STIX/TAXII™ 2.0 Interoperability Test Document - Part 2

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* *STIX™ Version 2.0. Part 3: Cyber Observable Core Concepts. Edited by Ivan* Kirillov and Trey Darley. Latest version: <http://docs.oasis-open.org/cti/stix/v2.0/stix-v2.0-part3-cyber-observable-core.html>*.*
* *STIX™ Version 2.0. Part 4: Cyber Observable Objects. Edited by Ivan* Kirillov and Trey Darley. Latest version: <http://docs.oasis-open.org/cti/stix/v2.0/stix-v2.0-part4-cyber-observable-objects.html>*.*
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* *TAXII™ Version 2.0.* Edited by Bret Jordan, Mark Davidson, and John Wunder. Latest version: <http://docs.oasis-open.org/cti/taxii/v2.0/taxii-v2.0.html>.

Abstract:

This is Part 2 of the Interoperability test document to supplement the five-part Structured Threat Information Expression (STIX) and TAXII 2.0 specifications developed by the Cyber Threat Intelligence Technical Committee (CTI TC) of the Organization for the Advancement of Structured Information Systems (OASIS). The is the second in a series that will be developed concurrent with revisions to the STIX/TAXII specifications. This test document provides detailed requirements on how producers of products within the threat intelligence ecosystem may demonstrate conformity with STIX/TAXII 2.0 if they wish to self-certify that their software is verified as interoperable. There are seven personas detailed in Part 1 of this specification. These are: Data Feed Provider (DFP), Threat Intelligence Platform (TIP), Threat Mitigation System (TMS), Threat Detection System (TDS), Security Incident and Event Management (SIEM), Threat Intelligence Sink (TIS) and TAXII Server (TXS). This interoperability test document defines tests of the following use cases: common connection, basic data sharing and basic threat intelligence collaboration. For each of these use cases the document details the Producer support, TAXII server support and the Respondent support to be used for the test cases.

Status:

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# 1 ​Introduction

This document defines additional test cases and personas for STIX/TAXII 2.0 Interoperability Use Cases and is supplementary to [Part 1](https://drive.google.com/open?id=1l54RhjxwuXrZUQ19zIHUiZ7_c6otbLbVVfluKJogU7s).

## 1.1 Terminology

Please refer to [Part 1](https://drive.google.com/open?id=1l54RhjxwuXrZUQ19zIHUiZ7_c6otbLbVVfluKJogU7s) Section 1.1 Terminology.

## 1.2 Overview

This document focuses on testing interoperability of software instances that support STIX and TAXII exchange. It leverages Part 1 test cases, and augments them by adding a TAXII Server to facilitate the exchange of STIX bundled content detailed in Part 1.

### 1.2.1 ​Part 2 Personas

The following system personas are used throughout this document.

* Data Feed Provider (DFP)
	+ Software instance that acts as a producer of STIX 2.0 content.
* Threat Intelligence Platform (TIP)
	+ Software instance that acts as a producer and/or Respondent of STIX 2.0 content primarily used to aggregate, refine and share intelligence with other machines or security personnel operating other security infrastructure.
* Security Incident and Event Management system (SIEM)
	+ Software instance that acts as a producer and/or Respondent of STIX 2.0 content. A SIEM that produces STIX content will typically create incidents and indicators. A SIEM that consumes STIX content will typically consume sightings, indicators.
* Threat Mitigation System (TMS)
	+ Software instance that acts on course of actions and other threat mitigations such as a firewall or IPS, Endpoint Detection and Response (EDR) software, etc.
* Threat Detection System (TDS)
	+ Software instance of any network product that monitors and/or detects such as Intrusion Detection Software (IDS), Endpoint Detection and Response (EDR) software, web proxy, etc.
* **Threat Intelligence Sink** (TIS) ***\*NEW TO PART 2\****
	+ Software instance that consumes STIX 2.0 content in order to perform translations to domain specific formats consumable by enforcement and/or detection systems that do not natively support STIX 2.0. These consumers may or may not have the capability of reporting sightings. A TIS will typically consume intelligence identified in the STIX content but will not produce any STIX content itself.
* **TAXII Server (TXS) \**NEW TO PART 2\****
	+ Software instance that acts as a TAXII Server enabling the sharing of STIX 2.0 content among producers and respondents.

For an organization to receive OASIS interoperability compliance certification, the software instances must adhere to persona behavior and prescribed bundle contents as detailed in the Required Persona/Profile Support section of each use case.

For persona checklist and test requirements per persona please refer to [3 Persona Checklist](https://docs.google.com/document/d/1l54RhjxwuXrZUQ19zIHUiZ7_c6otbLbVVfluKJogU7s/edit#heading=h.auihnd6zj5g6).

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# 2 Use Case Details

Part 2 use cases are broken down by persona into mandatory and optional sets of use cases. All use cases require the use of a TAXII Server (TXS) component used in concert with the producer and respondent persona components as shown below.

An organization’s software product under test may implement multiple personas. Therefore, it is conceivable that a single software product instance supports a TAXII Server, the producer and the respondent personas in that instance. However for the purposes of this test case document, each specific persona verification and expected behavior is called out separately.



Figure 2: Basic Intelligence Data Flow

This document details the following use cases.

**Table 2.0 — List of TAXII Interoperability Test Categories**

|  |  |  |
| --- | --- | --- |
| Description | Producer Personas | Respondent Personas |
| [Common Connection](#_kidvi1ygdj8k) and Error Handling | All | All |
| [Basic Feed Sharing](#_inaq2x4s2uq2) | DFP, TIP; SIEM | TMS, TDS, TIP, SIEM, TIS |
| [Basic Intel Collaboration](#_od8x3tkfj6th) | DFP, TIP, TMS, TDS; SIEM | TIP, SIEM |

## 2.1 Common Use Case Requirements

The HTTPS over IPv4 protocol must be used for all test cases in this document.

Future versions of this document may introduce testing HTTPS over IPv6 as the TAXII transport protocol.

There are no defined tests that exclude IPv6 support if an organization wishes to execute those tests with HTTPS over IPv6.

##

##

## 2.2 Common Connection

### 2.2.1 Description

The use cases in this section apply to personas that connect to a TAXII Server (TXS).

To ensure baseline interoperability between a TAXII Client and TAXII Server, every test in this section must be completed. Advancing to [Basic Feed Sharing](#_inaq2x4s2uq2) and [Basic Intelligence Collaboration](#_od8x3tkfj6th) test cases should not be attempted until TAXII Client/Server interoperability is baselined.

### 2.2.2 Required TXS Configuration

For all tests in this section the TXS must be configured as follows:

1. Server IPv4 Address: 10.1.1.10[[1]](#footnote-1)
2. Server configured to support client connections via HTTPS [[RFC7230](https://docs.google.com/document/d/1Jv9ICjUNZrOnwUXtenB1QcnBLO35RnjQcJLsa1mGSkI/edit#bookmark=id.hb9xzm4g5vgy)] and TLS 1.2 [[RFC5246](https://docs.google.com/document/d/1Jv9ICjUNZrOnwUXtenB1QcnBLO35RnjQcJLsa1mGSkI/edit#bookmark=id.hb5wa4a70wq)]
3. Server configured for HTTP Basic Authentication [[RFC 7617](https://docs.google.com/document/d/1Jv9ICjUNZrOnwUXtenB1QcnBLO35RnjQcJLsa1mGSkI/edit#bookmark=id.vde58tur741j)]
4. Server configured to authorize a client with the following credentials
	1. Username: test, Password: 123
	2. HTTP Authentication Value (Base 64 encoded): “Authorization: Basic dGVzdDoxMjPCow==”
5. Test Data #1: Server
	1. URL: 10.1.1.10:443
	2. Title: “TAXII Server Under Test”
	3. Description: “This is a TAXII Server under test”
	4. Contact: “Admin Contact 1-800-111-1111”
	5. Default: “[https://](https://taxii.undertest.com/api1)10.1.1.10[/api1](https://taxii.undertest.com/api1)/”
	6. Api\_roots: [ “[https://](https://taxii.undertest.com/api1)10.1.1.10[/api1](https://taxii.undertest.com/api1)/”]
6. Test Data #2: API-Root
	1. URL: 10.1.1.10/api1/
	2. Title: “Sharing Group 1”
	3. Description: “This sharing group shares intelligence”
	4. Versions: [ “taxii-2.0” ]
	5. MaxContentLength: 100000

### 2.2.3 Required Persona Support

The Producer must be able to connect to a TAXII Server (TXS) and display the appropriate connection status.

