**System Test Report**  
(System Test Report)

**(TINF19C, SWE I Praxisprojekt 2020/2021)**

Project: OPC UA Server Farm

Customer: Rentschler & Holder

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| --- | --- | --- | --- |
| **Version** | **Date** | **Author** | **Comment** |
| 0.1 | 12.03.2021 | Zichler | created |
| 0.2 | 12.05.2021 | Zichler | Basic structure established |
| 0.3 | 20.05.2021 | Zichler | Test Results have been added |
| 1.0 | 20.05.2021 | Zichler | Finalization |

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# ****Scope****

The TCS / TRP (Test Case Specification / Test Report) describes the environment, the preconditions and the actions of a test performed or to be performed. If the test was performed, the results are given. Test Case Specification / Test Reports are referenced by System Integration Plans/Reports (SIP/SIR), by System Test Plans/Reports (STP/STR) and by System Validation Plans/Reports (SVP/SVR).

# ****Definitions****

**AML**  Automation Markup Language

**Test Client**  for testing and developing the *OPC UA Client UA-Expert* was used

**UI** User Interface

**GUI** Graphical User Interface

**CLI** Command Line Interface

# ****Test Objects****

|  |  |  |
| --- | --- | --- |
| Ref.-Id. | Test Object Name | product-number, serial-number, modification status |
| 1 | OPC\_UA\_SERVER\_FARM Core Library | Build v1.0 |

# ****Test Equipment****

The following equipment must be available for testing:

* A computer with Linux
* OPC UA Demo Client [(Download Here)](https://industrial.softing.com/de/produkte/opc-ua-und-opc-classic-sdks/opc-ua-demo-client.html#tx-dftabs-tabContent1)
* 10 different Automation ML files

# ****Results Testcases****

## ****<TC-001-001> File validation of valid input file****

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Testcase ID:** | TC-001-001 | | | |
| **Testcase Name:** | File validation of valid input file | | | |
| **Req.-ID:** | LF10, LF20, LF30, LF60 | | | |
| **Description** | The test case verifies that errors are detected during the validation of the input file. A corresponding log file will be created containing information of the error. | | | |
| **Test Steps** | | | | |
| **Step** | **Action** | | **Expected Result** | **Actual Result** |
| 1 | Install the OPC UA Server Farm and open the CLI. | | The OPC UA Server Farm is installed on the system and the CLI is open. | The OPC UA Server Farm is installed on the system and the CLI is open. |
| 2 | Select a valid input file to configure the Server with. | | The validation is executed successfully and the server will start configurated | The validation is executed successfully and the server starts configurating |
| 3 | Then open the logs which can be found under: <install-directory>/Serverfarm/LogFile.txt | | The log file is open and contains information about the start up | The log file is open and contains information about the start up |
| 4 | Find the message that the server has been started correctly. | | A Log message should be found within in the first few lines containing information about the start up | The Log file contains information about the start up and further shows on which port the server is running. |
|  | | | | |
| **Tester:** | | Daniel Zichler | | |
| **Date:** | | 20.05.2021 | | |
| **Testcase Result:** | | PASS | | |
|  | | | | |

### ****<TC-001-002> File validation of invalid input file****

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Testcase ID:** | TC-001-002 | | | |
| **Testcase Name:** | File validation of valid input file | | | |
| **Req.-ID:** | LF10, LF20, LF30, LF60 | | | |
| **Description** | The test case verifies that errors are detected during the validation of the input file. A corresponding log file will be created containing information of the error. | | | |
| **Test Steps** | | | | |
| **Step** | **Action** | | **Expected Result** | **Actual Result** |
| 1 | Install the OPC UA Server Farm and open the CLI. | | The OPC UA Server Farm is installed on the system and the CLI is open. | The OPC UA Server Farm is installed on the system and the CLI is open. |
| 2 | Select a valid input file to configure the Server with. | | The validation is executed successfully and the server will start configurated | The validation is executed successfully and the server starts configurating |
| 3 | Then open the logs which can be found under: <install-directory>/Serverfarm/LogFile.txt | | The log file is open and contains information about the start up | The log file is open and contains information about the start up |
| 4 | Find the message that the server has been started correctly. | | A Log message should be found within in the first few lines containing information about the start up | The log file shows that the file is not readable. |
|  | | | | |
| **Tester:** | | Daniel Zichler | | |
| **Date:** | | 20.05.2021 | | |
| **Testcase Result:** | | PASS | | |
|  | | | | |

### ****<TC-001-003> Server Start-up with valid input file****

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Testcase ID:** | TC-002-001 | | | |
| **Testcase Name:** | Server Start-up | | | |
| **Req.-ID:** | LF10, LF20, LF30, LF40 | | | |
| **Description** | The test case verifies that input files are parsed correctly and can be read in the Test Client. | | | |
| **Test Steps** | | | | |
| **Step** | **Action** | | **Expected Result** | **Actual Result** |
| 1 | Open the CLI and select two valid input files. | | The validation is executed successfully and the server will start configurated. | The validation is executed successfully and the server starts configurating. |
| 2 | Open the Test Client and connect to the started Servers with the Test Client. | | The started Servers are shown on the left side of the Test Client. | The Servers are shown on the left side and can be drag and dropped into the Data Access View |
|  | | | | |
| **Tester:** | | Daniel Zichler | | |
| **Date:** | | 20.05.2021 | | |
| **Testcase Result:** | | PASS | | |
|  | | | | |

### ****<TC-001-004> Server Shut-Down****

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Testcase ID:** | TC-002-001 | | | |
| **Testcase Name:** | Server Shut-Down | | | |
| **Req.-ID:** | LF10, LF20, LF30, LF50 | | | |
| **Description** | The test case verifies that the server can be shut down using an external interrupt. | | | |
| **Test Steps** | | | | |
| **Step** | **Action** | | **Expected Result** | **Actual Result** |
| 1 | Open the CLI and select two valid input files. | | The validation is executed successfully and the server will start configurated. | The validation is executed successfully and the server will start configurated. |
| 2 | Open the Test Client and connect to the started Servers with the Test Client. | | The started Servers are shown on the left side of the Test Client. | The started Servers are shown on the left side of the Test Client. |
| 3 | Using the CLI command “Ctrl+C” in the CLI. | | The Program Stops and the Servers should not be available anymore. | The Program Stops and the Servers should not be available anymore. |
| 4 | Try to reconnect to the now Shut Down Servers. | | The Servers are not reachable. | The Servers are not reachable. |
|  | | | | |
| **Tester:** | | Daniel Zichler | | |
| **Date:** | | 20.05.2021 | | |
| **Testcase Result:** | | PASS | | |
|  | | | | |

### ****<TC-001-005> Server Start-up with ten different valid input files****

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Testcase ID:** | TC-002-001 | | | |
| **Testcase Name:** | Server Start-up with ten different valid input | | | |
| **Req.-ID:** | LF10, LF20, LF30, LF40 | | | |
| **Description** | The test case verifies that input files are parsed correctly and can be read in the Test Client. | | | |
| **Test Steps** | | | | |
| **Step** | **Action** | | **Expected Result** | **Actual Result** |
| 1 | Open the CLI and select ten valid input files. | | The validation is executed successfully and the server will start configurated. | The validation is executed successfully and the server starts configurating. |
| 2 | Open the Test Client and connect to the started Servers with the Test Client. | | The started Servers are shown on the left side of the Test Client. | All files except one invalid input file have been accepted and are shown on the left side of the Test Client. |
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| **Tester:** | | Daniel Zichler | | |
| **Date:** | | 20.05.2021 | | |
| **Testcase Result:** | | PASS | | |
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