Import Test 14](#_Toc40126224)

# Scope

The STR (System Test Report) is a document derived from the STP (System Test Plan). It references the tests specified in the STP and documents the results of testing.

# Definitions

AML AutomationML

AMLX AutomationMLContainer

CLI Command User Interface

DLL Dynamic Linked Library

TC Testcases

TS Testsuite

# Product names and attributes

The following test objects must be verified:

|  |  |  |  |
| --- | --- | --- | --- |
| Ref.-Id. | Product Number | Product Name | Product Description |
| 1 | Version 1.0 | C++ Wrapper | Compiler settings to allow the usage of the AMLEngine.dll in a C++ project |
| 2 | Build 1.0 | Console Application | CLI for Validating and (De-)Compressing of AML Files |
| 3 | 1.0.5 | Javascript Wrapper | Wrapper for AmlEngine.dll in Node JS |

# Test Equipment

The needed test equipment for all the tests are specified in the testing setup in the STP.

# Appendix: Test Cases

## Testsuite <TS-001 C++ Wrapper>

### <TC-001-001> (Follow Wrapper instructions)

|  |  |  |  |
| --- | --- | --- | --- |
| Testcase ID: | TC-001-001 | | |
| Testcase Name: | C++ Wrapper | | |
| Req.-ID: | UC.001, /LF10/C++ Functions, /LF20/C++ usability | | |
| Description: | This test case verifies that the C++ wrapper instructions are understandable and lead to a correct executable, which uses the AMLEngine.DLL. | | |
| Test Steps | | | |
| Step | Action | Expected Result | Actual Result |
| 1 | Install Visual Studio Community or Enterprise Microsoft. | The editor can be started. | Editor could be opened. |
| 2 | Download the wrapper instructions from the official github repository of this project or open it in the browser | The wrapper documentation can be opened to read. | The wrapper could be opened. |
| 3 | Follow the wrapper instructions | A code example using the AMLEngine.dll is ready to compile. | The code example could be created |
| 4 | Compile the code with help of the wrapper instructions. | An executable is built by the compiler tools. | The Code example was successfully compiled. |
| 5 | Run the executable. | The executable runs. | The executable was successfully started and ran. |
|  | | | |
| Tester: | Krister, Kevin, Markus | | |
| Date: | 01.05.2020 | | |
| Testcase Result: | PASS | | |
|  | | | |

## Testsuite <TS-002 JS Wrapper>

### <TC-002-001> Wrapper import

|  |  |  |  |
| --- | --- | --- | --- |
| Testcase ID: | TC-002-001 | | |
| Testcase Name: | Wrapper import | | |
| Req.-ID: | UC.002, LF30, LF40 | | |
| Description: | Validates that the wrapper package can be downloaded and imported into a node project. | | |
| Test Steps | | | |
| Step | Action | Expected Result | Actual Result |
| 1 | Make sure to have all the required software installed. (See 7.3) | n/a | All the required software was installed |
| 2 | Run the command “*npm i amlenginewrapper --save*” | Success message is displayed and the package is added to the package.json file | The success message was displayed and the amlenginewrapper package was added |
| 3 | Invoke the interactive node terminal using the command “*node*” | The console displays the message “Welcome to Node.js” | The message “Welcome to Node.js” was displayed |
| 4 | Write the command “*wrapper=require('amlenginewrapper');*” | The package is imported without any error messages | The package was successfully imported |
|  | | | |
| Tester: | Joshua | | |
| Date: | 01.05.2020 | | |
| Testcase Result: | PASS | | |
|  | | | |