Table 2.2.3 - Producer Support Behavior

|  |  |
| --- | --- |
| Personas | Behavior |
| All | 1. Producer allows a user to select or specify the URL Address of the TXS to connect to as: https://10.1.1.10:443
2. Producer connects to the TXS and gets the information associated with the TXS component and displays to the user the following information
	1. Get URL**:** https://10.1.1.10:443/taxii/
	2. All returned parameters are shown by the Producer that match Test-Data #1
3. Producer connects to the TXS API Root [https://](https://taxii.undertest.com/api1)10.1.1.10[/api1](https://taxii.undertest.com/api1)/ and gets the information associated with the TXS API Root and displays to the user the following information:
	1. Get URL: https://10.1.1.10:443/api1/
	2. All returned parameters are shown by the Producer that match the Test-Data #2
 |

### 2.2.4 Test Case Data

#### 2.2.4.1 Basic TXS Get

**2.2.4.2 Table 2.2.4.1 - Basic GET Request and Response**

|  |  |
| --- | --- |
| **To TXS** | **From TXS** |
| GET /taxii/ HTTP/1.1Host: 10.1.1.10Accept: application/vnd.oasis.taxii+json; version=2.0Authorization: Basic dGVzdDoxMjPCow== | HTTP/1.1 200 OKContent-Type: application/vnd.oasis.taxii+json; version=2.0{ "title": "TAXII Server Under Test", "description": "This is a TAXII Server under test", "contact": "Admin Contact 1-800-111-1111", "default": "[https://](https://taxii.undertest.com/api1)10.1.1.10[/api1](https://taxii.undertest.com/api1)/", "api\_roots": [ "[https:/](https://taxii.undertest.com/api1)/10.1.1.10[/api1](https://taxii.undertest.com/api1)/" ]} |

#### 2.2.4.2 Basic API-Root Get

Table 2.2.4.2 - Basic GET Request and Response

|  |  |
| --- | --- |
| **To TXS** | **From TXS** |
| GET /api1/ HTTP/1.1Host: 10.1.1.10Accept: application/vnd.oasis.taxii+json; version=2.0Authorization: Basic dGVzdDoxMjPCow== | HTTP/1.1 200 OKContent-Type: application/vnd.oasis.taxii+json; version=2.0{ "title": "Sharing Group 1", "description": "This sharing group shares intelligence", "versions": [ "taxii-2.0"]} |

#### 2.2.4.3 Missing Authorization Parameter Returns Unauthorized

**Table 2.2.4.4 - Basic GET Request and Response**

|  |  |
| --- | --- |
| **To TXS** | **From TXS** |
| GET /api1/collections/170f24af-c685-411d-bd2a-f45248adb245/ HTTP/1.1Host: 10.1.1.10Accept: application/vnd.oasis.taxii+json; version=2.0 | HTTP/1.1 401 UNAUTHORIZEDContent-Type: application/vnd.oasis.stix+json; version=2.0WWW-Authenticate: Newauth realm="taxii", type=1, title="Login to \"apps\"", Basic realm="simple" |

#### 2.2.4.4 Incorrect Authorization Parameter Returns Unauthorized

**Table 2.2.4.4 - Basic GET Request and Response**

|  |  |
| --- | --- |
| **To TXS** | **From TXS** |
| GET /api1/collections/170f24af-c685-411d-bd2a-f45248adb245/ HTTP/1.1Host: 10.1.1.10Accept: application/vnd.oasis.taxii+json; version=2.0Authorization: Basic eererererere== | HTTP/1.1 401 UNAUTHORIZEDContent-Type: application/vnd.oasis.stix+json; version=2.0WWW-Authenticate: Newauth realm="taxii", type=1, title="Login to \"apps\"", Basic realm="simple" |

#### 2.2.4.5 Incorrect API Root Info Get Returns Not Found

**Table 2.2.4.5 - Basic GET Request and Response**

|  |  |
| --- | --- |
| **To TXS** | **From TXS** |
| GET /api2/collections/170f24af-c685-411d-bd2a-f45248adb245/ HTTP/1.1Host: 10.1.1.10Accept: application/vnd.oasis.taxii+json; version=2.0Authorization: Basic dGVzdDoxMjPCow== | HTTP/1.1 404 Not FoundContent-Type: application/vnd.oasis.stix+json; version=2.0{ "title": "Incorrect API Root Get", "description": "An incorrect URL for an API root was accessed", "error\_id": "<vendor specific id>", "error\_code": "<vendor specific error code>", "http\_status": "404", "external\_details": "<vendor details>", "details": { "apiroot": "/api2", }} |

#### 2.2.4.6 Incorrect Collection Info Get Returns Not Found

Table 2.2.4.6 - Basic GET Request and Response

|  |  |
| --- | --- |
| **To TXS** | **From TXS** |
| GET /api1/collections/d021ecc8-ab8e-41ab-815e-911c7e329f88/ HTTP/1.1Host: 10.1.1.10Accept: application/vnd.oasis.taxii+json; version=2.0Authorization: Basic dGVzdDoxMjPCow== | HTTP/1.1 404 Not FoundContent-Type: application/vnd.oasis.stix+json; version=2.0{ "title": "Incorrect Collection Get", "description": "An incorrect URL for a collection was accessed", "error\_id": "<vendor specific id>", "error\_code": "<vendor specific error code>", "http\_status": "404", "external\_details": "<vendor details>", "details": { "collection": "/api1/collections/d021ecc8-ab8e-41ab-815e-911c7e329f88/", }} |

#### 2.2.4.7 Incorrect Version Info Get Returns Not Acceptable

Table 2.2.4.7 - Basic GET Request and Response

|  |  |
| --- | --- |
| **To TXS** | **From TXS** |
| POST /services/discovery/ HTTP/1.1X-TAXII-Content-Type: urn:taxii.mitre.org:message:xml:1.1X-TAXII-Accept: urn:taxii.mitre.org:message:xml:1.1Content-Type: application/xmlAccept: application/xmlX-TAXII-Services: urn:taxii.mitre.org:services:1.1X-TAXII-Protocol: urn:taxii.mitre.org:protocol:http:1.0<Discovery\_Request xmlns="http://taxii.mitre.org/messages/taxii\_xml\_binding-1.1" message\_id="1"/> | HTTP/1.1 406 Not AcceptableContent-Type: application/vnd.oasis.stix+json; version=2.0{ "title": "Incorrect Taxii Version", "description": "An incorrect Taxii version was used in the post", "error\_id": "<vendor specific id>", "error\_code": "<vendor specific error code>", "http\_status": "406", "external\_details": "<vendor details>", "details": { "version": "1.0", }} |

###

## 2.3 Basic Feed Sharing

### 2.3.1 Description

Basic Feed Sharing provides for a Producer persona component to produce STIX content and share it via a TAXII Server with a Respondent persona component.

### 2.3.2 Required TXS Configuration

For all tests in this section the TXS must be configured using a combined configuration of the [Common Connection](#_vfa7rw28dz2a) configuration as well as one of the following two setups:

Table 2.3.2 TXS Server Configuration Combinations for Basic Feed Sharing

****

**Setup A:** Use separate collections for adding data to the server and a separate collection for reading from the server.

1. Test Data #1: Write Collection
	1. ID: 91a7b528-80eb-42ed-a74d-bd5a2116
	2. URL: [https://10.1.1.10/api1/collections/](https://10.1.1.10/api1/collections/1000/objects)91a7b528-80eb-42ed-a74d-bd5a2116[/objects](https://10.1.1.10/api1/collections/1000/objects)
	3. Title: “Write Collection 1”
	4. Description: “This is write collection 1”
	5. Can\_read: false
		1. For all client gets
	6. Can\_write: true
		1. For all client posts
	7. Media\_types: [ "application/vnd.oasis.stix+json; version=2.0" ]
2. Test Data #2: Read Collection
	1. ID: 91a7b528-80eb-42ed-a74d-bd526120
	2. URL: [https://10.1.1.10/api1/collections/](https://10.1.1.10/api1/collections/1000/objects)91a7b528-80eb-42ed-a74d-bd526120[/objects](https://10.1.1.10/api1/collections/1000/objects)
	3. Title: “Read Collection 1”
	4. Description: “This is read collection 1”
	5. Can\_read: true
		1. For all client gets
	6. Can\_write: false
		1. For all client posts
	7. Media\_types: [ "application/vnd.oasis.stix+json; version=2.0" ]

**Setup B:** Use the same collection for adding and reading data to/from the server.

1. Test Data #1: Read-Write Collection
	1. ID: 91a7b528-80eb-42ed-a74d-bd5a2118
	2. URL: [https://10.1.1.10/api1/collections/](https://10.1.1.10/api1/collections/1000/objects)91a7b528-80eb-42ed-a74d-bd5a2118[/objects](https://10.1.1.10/api1/collections/1000/objects)
	3. Title: “Read-Write Collection 1”
	4. Description: “This is read-write collection 1”
	5. Can\_read: true
		1. For all client gets
	6. Can\_write: true
		1. For all client posts
	7. Media\_types: [ "application/vnd.oasis.stix+json; version=2.0" ]

### 2.3.3 Required Producer Persona Support

The producer persona must be able to create all content according Part1:Indicator Sharing. The following behavior describes the general data flow for each test case.

