# EXECUTION RESULTS OF COSMIAN KMS TEST SUITE

-Automatically Generated Report-

# Contents

# 1 Introduction

The objective is to create a structured set of tests to ensure that the software functions as expected. The test suite will verify the functionalities and behavior of the system through well-defined test cases.

# 2 Test Suite Structure

## 2.1 Tested Functionalities

The following functionalities are chosen for defining the test suite:

1. Certificates Management

2. Symmetric Key Management

3. Elliptic Curve Key Management (Similar to Symmetric Key Management)

4. RSA Key Management (Similar to Symmetric Key Management)

## 2.2 Overview of Test Cases

1. Certificates Management

   - Certify Certificates
   - Export Certificates
   - Import Certificates
   - Revoke Certificates
   - Destroy Certificates

2. Symmetric Keys Management

   - Create Symmetric Keys
   - Export Symmetric Keys
   - Import Symmetric Keys
   - Revoke Symmetric Keys
   - Destroy Symmetric Keys

# 3 Execution and Results

## 3.1 Test Case: certify_certificates

| Software Information | |
|---|---|
| SUT | COSMIAN KMS |
| Version | 4.19.1 |
| Testing Category | Certificates |
| Test Case ID | CKMS_TC_03_01 |
| Test Case Name | certify_certificates |
| Test Case Description | Certify certificates using different certifying methods. |

| Test Scenario | Expected (Pass/Fail) | Obtained (Pass/Fail) |
|---|---|---|
| test_self_sign_public_key | Pass | Pass |
| test_self_sign_invalid_public_key | Fail | Fail |
| test_certify_with_issuer_private_key | Pass | Pass |
| test_certify_with_issuer_certificate | Pass | Pass |
| test_certify_with_csr | Pass | Pass |
| test_certify_with_invalid_csr | Fail | Fail |
| test_certify_with_gen_keypair_self_sign | Pass | Pass |
| test_certify_with_gen_keypair_from_issuer_private_key | Pass | Pass |

| Timestamp | 2024-10-27 21:09:37 |
|---|---|
| Tester | Unknown |
| Status (Pass/Fail) | Pass |

Table 1: Test Case Overall Results Summary

## 3.2 Test Case: export_certificates

| Software Information | |
|---|---|
| SUT | COSMIAN KMS |
| Version | 4.19.1 |
| Testing Category | Certificates |
| Test Case ID | CKMS_TC_03_04 |
| Test Case Name | export_certificates |
| Test Case Description | Export certificates into different supported file formats. |

| Test Scenario | Expected (Pass/Fail) | Obtained (Pass/Fail) |
|---|---|---|
| test_export_certificate_as_pem | Pass | Pass |
| test_export_certificate_as_json | Pass | Pass |
| test_export_certificate_as_pkcs12 | Pass | Pass |

| | |
|---|---|
| Timestamp | 2024-10-27 21:09:43 |
| Tester | Unknown |
| Status (Pass/Fail) | Pass |

Table 2: Test Case Overall Results Summary

## 3.3   Test Case: import_certificates

| Software Information | |
|---|---|
| SUT | COSMIAN KMS |
| Version | 4.19.1 |
| Testing Category | Certificates |
| Test Case ID | CKMS_TC_03_05 |
| Test Case Name | import_certificates |
| Test Case Description | Import certificates from different supported file formats. |

| Test Scenario | Expected (Pass/Fail) | Obtained (Pass/Fail) |
|---|---|---|
| test_import_certificate_as_pem | Pass | Pass |
| test_import_certificate_as_json | Pass | Pass |
| test_import_certificate_as_pkcs12 | Pass | Pass |

| Timestamp | 2024-10-27 21:09:47 |
|---|---|
| Tester | Unknown |
| Status (Pass/Fail) | Pass |

Table 3: Test Case Overall Results Summary

## 3.4 Test Case: revoke_certificates

| Software Information | |
|---|---|
| SUT | COSMIAN KMS |
| Version | 4.19.1 |
| Testing Category | Certificates |
| Test Case ID | CKMS_TC_03_06 |
| Test Case Name | revoke_certificates |
| Test Case Description | Revoke certificates using different methods. |

| Test Scenario | Expected (Pass/Fail) | Obtained (Pass/Fail) |
|---|---|---|
| test_revoke_certificate_by_id | Pass | Pass |
| test_revoke_certificate_by_tag | Pass | Pass |
| test_revoke_certificate_without_reason | Fail | Fail |
| test_revoke_certificate_without_id_or_tag | Fail | Fail |

| Timestamp | 2024-10-27 21:09:48 |
|---|---|
| Tester | Unknown |
| Status (Pass/Fail) | Pass |

Table 4: Test Case Overall Results Summary

## 3.5 Test Case: destroy_certificates

| Software Information | |
|---|---|
| SUT | COSMIAN KMS |
| Version | 4.19.1 |
| Testing Category | Certificates |
| Test Case ID | CKMS_TC_03_07 |
| Test Case Name | destroy_certificates |
| Test Case Description | Destroy certificates from the server. |

| Test Scenario | Expected (Pass/Fail) | Obtained (Pass/Fail) |
|---|---|---|
| test_destroy_certificate_by_id | Pass | Pass |
| test_destroy_certificate_by_tag | Pass | Pass |
| test_destroy_certificate_without_id_or_tag | Fail | Fail |

| Timestamp | 2024-10-27 21:09:51 |
|---|---|
| Tester | Unknown |
| Status (Pass/Fail) | Pass |