### <TC-002-002> Valid call and invalid call handling

|  |  |  |  |
| --- | --- | --- | --- |
| Testcase ID: | TC-002-002 | | |
| Testcase Name: | Valid call and invalid call handling | | |
| Req.-ID: | UC.002, LF30, LF40 | | |
| Description: | Validates that the wrapper package can access all supported functions inside the Adapter. Validates that the wrapper package can also handle invalid function calls. | | |
| Test Steps | | | |
| Step | Action | Expected Result | Actual Result |
| 1 | Make sure to have all the required software installed. (See 7.3) | n/a | All the required software was installed. |
| 2 | Run the command “*npm i amlenginewrapper --save*” | Success message is displayed and the package is added to the package.json file | Success message was displayed and the package was correctly added. |
| 3 | Invoke the interactive node terminal using the command “*node*” | The console displays the message “Welcome to Node.js” | Message was displayed as expected. |
| 4 | Write the command “*wrapper=require('amlenginewrapper');*” | The package is imported without any error messages | The package import went as expected without any error messages. |
| 5 | Enter the test data specified in the System Test Plan. | The output matches the expected result. | The test data calls worked as expected. |
|  | | | |
| Tester: | Joshua | | |
| Date: | 01.05.2020 | | |
| Testcase Result: | PASS | | |
|  | | | |

### <TC-002-003> Supported functions

|  |  |  |  |
| --- | --- | --- | --- |
| Testcase ID: | TC-002-003 | | |
| Testcase Name: | Supported functions | | |
| Req.-ID: | UC.002, LF30, LF40 | | |
| Description: | Validates that all supported functions can be called using their quick access option | | |
| Test Steps | | | |
| Step | Action | Expected Result | Actual Result |
| 1 | Make sure to have all the required software installed. (See 7.3) | n/a | All the required software was installed |
| 2 | Run the command “*npm install AMLEngineDLLWrapper --save*” | Success message is displayed and the package is added to the package.json file | The success message was displayed and the amlenginewrapper package was added |
| 3 | Invoke the interactive node terminal using the command “*node*” | The console displays the message “Welcome to Node.js” | The message “Welcome to Node.js” was displayed |
| 4 | Write the command “*wrapper=require('amlenginewrapper');*” | The package is imported without any error messages | The package was successfully imported |
| 5 | Enter the test data specified below using the following syntax:  wrapper.<function>(<parameters>); | The output matches the expected result. | The test data was entered and the results matched the expected results |
|  | | | |
| Tester: | Joshua | | |
| Date: | 01.05.2020 | | |
| Testcase Result: | PASS | | |
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## Testsuite <TS-003 Console Application>

### <TC-003-001> UI-Test

|  |  |  |  |
| --- | --- | --- | --- |
| Testcase ID: | TC-003-001 | | |
| Testcase Name: | UI-Test | | |
| Req.-ID: | (Usability) | | |
| Description: | This Test Case verifies the Usability of the Console-Application | | |
| Test Steps | | | |
| Step | Action | Expected Result | Actual Result |
| 1 | Download and start the Console Application in Windows 10 | A Console Application should start and the Main Menu should appear | The Console Application starts and the Main Menu appears. |
| 2 | Check if the Main Menu is written correctly and that the UI is user friendly and understandable. | It should be user friendly, understandable and correct. | The Main Menu is user friendly, understandable and has no writing errors. |
| 3 | Check if the Options Menu is written correctly and that the UI is user friendly and understandable. | It should be user friendly, understandable and correct. | The Options Menu is user friendly, understandable and has no writing errors. |
| 4 | Check if the Validation Menu is written correctly and that the UI is user friendly and understandable. For this a File from Example Files should be verified. | It should be user friendly, understandable and correct. | The Validation Menu is user friendly, understandable and has no writing errors. |
| 5 | Check if the DeCompress Menu is written correctly and that the UI is user friendly and understandable. For this a AMLX File from Example Files should be used. | It should be user friendly, understandable and correct. | The Decompress Menu is user friendly, understandable and has no writing errors. |
| 6 | Check if the Compress Menu is written correctly and that the UI is user friendly and understandable. For this the Files from Step 5 should be Compressed. | It should be user friendly, understandable and correct. | The Compress Menu is user friendly, understandable and has no writing errors. |
|  | | | |
| Tester: | Markus | | |
| Date: | 01.05.2020 | | |
| Testcase Result: | PASS | | |
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### <TC-003-002> Validation Test