**Table 2.2.3 — Producer Object Bundling Details**

|  |  |
| --- | --- |
| Personas | Behavior |
| DFP; TIP; SIEM | 1. Producer allows a user to select or specify the URL Address of the TXS to connect to as: <https://10.1.1.10:443> and performs the tests described in [Common Connection Tests](#_kidvi1ygdj8k)

**Setup A Behavior** 1. Producer does a get on the Write collection [https://10.1.1.10/api1/collections/](https://10.1.1.10/api1/collections/1000/objects)91a7b528-80eb-42ed-a74d-bd5a2116
2. Verify at the Producer that the TXS responds with the following information:
	1. **HTTP Response Code** is 200 OK
	2. **id** is 91a7b528-80eb-42ed-a74d-bd5a2116
	3. **title** is “Write Collection 1”
	4. **description** is “This is write collection 1”
	5. **can\_read** is false
	6. **can\_write** is true
	7. **media\_types** is "application/vnd.oasis.stix+json; version=2.0"
3. For each section described in [Part1: Indicator Sharing Producer Test Cases](https://drive.google.com/open?id=1l54RhjxwuXrZUQ19zIHUiZ7_c6otbLbVVfluKJogU7s) the Producer will publish the content to the TXS at https://10.1.1.10/api1/collections/91a7b528-80eb-42ed-a74d-bd5a2116/objects where the TXS component will not respond to the post until all objects within the bundle have been processed.
4. Verify the TXS accepts the content by verifying the following about the Producer:
	1. **HTTP Response code** is 202 Accepted
	2. **id** represents a unique identifier for each post
	3. **status** is complete
	4. **request\_timestamp** represents the time of the post
	5. **total\_count** represents the number of objects in the bundle test case
	6. **success\_count** is the same as total\_count
	7. **successes** is an array of the object identifiers in the submitted bundle and matches the identifiers posted for each indicator
	8. **failure\_count** is 0
	9. **pending\_count** is 0

**Setup B Behavior** 1. Producer does a get on the Read-Write collection [https://10.1.1.10/api1/collections/](https://10.1.1.10/api1/collections/1000/objects)91a7b528-80eb-42ed-a74d-bd5a2118
2. Verify at the Producer that the TXS responds with the following information:
	1. **HTTP Response Code** is 200 OK
	2. **id** is 91a7b528-80eb-42ed-a74d-bd5a2118
	3. **title** is “Read-Write Collection 1”
	4. **description** is “This is read-write collection 1”
	5. **can\_read** is true
	6. **can\_write** is true
	7. **media\_types** is "application/vnd.oasis.stix+json; version=2.0"
3. For each section described in [Part1: Indicator Sharing Producer Test Cases](https://drive.google.com/open?id=1l54RhjxwuXrZUQ19zIHUiZ7_c6otbLbVVfluKJogU7s) the Producer will publish the content to the TXS at [https://10.1.1.10/api1/collections/](https://10.1.1.10/api1/collections/1000/objects)91a7b528-80eb-42ed-a74d-bd5a2118/objects where the TXS component will not respond to the post until all objects within the bundle have been processed.
4. Verify the TXS accepts the content by verifying the following about the Producer:
	1. **HTTP Response code** is 202 Accepted
	2. **id** represents a unique identifier for each post
	3. **status** is complete
	4. **request\_timestamp** represents the time of the post
	5. **total\_count** represents the number of objects in the bundle test case
	6. **success\_count** is the same as total\_count
	7. **successes** is an array of the object identifiers in the submitted bundle and matches the identifiers posted for each indicator
	8. **failure\_count** is 0
	9. **pending\_count** is 0
 |

### 2.3.4 Producer Test Case Data

#### 2.3.4.1 Verify Collection Information

**Table 2.3.4.1 - Basic GET Request and Response**

|  |  |
| --- | --- |
| **To TXS** | **From TXS** |
| GET [/api1/collections/](https://10.1.1.10/api1/collections/1000/objects)91a7b528-80eb-42ed-a74d-bd5a2116/ HTTP/1.1Host: 10.1.1.10Accept: application/vnd.oasis.taxii+json; version=2.0Authorization: Basic dGVzdDoxMjPCow== | HTTP/1.1 200 OKContent-Type: application/vnd.oasis.taxii+json; version=2.0{ "id": "91a7b528-80eb-42ed-a74d-bd5a2116", "title": "Test Collection 1", "description": "This is Test Collection 1", "can\_read": true, "can\_write": true, "media\_types": [ "application/vnd.oasis.stix+json; version=2.0" ]} |

#### 2.3.4.2 Indicator Publication

For each test case listed in this section, the general form of the POST and POST-RESPONSE are as follows.

1. The test organization must verify that the returned bundle responses
	1. Match the content in the To TXS or From TXS cells in the table below, with the
	2. correct total count of objects.

**Table 2.3.4.2 - Basic GET Request and Response**

|  |  |
| --- | --- |
| **To TXS** | **From TXS** |
| POST /api1/collections/91a7b528-80eb-42ed-a74d-bd5a2116/objects/ HTTP/1.1Host: 10.1.1.10Accept: application/vnd.oasis.taxii+json; version=2.0Authorization: Basic dGVzdDoxMjPCow==Content-Type: application/vnd.oasis.stix+json; version=2.0{  "type": "content from test table below...",} | HTTP/1.1 202 AcceptedContent-Type: application/vnd.oasis.taxii+json; version=2.0{ "id": "2d086da7-4bdc-4f91-900e-d77486753710", "status": "complete", "request\_timestamp": "2016-11-02T12:34:34.12345Z", "total\_count": 4, "success\_count": 4, "successes": [ "List of objects defined in the Part1 bundle test cases" ], "failure\_count": 0, "pending\_count": 0} |

**Table 2.3.4.3 - Test Case Total Object Count Requirement**

|  |  |
| --- | --- |
| **Part 1 Test Case** | **Total Count** |
| ​Indicator IPv4 Address | 2 |
| ​Indicator IPv4 Address CIDR | 2 |
| Two Indicators with IPv4 Address CIDR | 2 |
| Indicator with IPv6 Address | 2 |
| Indicator with IPv6 Address CIDR | 2 |
| Multiple Indicators within the same bundle | 3 |
| ​Indicator FQDN | 2 |
| ​Indicator URL | 2 |
| ​Indicator URL or FQDN | 2 |
| Indicator File hash with SHA256 or MD5 values | 2 |

### 2.3.5 ​Required Respondent Support

The Respondent persona must be able to get all content according [Part1:Indicator Sharing](https://drive.google.com/open?id=1l54RhjxwuXrZUQ19zIHUiZ7_c6otbLbVVfluKJogU7s). The following behavior describes the general data flow for each test case.

**Table 2.2.5 — Respondent Object Bundling Details**

|  |  |
| --- | --- |
| Personas | Behavior |
| TIP; SIEM; TMS; TDS; TIS | **Option A Behavior**1. Respondent allows a user to select or specify the URL Address of the TXS to connect to as: <https://10.1.1.10:443> and performs the tests described in [Common Connection Tests](#_kidvi1ygdj8k)
2. Respondent does a get on the collection [https://10.1.1.10/api1/collections/](https://10.1.1.10/api1/collections/1000/objects)91a7b528-80eb-42ed-a74d-bd526120 and verifies the following information:
	1. **HTTP Response Code** is 200 OK
	2. **id** is 91a7b528-80eb-42ed-a74d-bd526120
	3. **title** is “Read Collection 1”
	4. **description** is “This is Read Collection 1”
	5. **can\_read** is true
	6. **can\_write** is false
	7. **media\_types** is "application/vnd.oasis.stix+json; version=2.0"
3. For each section described in [Part1: Indicator Sharing Producer Test Cases](https://drive.google.com/open?id=1l54RhjxwuXrZUQ19zIHUiZ7_c6otbLbVVfluKJogU7s) the Respondent will get the content from the TXS at [https://10.1.1.10/api1/collections/](https://10.1.1.10/api1/collections/1000/objects)91a7b528-80eb-42ed-a74d-bd526120 /objects and verify that each bundle returned matched the content for the respective publication test case.

**Option B Behavior**1. Respondent allows a user to select or specify the URL Address of the TXS to connect to as: <https://10.1.1.10:443> and performs the tests described in [Common Connection Tests](#_kidvi1ygdj8k)
2. Respondent does a get on the collection [https://10.1.1.10/api1/collections/](https://10.1.1.10/api1/collections/1000/objects)91a7b528-80eb-42ed-a74d-bd5a2118 and verifies the following information:
	1. **HTTP Response Code** is 200 OK
	2. **id** is 91a7b528-80eb-42ed-a74d-bd5a2118
	3. **title** is “Read-Write Collection 1”
	4. **description** is “This is Read-Write Collection 1”
	5. **can\_read** is true
	6. **can\_write** is true
	7. **media\_types** is "application/vnd.oasis.stix+json; version=2.0"
3. For each section described in [Part1: Indicator Sharing Producer Test Cases](https://drive.google.com/open?id=1l54RhjxwuXrZUQ19zIHUiZ7_c6otbLbVVfluKJogU7s) the Respondent will get the content from the TXS at https://10.1.1.10/api1/collections/91a7b528-80eb-42ed-a74d-bd5a2118/objects and verify that each bundle returned matched the content for the respective publication test case.
 |

### 2.3.6 ​Respondent Test Case Data

#### 2.3.6.1 Indicator Get

For each of the test cases listed in this section, the general form of the GET and GET-RESPONSE are as follows.

1. The test organization must verify that the returned bundle responses
	1. match the content in the To TXS or From TXS cells in the table below, with the
	2. correct total count of objects.