Table 5: Test Case Overall Results Summary

## 3.6 Test Case: sym_keys_create

| Software Information | |
|---|---|
| SUT | COSMIAN KMS |
| Version | 4.19.1 |
| Testing Category | Symmetric Keys |
| Test Case ID | CKMS_TC_10_01_01 |
| Test Case Name | sym_keys_create |
| Test Case Description | Create certificates using chacha20 and aes symmetric key algorithms. |

| Test Scenario | Expected (Pass/Fail) | Obtained (Pass/Fail) |
|---|---|---|
| test_generate_sym_keys_with_chacha20 | Pass | Pass |
| test_generate_sym_keys_with_aes | Pass | Pass |

| Timestamp | 2024-10-27 21:09:53 |
|---|---|
| Tester | Unknown |
| Status (Pass/Fail) | Pass |

Table 6: Test Case Overall Results Summary

## 3.7   Test Case: sym_keys_export

| Software Information | |
|---|---|
| SUT | COSMIAN KMS |
| Version | 4.19.1 |
| Testing Category | Symmetric Keys |
| Test Case ID | CKMS_TC_10_01_03 |
| Test Case Name | sym_keys_export |
| Test Case Description | Export symmetric keys into different supported file formats. |

| Test Scenario | Expected (Pass/Fail) | Obtained (Pass/Fail) |
|---|---|---|
| test_export_key_with_key_id | Pass | Pass |
| test_export_key_with_invalid_key_id | Fail | Fail |
| test_export_key_with_tags | Pass | Pass |
| test_export_key_with_invalid_tags | Fail | Fail |
| test_export_key_in_json_ttlv | Pass | Pass |
| test_export_key_in_raw_keyfile | Pass | Pass |
| test_export_key_in_raw_binfile | Pass | Pass |

| Timestamp | 2024-10-27 21:09:56 |
|---|---|
| Tester | Unknown |
| Status (Pass/Fail) | Pass |

Table 7: Test Case Overall Results Summary

## 3.8 Test Case: sym_keys_import

| Software Information | |
|---|---|
| SUT | COSMIAN KMS |
| Version | 4.19.1 |
| Testing Category | Symmetric Keys |
| Test Case ID | CKMS_TC_10_01_04 |
| Test Case Name | sym_keys_import |
| Test Case Description | Import symmetric keys from different supported file formats. |

| Test Scenario | Expected (Pass/Fail) | Obtained (Pass/Fail) |
|---|---|---|
| test_import_symkey_from_key_file | Pass | Pass |
| test_import_symkey_from_bin_file | Pass | Pass |
| test_import_symkey_from_json_file | Pass | Pass |

| Timestamp | 2024-10-27 21:09:57 |
|---|---|
| Tester | Unknown |
| Status (Pass/Fail) | Pass |

Table 8: Test Case Overall Results Summary

## 3.9   Test Case: sym_keys_revoke

| Software Information | |
|---|---|
| SUT | COSMIAN KMS |
| Version | 4.19.1 |
| Testing Category | Symmetric Keys |
| Test Case ID | CKMS_TC_10_01_05 |
| Test Case Name | sym_keys_revoke |
| Test Case Description | Revoke symmetric keys using different methods. |

| Test Scenario | Expected (Pass/Fail) | Obtained (Pass/Fail) |
|---|---|---|
| test_revoke_symkey_by_id | Pass | Pass |
| test_revoke_symkey_by_tag | Pass | Pass |
| test_revoke_symkey_without_reason | Fail | Fail |
| test_revoke_symkey_without_id_or_tag | Fail | Fail |

| Timestamp | 2024-10-27 21:09:58 |
|---|---|
| Tester | Unknown |
| Status (Pass/Fail) | Pass |

Table 9: Test Case Overall Results Summary

## 3.10   Test Case: sym_keys_destroy

| Software Information | |
|---|---|
| SUT | COSMIAN KMS |
| Version | 4.19.1 |
| Testing Category | Symmetric Keys |
| Test Case ID | CKMS_TC_10_01_06 |
| Test Case Name | sym_keys_destroy |
| Test Case Description | Destroy symmetric keys from the server. |

| Test Scenario | Expected (Pass/Fail) | Obtained (Pass/Fail) |
|---|---|---|
| test_destroy_key_by_id | Pass | Pass |
| test_destroy_key_by_tag | Pass | Pass |
| test_destroy_key_without_id_or_tag | Fail | Fail |

| Timestamp | 2024-10-27 21:09:59 |
|---|---|
| Tester | Unknown |
| Status (Pass/Fail) | Pass |

Table 10: Test Case Overall Results Summary

# 4    Conclusion

The Cosmian KMS Test Suite was executed successfully, with results validating key functionalities and confirming expected behavior. All critical operations performed as intended.

*End of Report*