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| --- | --- | --- | --- |
| Testcase ID: | TC-003-002 | | |
| Testcase Name: | Validation Test | | |
| Req.-ID: | LF70 | | |
| Description: | This Test verifies the Validation Functionality of the Console Application | | |
| Test Steps | | | |
| Step | Action | Expected Result | Actual Result |
| 1 | From the start menu go to the “options” interface. There select the following parameters:   1. “AutoRepair” 2. “PrintAllVal”   For best test coverage, try steps 2 and 3 with all 4 combinations. This means use the following settings:   * 1– false, 2– false * 1– true, 2– false * 1– false, 2– true * 1– true, 2- true | The output from step 2 and 3 should be adjusted accordingly to the settings made in the options menu. | n/a |
| 2 | Validate a correct File using the Validation Menu. | It should validate correctly. | The File has been correctly validated |
| 3 | Validate an incorrect File using the Validation Menu. Try both Options, if possible, of Repair the Error and Override the old File. (Depending on the set Option from the Menu) | It should show an error and the option to Repair it. (Depending on the set Options from the Menu) | An Error appears and the Option to repair it. |
|  | | | |
| Tester: | Markus | | |
| Date: | 01.05.2020 | | |
| Testcase Result: | PASS | | |
|  | | | |

### <TC-003-003> (De-)Compression Test

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| --- | --- | --- | --- |
| Testcase ID: | TC-003-003 | | |
| Testcase Name: | (De-)Compression Test | | |
| Req.-ID: | LF60 | | |
| Description: | This Test verifies the Compress and Decompress Functionality of the Console Application. | | |
| Test Steps | | | |
| Step | Action | Expected Result | Actual Result |
| 1 | Go to the Decompress Menu and Decompress an AMLX File (you can use the File in Example Files but you don't have to). | The File should be Decompressed successfully. | The File was correctly decompressed. |
| 2 | Go to the Compress Menu and Compress one File. (You can use the Files from the DeCompression if you want to, but you don't have to) | The File should be Compressed successfully. | The File was correctly compressed. |
| 3 | Go to the Compress Menu and Compress two or more Files, but don't use a ClassModel. (You can use the Files from the DeCompression if you want to, but you don't have to) | The Files should be Compressed successfully. | The Files were correctly compressed. |
| 4 | Go to the Compress Menu and Compress two or more Files and use a ClassModel. (You can use the Files from the DeCompression if you want to, but you don't have to) | The Files should be Compressed successfully. | The Files were correctly compressed. |
|  | | | |
| Tester: | Markus | | |
| Date: | 01.05.2020 | | |
| Testcase Result: | PASS | | |
|  | | | |

### <TC-003-004> Import Test

|  |  |  |  |
| --- | --- | --- | --- |
| Testcase ID: | TC-003-004 | | |
| Testcase Name: | Import Test | | |
| Req.-ID: | LF50 | | |
| Description: | This Test verifies the Import Functionality per Startparameter of the Console Application. | | |
| Test Steps | | | |
| Step | Action | Expected Result | Actual Result |
| 1 | The Console Application has the following Parameters:   * path and a valid path after that * validate -> declares that the File should be validated * compress -> declares that the File should be compressed   This can look like this:  “ConsoleApplication.exe --path C:\File.aml -- validate”  The First Test Step is that you should Test the Functionality with a valid path and every combination (no parameters, all parameters etc.) | The Console Application should give correct Errors and work correctly. | The Console Application worked correctly with correct Parameters. |
| 2 | Test the Functionality with an invalid path and every combination of parameters | The Console Application should give correct Errors. | The Console Application threw correct Errors. |
|  | | | |
| Tester: | Markus | | |
| Date: | 01.05.2020 | | |
| Testcase Result: | PASS | | |
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