**Table 2.3.6.1 - Basic GET Request and Response**

|  |  |
| --- | --- |
| **To TXS** | **From TXS** |
| GET /[api1/collections/](https://10.1.1.10/api1/collections/1000/objects)91a7b528-80eb-42ed-a74d-bd526120 HTTP/1.1Host: 10.1.1.10Accept: application/vnd.oasis.stix+json; version=2.0Authorization: Basic dGVzdDoxMjPCow== | HTTP/1.1 200 OKContent-Type: application/vnd.oasis.stix+json; version=2.0{  "type": "bundle", ... "objects": [ { "type": "indicator", ... } ]} |

**Table 2.3.6.2 - Test Case Total Object Count Requirement**

|  |  |
| --- | --- |
| **Part 1 Test Case** | **Total Count** |
| ​Indicator IPv4 Address | 2 |
| ​Indicator IPv4 Address CIDR | 2 |
| Two Indicators with IPv4 Address CIDR | 2 |
| Indicator with IPv6 Address | 2 |
| Indicator with IPv6 Address CIDR | 2 |
| Multiple Indicators within the same bundle | 3 |
| ​Indicator FQDN | 2 |
| ​Indicator URL | 2 |
| ​Indicator URL or FQDN | 2 |
| Indicator File hash with SHA256 or MD5 values | 2 |

##

##

## 2.4 Basic Intelligence Collaboration

### 2.4.1 Description

Basic Intelligence Collaboration provides for a Producer persona component to produce STIX content, typically initiated by a human analyst, and share that content via a TAXII Server with a Respondent persona component. That Respondent then may respond with further changes to the same or related intelligence content.

To certify interoperability, the following test cases must be evaluated:

* **Use Case #1: Same** **organization** sharing and modifying **common** intelligence between two analysts using two systems
	+ In this scenario the first analyst creates an intelligence element that they wish to share with other analysts within the same organization for their perspective and feedback.
	+ The second analyst receives the intelligence from the first analyst and then proceeds to modify the existing intelligence and reshares back to the first analyst for their review and acknowledgement.
	+ See Figure 2.4.1.a
* **Use Case #2: Different** **organizations** sharing and modifying **related** intelligence between two analysts using two systems.
	+ In this scenario the first analyst creates an intelligence element that they wish to share with another set of analysts in a sharing community. The other analysts in this sharing community belong to different organizations.
	+ The second analyst receives the intelligence from the first analyst and then proceeds to find some new content that they believe is related to the original intelligence. They proceed to then share the new intelligence back to the sharing community, including the relationship that connects the intelligence together.
	+ See Figure 2.4.1.b
* **Use Case #3: Analysts/Groups within the same** **organization** sharing and modifying **related** intelligence between two analysts using two systems where the analyst has their own **created\_by** identity. These analysts/groups would serve different missions within the same organization
	+ In this scenario the first analyst creates an intelligence element that they wish to share with another set of analysts in a sharing community within the same organization. Additionally, the organization wants to track each individual analyst’s contributions..
	+ The second analyst receives the intelligence from the first analyst and then proceeds to find some new content that they believe is related to the original intelligence. They proceed to share the new related content back to the sharing community, including the relationship that connects the intelligence together.
	+ The data flow for Use Case #3 resembles Use Case #2 except that both analysts work for the same organization.



**Figure 2.4.1.a: Same Organization - Collaboration Data Flow**



**Figure 2.4.1.b - Different Organization - Collaboration Data Flow**

###

###

### 2.4.2 Required TXS Configuration

For all tests in this section the TXS must be configured using a combination of the [Common Connection](#_vfa7rw28dz2a) tests and the [Basic Feed Sharing: Required TXS Configuration](#_mnuwp1ponxct). Refer to Table 2.3.2 for an illustration of combined configurations.

In addition both Producer and Respondent in the this test section must be configured as the same **created\_by** entity (i.e. the same organization entity) to ensure that both systems may modify the same intelligence shared between the Producer and Respondent.

### 2.4.3 Required Producer Persona Support

The producer persona must be able to create all content according Part1:Indicator Sharing. The following behavior describes the general data flow for each test case.

**Table 2.4.3 — Producer Object Bundling Details**

|  |  |
| --- | --- |
| Personas | **Use Case #1, #2 & #3** Behavior[[2]](#footnote-2)  |
| TIP; SIEM | 1. Producer allows a user to select or specify the URL Address of the TXS to connect to as: <https://10.1.1.10:443> and performs the tests described in [Common Connection Tests](#_kidvi1ygdj8k)

**Setup A Behavior - Write Collection**1. Producer does a get on the Write collection [https://10.1.1.10/api1/collections/](https://10.1.1.10/api1/collections/1000/objects)91a7b528-80eb-42ed-a74d-bd5a2116
2. Verify at the Producer that the TXS responds with the following information:
	1. **HTTP Response Code** is 200 OK
	2. **id** is 91a7b528-80eb-42ed-a74d-bd5a2116
	3. **title** is “Write Collection 1”
	4. **description** is “This is Write Collection 1”
	5. **can\_read** is false
	6. **can\_write** is true
	7. **media\_types** is "application/vnd.oasis.stix+json; version=2.0"
3. For each section described in [Part1: Indicator Sharing Producer Test Cases](https://drive.google.com/open?id=1l54RhjxwuXrZUQ19zIHUiZ7_c6otbLbVVfluKJogU7s) the Producer will allow an analyst to create an Indicator in the user interface of Producer product and then publish the content to the TXS at https://10.1.1.10/api1/collections/91a7b528-80eb-42ed-a74d-bd5a2116/objects where the TXS component will not respond to the post until all objects within the bundle have been processed.
4. Verify the TXS accepts the content by verifying the following on the Producer:
	1. **HTTP Response code** is 202 Accepted
	2. **id** represents a unique identifier for each post
	3. **status** is complete
	4. **request\_timestamp** represents the time of the post
	5. **total\_count** represents the number of objects in the bundle test case
	6. **success\_count** is the same as total\_count
	7. **successes** is an array of the object identifiers in the submitted bundle and matches the identifiers posted for each indicator
	8. **failure\_count** is 0
	9. **pending\_count** is 0
5. Verify that the Producer shows that the content shared to the TXS is visually shown to the user that the content was accepted successfully by the TXS.

**Setup B Behavior - Read-Write Collection**1. Producer does a get on the Read-Write collection [https://10.1.1.10/api1/collections/](https://10.1.1.10/api1/collections/1000/objects)91a7b528-80eb-42ed-a74d-bd5a2118
2. Verify at the Producer that the TXS responds with the following information:
	1. **HTTP Response Code** is 200 OK
	2. **id** is 91a7b528-80eb-42ed-a74d-bd5a2118
	3. **title** is “Read-Write Collection 1”
	4. **description** is “This is Read-Write Collection 1”
	5. **can\_read** is true
	6. **can\_write** is true
	7. **media\_types** is "application/vnd.oasis.stix+json; version=2.0"
3. For each section described in [Part1: Indicator Sharing Producer Test Cases](https://drive.google.com/open?id=1l54RhjxwuXrZUQ19zIHUiZ7_c6otbLbVVfluKJogU7s) the Producer will allow an analyst to create an Indicator in the user interface of Producer product and then publish the content to the TXS at [https://10.1.1.10/api1/collections/](https://10.1.1.10/api1/collections/1000/objects)91a7b528-80eb-42ed-a74d-bd5a2118/objects where the TXS component will not respond to the post until all objects within the bundle have been processed
4. Verify the TXS accepts the content by verifying the following on the Producer:
	1. **HTTP Response code** is 202 Accepted
	2. **id** represents a unique identifier for each post
	3. **status** is complete
	4. **request\_timestamp** represents the time of the post
	5. **total\_count** represents the number of objects in the bundle test case
	6. **success\_count** is the same as total\_count
	7. **successes** is an array of the object identifiers in the submitted bundle and matches the identifiers posted for each indicator
	8. **failure\_count** is 0
	9. **pending\_count** is 0
5. Verify that the Producer shows that the content shared to the TXS is visually shown to the user that the content was accepted successfully by the TXS.
 |

### 2.4.4 Producer Test Case Data

#### 2.4.4.1 Verify Collection Information

**Table 2.4.4.1 - Basic GET Request and Response**

|  |  |
| --- | --- |
| **To TXS** | **From TXS** |
| GET [/api1/collections/](https://10.1.1.10/api1/collections/1000/objects)91a7b528-80eb-42ed-a74d-bd5a2116/ HTTP/1.1Host: 10.1.1.10Accept: application/vnd.oasis.taxii+json; version=2.0Authorization: Basic dGVzdDoxMjPCow== | HTTP/1.1 200 OKContent-Type: application/vnd.oasis.taxii+json; version=2.0{ "id": "91a7b528-80eb-42ed-a74d-bd5a2116", "title": "Test Collection 1", "description": "This is Test Collection 1", "can\_read": true, "can\_write": true, "media\_types": [ "application/vnd.oasis.stix+json; version=2.0" ]} |

#### 2.4.4.2 Indicator Publication

For each of the test cases listed in this section the general form of the POST and POST-RESPONSE are as follows.

1. The test organization must verify that the:
	1. responses match the posted content, **and** the
	2. user interface of the Producer product shows to the user that the content was posted successfully to the TXS.

**Table 2.4.4.2 - Basic GET Request and Response**

|  |  |
| --- | --- |
| **To TXS** | **From TXS** |
| POST /api1/collections/91a7b528-80eb-42ed-a74d-bd5a2116/objects/ HTTP/1.1Host: 10.1.1.10Accept: application/vnd.oasis.taxii+json; version=2.0Authorization: Basic dGVzdDoxMjPCow==Content-Type: application/vnd.oasis.stix+json; version=2.0{  "type": "content from test table below...",} | HTTP/1.1 202 AcceptedContent-Type: application/vnd.oasis.taxii+json; version=2.0{ "id": "2d086da7-4bdc-4f91-900e-d77486753710", "status": "complete", "request\_timestamp": "2016-11-02T12:34:34.12345Z", "total\_count": 4, "success\_count": 4, "successes": [ "List of objects defined in the Part1 bundle test cases" ], "failure\_count": 0, "pending\_count": 0} |

**Table 2.4.4.3 - Test Case Total Object Count Requirement**

|  |  |
| --- | --- |
| **Part 1 Test Case** | **Total Count Checks** |
| ​Indicator IPv4 Address | 2 |
| ​Indicator IPv4 Address CIDR | 2 |
| Two Indicators with IPv4 Address CIDR | 2 |
| Indicator with IPv6 Address | 2 |
| Indicator with IPv6 Address CIDR | 2 |
| Multiple Indicators within the same bundle | 3 |
| ​Indicator FQDN | 2 |
| ​Indicator URL | 2 |
| ​Indicator URL or FQDN | 2 |
| Indicator File hash with SHA256 or MD5 values | 2 |

### 2.4.5 ​Required Respondent Support

The Respondent persona must be able to get all content according [Part1:Indicator Sharing](https://drive.google.com/open?id=1l54RhjxwuXrZUQ19zIHUiZ7_c6otbLbVVfluKJogU7s). The following behavior describes the general data flow for each test case.

**Table 2.4.5 — Respondent Object Bundling Details**

|  |  |
| --- | --- |
| Personas | **Use Case #1 Behavior (Same Organization, Different Analysts)** |
| TIP; SIEM;  | **Setup A Behavior - Read Collection**1. Respondent allows a user to select or specify the URL Address of the TXS to connect to as: <https://10.1.1.10:443> and performs the tests described in [Common Connection Tests](#_kidvi1ygdj8k)
2. Respondent does a get on the collection [https://10.1.1.10/api1/collections/](https://10.1.1.10/api1/collections/1000/objects)91a7b528-80eb-42ed-a74d-bd526120 and verifies the following information:
	1. **HTTP Response Code** is 200 OK
	2. **id** is 91a7b528-80eb-42ed-a74d-bd526120
	3. **title** is “Read Collection 1”
	4. **description** is “This is Read Collection 1”
	5. **can\_read** is true
	6. **can\_write** is false
	7. **media\_types** is "application/vnd.oasis.stix+json; version=2.0"
3. For each section described in [Part1: Indicator Sharing Producer Test Cases](https://drive.google.com/open?id=1l54RhjxwuXrZUQ19zIHUiZ7_c6otbLbVVfluKJogU7s) the Respondent will get the content from the TXS at [https://10.1.1.10/api1/collections/](https://10.1.1.10/api1/collections/1000/objects)91a7b528-80eb-42ed-a74d-bd526120 /objects and verify that each bundle returned matched the content for the respective publication test case.
4. The Respondent should also show to the user of the product that new intelligence has been received from the Producer and show to the user what intelligence including the following properties
	1. **Id** must be the uuid of the Indicator shared
	2. **created\_by\_ref** must point to the identity of the **Producer**;
	3. **created** and **modified** must match the timestamp to millisecond granularity of the original shared intelligence
	4. **name** contains the name of the Indicator
	5. **description** contains the description field of the Indicator
	6. **pattern** contains the pattern field of the Indicator
	7. **valid\_from** contains the date for the indicator valid\_from
5. The Respondent must then allow the Respondent analyst via the user interface to modify the **description** field value to “Changed Indicator Description” and allow them to publish that Indicator back to the Producer
6. *Repeat the verification steps of the original Indicator but instead performing the test with Respondent of the changed description as the Producer*

**Setup B Behavior - Read-Write Collection**1. Respondent allows a user to select or specify the URL Address of the TXS to connect to as: <https://10.1.1.10:443> and performs the tests described in [Common Connection Tests](#_kidvi1ygdj8k)
2. Respondent does a get on the collection [https://10.1.1.10/api1/collections/](https://10.1.1.10/api1/collections/1000/objects)91a7b528-80eb-42ed-a74d-bd5a2118 and verifies the following information:
	1. **HTTP Response Code** is 200 OK
	2. **id** is 91a7b528-80eb-42ed-a74d-bd5a2118
	3. **title** is “Read-Write Collection 1”
	4. **description** is “This is Read-Write Collection 1”
	5. **can\_read** is true
	6. **can\_write** is true
	7. **media\_types** is "application/vnd.oasis.stix+json; version=2.0"
3. For each section described in [Part1: Indicator Sharing Producer Test Cases](https://drive.google.com/open?id=1l54RhjxwuXrZUQ19zIHUiZ7_c6otbLbVVfluKJogU7s) the Respondent will get the content from the TXS at https://10.1.1.10/api1/collections/91a7b528-80eb-42ed-a74d-bd5a2118/objects and verify that each bundle returned matched the content for the respective publication test case.
4. The Respondent should also show to the user of the product that new intelligence has been received from the Producer and show to the user what intelligence including the following properties
	1. **Id**
	2. **created\_by\_ref** must point to the identity of the **Producer**;
	3. **created** and **modified** must match the timestamp to millisecond granularity of the original shared intelligence
	4. **name** contains the name of the Indicator
	5. **description** contains the description field of the Indicator
	6. **pattern** contains the pattern field of the Indicator
	7. **valid\_from** contains the date for the indicator valid\_from
5. The Respondent must then allow the Respondent analyst via the user interface to modify the **description** field value to “Changed Indicator Description” and allow them to publish that Indicator back to the Producer
6. *Repeat the verification steps of the original Indicator but instead performing the test with Respondent of the changed description as the Producer*.
 |

|  |  |
| --- | --- |
| Personas | **Use Case #2 (Different Organization, Different Analysts) &** **Use Case #3 (Same Organization, Different Analysts)** |
| TIP; SIEM;  | **Setup A Behavior - Read Collection**1. Respondent allows a user to select or specify the URL Address of the TXS to connect to as: <https://10.1.1.10:443> and performs the tests described in [Common Connection Tests](#_kidvi1ygdj8k)
2. Respondent does a get on the collection [https://10.1.1.10/api1/collections/](https://10.1.1.10/api1/collections/1000/objects)91a7b528-80eb-42ed-a74d-bd526120 and verifies the following information:
	1. **HTTP Response Code** is 200 OK
	2. **id** is 91a7b528-80eb-42ed-a74d-bd526120
	3. **title** is “Read Collection 1”
	4. **description** is “This is Read Collection 1”
	5. **can\_read** is true
	6. **can\_write** is false
	7. **media\_types** is "application/vnd.oasis.stix+json; version=2.0
3. For each section described in [Part1: Indicator Sharing Producer Test Cases](https://drive.google.com/open?id=1l54RhjxwuXrZUQ19zIHUiZ7_c6otbLbVVfluKJogU7s) the Respondent will get the content from the TXS at [https://10.1.1.10/api1/collections/](https://10.1.1.10/api1/collections/1000/objects)91a7b528-80eb-42ed-a74d-bd526120 and verify that each bundle returned matched the content for the respective publication test case.
4. The Respondent should also show to the user of the product that new intelligence has been received from the Producer and show to the user what intelligence including the following properties
	1. **Id** must be the uuid of the Indicator shared
	2. **created\_by\_ref** must point to the identity of the **Producer**;
	3. **created** and **modified** must match the timestamp to millisecond granularity of the original shared intelligence
	4. **name** contains the name of the Indicator
	5. **description** contains the description field of the Indicator
	6. **pattern** contains the pattern field of the Indicator
	7. **valid\_from** contains the date for the indicator valid\_from
5. The Respondent must then allow the Respondent analyst via the user interface to create a new Indicator with all mandatory fields filled in and allow the user to associate the new Indicator with the previously received Indicator. The properties on the new Indicator should be:
	1. **Id** must be a new uuid of the Indicator being created
	2. **created\_by\_ref** must point to the identity of the **Respondent**;
	3. **created** and **modified** must match the timestamp to millisecond granularity of the original shared intelligence
	4. **name** contains the name of the new Indicator
	5. **description** contains the description field of the new Indicator
	6. **pattern** contains the pattern field of the new Indicator
	7. **valid\_from** contains the date for the indicator valid\_from
6. The Respondent then should allow the analyst to publish that Indicator and the relationship between the new Indicator and the original Indicator back to the Producer
7. *Repeat the verification steps of the original Indicator while include verification that the Producer of the original Indicator shows the new Indicator from the Respondent and its relationship to their original Indicator*

**Setup B Behavior - Read-Write Collection**1. Respondent allows a user to select or specify the URL Address of the TXS to connect to as: <https://10.1.1.10:443> and performs the tests described in [Common Connection Tests](#_kidvi1ygdj8k)
2. Respondent does a get on the collection [https://10.1.1.10/api1/collections/](https://10.1.1.10/api1/collections/1000/objects)91a7b528-80eb-42ed-a74d-bd5a2118 and verifies the following information:
	1. **HTTP Response Code** is 200 OK
	2. **id** is 91a7b528-80eb-42ed-a74d-bd5a2118
	3. **title** is “Read-Write Collection 1”
	4. **description** is “This is Read-Write Collection 1”
	5. **can\_read** is true
	6. **can\_write** is true
	7. **media\_types** is "application/vnd.oasis.stix+json; version=2.0"
3. For each section described in [Part1: Indicator Sharing Producer Test Cases](https://drive.google.com/open?id=1l54RhjxwuXrZUQ19zIHUiZ7_c6otbLbVVfluKJogU7s) the Respondent will get the content from the TXS at [https://10.1.1.10/api1/collections/](https://10.1.1.10/api1/collections/1000/objects)91a7b528-80eb-42ed-a74d-bd5a2118 and verify that each bundle returned matched the content for the respective publication test case.
4. The Respondent should also show to the user of the product that new intelligence has been received from the Producer and show to the user what intelligence including the following properties
	1. **Id**
	2. **created\_by\_ref** must point to the identity of the **Producer**;
	3. **created** and **modified** must match the timestamp to millisecond granularity of the original shared intelligence
	4. **name** contains the name of the Indicator
	5. **description** contains the description field of the Indicator
	6. **pattern** contains the pattern field of the Indicator
	7. **valid\_from** contains the date for the indicator valid\_from
5. The Respondent must then allow the Respondent analyst via the user interface to create a new Indicator with all mandatory fields filled in and allow the user to associate the new Indicator with the previously received Indicator. The properties on the new Indicator should be:
	1. **Id** must be a new uuid of the Indicator being created
	2. **created\_by\_ref** must point to the identity of the **Respondent**;
	3. **created** and **modified** must match the timestamp to millisecond granularity of the original shared intelligence
	4. **name** contains the name of the new Indicator
	5. **description** contains the description field of the new Indicator
	6. **pattern** contains the pattern field of the new Indicator
	7. **valid\_from** contains the date for the indicator valid\_from
6. The Respondent then should allow the analyst to publish that Indicator and the relationship between the new Indicator and the original Indicator back to the Producer
7. *Repeat the verification steps of the original Indicator while include verification that the Producer of the original Indicator shows the new Indicator from the Respondent and its relationship to their original Indicator*
 |

### 2.4.6 ​Respondent Test Case Data

#### 2.4.6.1 Indicator Get & Update Modified Intelligence

For each of the test cases listed in this section the general form of the GET and GET-RESPONSE are as follows.

The test organization must verify that the:

1. responses match the posted content, **and**
2. user interface of the Respondent product shows to the user that the content was
	1. received from the TXS, and
	2. posted successfully to the TXS in response.

**Table 2.4.6.1 - Basic GET Request and Response**

|  |  |
| --- | --- |
| **To TXS** | **From TXS** |
| GET [/api1/collections/](https://10.1.1.10/api1/collections/1000/objects)91a7b528-80eb-42ed-a74d-bd5a2118/objects/ HTTP/1.1Host: 10.1.1.10Accept: application/vnd.oasis.stix+json; version=2.0Authorization: Basic dGVzdDoxMjPCow== | HTTP/1.1 200 OKContent-Type: application/vnd.oasis.stix+json; version=2.0{  "type": "bundle", ... "objects": [ { "type": "indicator", ... } ]} |

**Table 2.4.6.2 - Test Case Total Object Count Requirement**

|  |  |
| --- | --- |
| **Part 1 Test Case** | **Total Count** |
| ​Indicator IPv4 Address | 2 |
| ​Indicator IPv4 Address CIDR | 2 |
| Two Indicators with IPv4 Address CIDR | 2 |
| Indicator with IPv6 Address | 2 |
| Indicator with IPv6 Address CIDR | 2 |
| Multiple Indicators within the same bundle | 3 |
| ​Indicator FQDN | 2 |
| ​Indicator URL | 2 |
| ​Indicator URL or FQDN | 2 |
| Indicator File hash with SHA256 or MD5 values | 2 |

#### 2.4.6.2 Indicator Get & Create Related Intelligence

For each of the test cases listed in this section the general form of the GET and GET-RESPONSE are as follows.

The test organization should verify that the:

1. responses match the posted content **and** the
2. user interface of the Respondent product shows to the user that the content was
	1. received from the TXS and
	2. posted successfully to the TXS in response.

**Table 2.4.6.2 - Basic GET Request and Response**

|  |  |
| --- | --- |
| **To TXS** | **From TXS** |
| GET /api1/collections/91a7b528-80eb-42ed-a74d-bd5a2118/objects/ HTTP/1.1Host: 10.1.1.10Accept: application/vnd.oasis.stix+json; version=2.0Authorization: Basic dGVzdDoxMjPCow== | HTTP/1.1 200 OKContent-Type: application/vnd.oasis.stix+json; version=2.0{  "type": "bundle", ... "objects": [ { "type": "indicator", ... } ]} |

**Table 2.4.6.3 - Test Case Total Object Count Requirement**

|  |  |
| --- | --- |
| **Part 1 Test Case** | **Total Count** |
| ​Indicator IPv4 Address | 2 |
| ​Indicator IPv4 Address CIDR | 2 |
| Two Indicators with IPv4 Address CIDR | 2 |
| Indicator with IPv6 Address | 2 |
| Indicator with IPv6 Address CIDR | 2 |
| Multiple Indicators within the same bundle | 3 |
| ​Indicator FQDN | 2 |
| ​Indicator URL | 2 |
| ​Indicator URL or FQDN | 2 |
| Indicator File hash with SHA256 or MD5 values | 2 |

##

##

# 3 ​Persona Checklist

The following checklists summarize all tests that a persona (Producer or Respondent) must conform to within that persona for **both Part 1 and Part 2**. An organization must submit the results for their specific persona(s) to the OASIS CTI TC Interoperability SC to achieve confirmation of interoperability and to be listed on the OASIS website page showing the organization’s compliance to STIX 2.0.

**Results must be submitted to the STIX Interoperability sub-committee for verification.**

Results may be submitted as separate logs; documents; screenshots; any other proof such that the reviewers can assess whether the organization has successfully complied with to STIX/TAXII 2.0 interoperability tests.

Instructions to organizations:

1. Fill in the section relevant to your instance
2. For each test, add a reference in the results column indicating what evidence documentation supports your compliance results.
3. Submit both the filled in section and all indicated supporting documentation.

After review and verification of your compliance demonstration submittal, the OASIS CTI TC Interoperability SC will post confirmation to the CTI TC website at: {URL here}. Your compliance listing will include the following:

1. Name, address and contact information of the company performing the demonstration,
2. Name of the conforming product, and
3. Summary of your compliance demonstration findings that substantiate interoperability conformance.

No independent testing will be performed by the Interoperability SC; rather compliance will be based solely on your self-verification testing, confirmed through your complete and accurate test results, accompanied by your indicated supporting documentation.

## 3.1 Performing Verification Tests and Recording Results

As a testing organization, you must/need to follow these procedures:

1. Identify one or more persona(s) that your software is being tested against. Go to the section and for each row in the verification tables (Part 1 and Part 2) perform self-certification tests that prove that your software outputs the expected results and behaves according to the general use case data flows.
2. For each test, identify whether your software is a
	1. Producer, or
	2. Respondent, or
	3. TAXII Server (Part 2 use cases only).
3. For the identified role (e.g. Producer), perform the test in that row/role combination, capture evidence of your software’s behavior, and paste that evidence into the table’s Results column, confirming that the expected behavior is met. If your software has both roles for a test row, then record the results for each role separately .
	1. Example 1: Organization A wants to self-certify their Data Feed software product. They identify that they are producing threat intelligence and test their software as a Producer in both Part 1 and Part 2 use case tests.
	2. Example 2: Organization B wants to self-certify their Threat Intelligence Platform. They identify that their software is both a Producer and Respondent in the tests cases for Data Feed sharing and Basic Intelligence Collaboration. For each test, Organization B will perform and record the test results for each role.
		1. Test result #1, you record results as a Producer of the intelligence and Test result #2, you record results as a Respondent to the intelligence. For each test, you may choose to use your software as both Producer and Respondent in the test scenario or as a 3rd party that acts in those roles.
4. For test rows that identify numbered Use Cases (UC), perform that test for each UC# and provide results for each Test+UC server combination.

## 3.2 ​Data Feed Provider (DFP)

For the purpose of this document a DFP may be defined as a software instance that acts as a producer of STIX 2.0 content.

Any instance being qualified as a DFP must confirm test results for the following tests for both STIX/TAXII 2.0 Interoperability Test Documents Part 1 and Part 2.

**Table 3.2.1 - Data Feed Provider (DFP) Part 1 Test Verification List**

|  |  |  |  |
| --- | --- | --- | --- |
| **Use Case** | **Test** | **Verification** | **Results** |
| Indicator Sharing | [Indicator IPv4 Address](https://docs.google.com/document/d/1Bk3QsGqS84odU2iJtTZ8GokLZIOuz52iM7QKkRhJtQc/edit#heading=h.3oy7u29) | Mandatory | <fill in> |
| Indicator Sharing | [Indicator IPv4 Address CIDR](https://docs.google.com/document/d/1Bk3QsGqS84odU2iJtTZ8GokLZIOuz52iM7QKkRhJtQc/edit#heading=h.243i4a2) | Mandatory | <fill in> |
| Indicator Sharing | [Two Indicators with IPv4 Address CIDR](https://docs.google.com/document/d/1Bk3QsGqS84odU2iJtTZ8GokLZIOuz52iM7QKkRhJtQc/edit#heading=h.j8sehv) | Mandatory | <fill in> |
| Indicator Sharing | [Indicator with IPv6 Address](https://docs.google.com/document/d/1Bk3QsGqS84odU2iJtTZ8GokLZIOuz52iM7QKkRhJtQc/edit#heading=h.338fx5o) | Optional | <if supported, fill in> |
| Indicator Sharing | [Indicator with IPv6 Address CIDR](https://docs.google.com/document/d/1Bk3QsGqS84odU2iJtTZ8GokLZIOuz52iM7QKkRhJtQc/edit#heading=h.1idq7dh) | Optional | <if supported, fill in> |
| Indicator Sharing | [Indicator FQDN](https://docs.google.com/document/d/1Bk3QsGqS84odU2iJtTZ8GokLZIOuz52iM7QKkRhJtQc/edit#heading=h.42ddq1a) | Mandatory | <fill in> |
| Indicator Sharing | [Indicator URL](https://docs.google.com/document/d/1Bk3QsGqS84odU2iJtTZ8GokLZIOuz52iM7QKkRhJtQc/edit#heading=h.2hio093) | Mandatory | <fill in> |
| Indicator Sharing | [Indicator URL or FQDN](https://docs.google.com/document/d/1Bk3QsGqS84odU2iJtTZ8GokLZIOuz52iM7QKkRhJtQc/edit#heading=h.wnyagw) | Mandatory | <fill in> |
| Indicator Sharing | [Indicator File hash with SHA256 or MD5 values](https://docs.google.com/document/d/1Bk3QsGqS84odU2iJtTZ8GokLZIOuz52iM7QKkRhJtQc/edit#heading=h.3gnlt4p) | Mandatory | <fill in> |
| Sighting Sharing | [Producer Test Case Data](https://docs.google.com/document/d/1Bk3QsGqS84odU2iJtTZ8GokLZIOuz52iM7QKkRhJtQc/edit#heading=h.1vsw3ci) | Mandatory | <fill in> |
| Versioning  | [Creation of an Indicator with Identity and Date](https://docs.google.com/document/d/1Bk3QsGqS84odU2iJtTZ8GokLZIOuz52iM7QKkRhJtQc/edit#heading=h.4fsjm0b) | Mandatory | <fill in> |
| Versioning | [Modification of an Indicator with Identity and Date](https://docs.google.com/document/d/1Bk3QsGqS84odU2iJtTZ8GokLZIOuz52iM7QKkRhJtQc/edit#heading=h.2uxtw84) | Mandatory | <fill in> |
| Versioning | [Deletion of an Indicator with Identity; Dates](https://docs.google.com/document/d/1Bk3QsGqS84odU2iJtTZ8GokLZIOuz52iM7QKkRhJtQc/edit#heading=h.1a346fx) | Mandatory | <fill in> |
| Versioning | [Deletion of a Sighting and Associated Observed Data](https://docs.google.com/document/d/1Bk3QsGqS84odU2iJtTZ8GokLZIOuz52iM7QKkRhJtQc/edit#heading=h.3u2rp3q) | Mandatory | <fill in> |
| Data Markings | [TLP Green + Indicator with IPv4 Address](https://docs.google.com/document/d/1Bk3QsGqS84odU2iJtTZ8GokLZIOuz52iM7QKkRhJtQc/edit#heading=h.2981zbj) | Mandatory | <fill in> |
| Data Markings | [TLP Amber + Two Indicators with IPv4 Address CIDR](https://docs.google.com/document/d/1Bk3QsGqS84odU2iJtTZ8GokLZIOuz52iM7QKkRhJtQc/edit#heading=h.odc9jc) | Mandatory | <fill in> |
| Data Markings | [TLP White and TLP Red + Indicator with IPv6 Address](https://docs.google.com/document/d/1Bk3QsGqS84odU2iJtTZ8GokLZIOuz52iM7QKkRhJtQc/edit#heading=h.38czs75) | Optional | <fill in> |
| Data Markings | [TLP Red + Relationship between Indicator with IPv4 Address and Malware](https://docs.google.com/document/d/1Bk3QsGqS84odU2iJtTZ8GokLZIOuz52iM7QKkRhJtQc/edit#heading=h.1nia2ey) | Optional | <fill in> |
| Custom Object Creation | [Custom Object Creation](https://docs.google.com/document/d/1Bk3QsGqS84odU2iJtTZ8GokLZIOuz52iM7QKkRhJtQc/edit#heading=h.47hxl2r) | Optional | <if supported, fill in> |
| Custom Property Creation | [Custom Property Creation](https://docs.google.com/document/d/1Bk3QsGqS84odU2iJtTZ8GokLZIOuz52iM7QKkRhJtQc/edit#heading=h.2mn7vak) | Optional | <if supported, fill in> |
| Create COA | [Create COA](https://docs.google.com/document/d/1Bk3QsGqS84odU2iJtTZ8GokLZIOuz52iM7QKkRhJtQc/edit#heading=h.11si5id) | Optional | <if supported, fill in> |
| Create COA Relationship | [Create COA with Relationship](https://docs.google.com/document/d/1Bk3QsGqS84odU2iJtTZ8GokLZIOuz52iM7QKkRhJtQc/edit#heading=h.3ls5o66) | Optional | <if supported, fill in> |

**Table 3.2.2 - Data Feed Provider (DFP) Part 2 Test Verification List**

|  |  |  |  |
| --- | --- | --- | --- |
| **Use Case** | **Test** | **Producer** | **Respondent** |
| Common Connection | [Basic Get](#_c72i1ta8syi0) | M | na |
| Common Connection | [Basic API-Root Get](#_7kipx5e0m5qe) | M | na |
| Common Connection | [Missing Authorization Parameter](#_pcm95cfgnu50) | M | na |
| Common Connection | [Incorrect Authorization Parameter](#_fhm9itafe26h) | M | na |
| Common Connection | [Incorrect API Root Info Get](#_px75baftjz91) | M | na |
| Common Connection | [Incorrect Collection Info Get](#_l9cwduadafmq) | M | na |
| Common Connection | [Incorrect version info get](#_u8pow1j5vh2t) | M | na |
| Basic Feed Sharing  | [Verify Collection Information](#_ol7kb2sgx8rv) | M | na |
| Basic Feed Sharing | Indicator Sharing - [Indicator IPv4 Address](https://docs.google.com/document/d/1l54RhjxwuXrZUQ19zIHUiZ7_c6otbLbVVfluKJogU7s/edit#heading=h.52yw5x7eqla4) | M | na |
| Basic Feed Sharing  | Indicator Sharing - [Indicator IPv4 Address CIDR](https://docs.google.com/document/d/1l54RhjxwuXrZUQ19zIHUiZ7_c6otbLbVVfluKJogU7s/edit#heading=h.qlaij3a7t010) | M | na |
| Basic Feed Sharing | Indicator Sharing -[Two Indicators with IPv4 Address CIDR](https://docs.google.com/document/d/1l54RhjxwuXrZUQ19zIHUiZ7_c6otbLbVVfluKJogU7s/edit#heading=h.eja4zzh2k1ms) | M | na |
| Basic Feed Sharing  | Indicator Sharing -[Indicator with IPv6 Address](https://docs.google.com/document/d/1l54RhjxwuXrZUQ19zIHUiZ7_c6otbLbVVfluKJogU7s/edit#heading=h.rstrrbmudaps) | O | na |
| Basic Feed Sharing  | Indicator Sharing -[Indicator with IPv6 Address CIDR](https://docs.google.com/document/d/1l54RhjxwuXrZUQ19zIHUiZ7_c6otbLbVVfluKJogU7s/edit#heading=h.yln28q46ueyx) | O | na |
| Basic Feed Sharing  | Indicator Sharing -[Indicator FQDN](https://docs.google.com/document/d/1l54RhjxwuXrZUQ19zIHUiZ7_c6otbLbVVfluKJogU7s/edit#heading=h.k17l33fnfk6) | M | na |
| Basic Feed Sharing | Indicator Sharing -[Indicator URL](https://docs.google.com/document/d/1l54RhjxwuXrZUQ19zIHUiZ7_c6otbLbVVfluKJogU7s/edit#heading=h.wo94lzilchda) | M | na |
| Basic Feed Sharing  | Indicator Sharing -[Indicator URL or FQDN](https://docs.google.com/document/d/1l54RhjxwuXrZUQ19zIHUiZ7_c6otbLbVVfluKJogU7s/edit#heading=h.35u95m1i27yd) | M | na |
| Basic Feed Sharing  | Indicator Sharing -[Indicator File hash with SHA256 or MD5 values](https://docs.google.com/document/d/1l54RhjxwuXrZUQ19zIHUiZ7_c6otbLbVVfluKJogU7s/edit#heading=h.eiedjyr5uo5s) | M | na |
| Basic Intel Collaboration | [Verify Collection Information](#_1jylpcorytxc) | M | na |
| Basic Intel Collaboration (UC1, UC2, UC3) | Indicator Sharing - [Indicator IPv4 Address](https://docs.google.com/document/d/1l54RhjxwuXrZUQ19zIHUiZ7_c6otbLbVVfluKJogU7s/edit#heading=h.52yw5x7eqla4) | Publish - M | na |
| Basic Intel Collaboration (UC1, UC2, UC3) | Indicator Sharing - [Indicator IPv4 Address CIDR](https://docs.google.com/document/d/1l54RhjxwuXrZUQ19zIHUiZ7_c6otbLbVVfluKJogU7s/edit#heading=h.qlaij3a7t010) | Publish - M | na |
| Basic Intel Collaboration (UC1, UC2, UC3) | Indicator Sharing -[Two Indicators with IPv4 Address CIDR](https://docs.google.com/document/d/1l54RhjxwuXrZUQ19zIHUiZ7_c6otbLbVVfluKJogU7s/edit#heading=h.eja4zzh2k1ms) | Publish - M | na |
| Basic Intel Collaboration (UC1, UC2, UC3) | Indicator Sharing -[Indicator with IPv6 Address](https://docs.google.com/document/d/1l54RhjxwuXrZUQ19zIHUiZ7_c6otbLbVVfluKJogU7s/edit#heading=h.rstrrbmudaps) | Publish - O | na |
| Basic Intel Collaboration (UC1, UC2, UC3) | Indicator Sharing -[Indicator with IPv6 Address CIDR](https://docs.google.com/document/d/1l54RhjxwuXrZUQ19zIHUiZ7_c6otbLbVVfluKJogU7s/edit#heading=h.yln28q46ueyx) | Publish - O | na |
| Basic Intel Collaboration (UC1, UC2, UC3) | Indicator Sharing -[Indicator FQDN](https://docs.google.com/document/d/1l54RhjxwuXrZUQ19zIHUiZ7_c6otbLbVVfluKJogU7s/edit#heading=h.k17l33fnfk6) | Publish - M | na |
| Basic Intel Collaboration (UC1, UC2, UC3) | Indicator Sharing -[Indicator URL](https://docs.google.com/document/d/1l54RhjxwuXrZUQ19zIHUiZ7_c6otbLbVVfluKJogU7s/edit#heading=h.wo94lzilchda) | Publish - M | na |
| Basic Intel Collaboration (UC1, UC2, UC3) | Indicator Sharing -[Indicator URL or FQDN](https://docs.google.com/document/d/1l54RhjxwuXrZUQ19zIHUiZ7_c6otbLbVVfluKJogU7s/edit#heading=h.35u95m1i27yd) | Publish - M | na |
| Basic Intel Collaboration (UC1, UC2, UC3) | Indicator Sharing -[Indicator File hash with SHA256 or MD5 values](https://docs.google.com/document/d/1l54RhjxwuXrZUQ19zIHUiZ7_c6otbLbVVfluKJogU7s/edit#heading=h.eiedjyr5uo5s) | Publish - M | na |

## 3.3 ​Threat Intelligence Platform (TIP)

For the purpose of this document a TIP is defined as a software instance that acts as a producer and/or Respondent of STIX 2.0 content primarily used to aggregate, refine, and share intelligence with other machines or security personnel operating other security infrastructure.

Any software instance being qualified as a TIP must confirm test results for the following tests.

**Table 3.3.1 - Threat Intelligence Platform (TIP) Part 1 Test Verification List**

|  |  |  |  |
| --- | --- | --- | --- |
| **Use Case** | **Test** | **Verification** | **Results** |
| Indicator Sharing | [Indicator IPv4 Address](https://docs.google.com/document/d/1Bk3QsGqS84odU2iJtTZ8GokLZIOuz52iM7QKkRhJtQc/edit#heading=h.3oy7u29) | Mandatory | <fill in> |
| Indicator Sharing | [Indicator IPv4 Address CIDR](https://docs.google.com/document/d/1Bk3QsGqS84odU2iJtTZ8GokLZIOuz52iM7QKkRhJtQc/edit#heading=h.243i4a2) | Mandatory | <fill in> |
| Indicator Sharing | [Two Indicators with IPv4 Address CIDR](https://docs.google.com/document/d/1Bk3QsGqS84odU2iJtTZ8GokLZIOuz52iM7QKkRhJtQc/edit#heading=h.j8sehv) | Mandatory | <fill in> |
| Indicator Sharing | [Indicator with IPv6 Address](https://docs.google.com/document/d/1Bk3QsGqS84odU2iJtTZ8GokLZIOuz52iM7QKkRhJtQc/edit#heading=h.338fx5o) | Optional | <if supported, fill in> |
| Indicator Sharing | [Indicator with IPv6 Address CIDR](https://docs.google.com/document/d/1Bk3QsGqS84odU2iJtTZ8GokLZIOuz52iM7QKkRhJtQc/edit#heading=h.1idq7dh) | Optional | <if supported, fill in> |
| Indicator Sharing | [Indicator FQDN](https://docs.google.com/document/d/1Bk3QsGqS84odU2iJtTZ8GokLZIOuz52iM7QKkRhJtQc/edit#heading=h.42ddq1a) | Mandatory | <fill in> |
| Indicator Sharing | [Indicator URL](https://docs.google.com/document/d/1Bk3QsGqS84odU2iJtTZ8GokLZIOuz52iM7QKkRhJtQc/edit#heading=h.2hio093) | Mandatory | <fill in> |
| Indicator Sharing | [Indicator URL or FQDN](https://docs.google.com/document/d/1Bk3QsGqS84odU2iJtTZ8GokLZIOuz52iM7QKkRhJtQc/edit#heading=h.wnyagw) | Mandatory | <fill in> |
| Indicator Sharing | [Indicator File hash with SHA256 or MD5 values](https://docs.google.com/document/d/1Bk3QsGqS84odU2iJtTZ8GokLZIOuz52iM7QKkRhJtQc/edit#heading=h.3gnlt4p) | Mandatory | <fill in> |
| Sighting Sharing | [Producer Test Case Data](https://docs.google.com/document/d/1Bk3QsGqS84odU2iJtTZ8GokLZIOuz52iM7QKkRhJtQc/edit#heading=h.1vsw3ci) | Mandatory | <fill in> |
| Sighting Sharing | [Sighting + Indicator with IPv4 Address](https://docs.google.com/document/d/1Bk3QsGqS84odU2iJtTZ8GokLZIOuz52iM7QKkRhJtQc/edit#heading=h.20xfydz) | Mandatory | <fill in> |
| Sighting Sharing | [Sighting + Indicator with IPv4 Address Matching CIDR](https://docs.google.com/document/d/1Bk3QsGqS84odU2iJtTZ8GokLZIOuz52iM7QKkRhJtQc/edit#heading=h.4kx3h1s) | Mandatory | <fill in> |
| Sighting Sharing | [Sighting + Indicator with IPv6 Address Matching CIDR](https://docs.google.com/document/d/1Bk3QsGqS84odU2iJtTZ8GokLZIOuz52iM7QKkRhJtQc/edit#heading=h.302dr9l) | Optional | <if supported, fill in> |
| Sighting Sharing | [Sighting + Indicator with NO observed data](https://docs.google.com/document/d/1Bk3QsGqS84odU2iJtTZ8GokLZIOuz52iM7QKkRhJtQc/edit#heading=h.1f7o1he) | Mandatory | <fill in> |
| Sighting Sharing | [Sighting + Indicator with URL](https://docs.google.com/document/d/1Bk3QsGqS84odU2iJtTZ8GokLZIOuz52iM7QKkRhJtQc/edit#heading=h.3z7bk57) | Mandatory | <fill in> |
| Sighting Sharing | [Sighting + Indicator with File Hash](https://docs.google.com/document/d/1Bk3QsGqS84odU2iJtTZ8GokLZIOuz52iM7QKkRhJtQc/edit#heading=h.2eclud0) | Mandatory | <fill in> |
| Versioning  | [Creation of an Indicator with Identity and Date](https://docs.google.com/document/d/1Bk3QsGqS84odU2iJtTZ8GokLZIOuz52iM7QKkRhJtQc/edit#heading=h.4fsjm0b) | Mandatory | <fill in> |
| Versioning | [Modification of an Indicator with Identity and Date](https://docs.google.com/document/d/1Bk3QsGqS84odU2iJtTZ8GokLZIOuz52iM7QKkRhJtQc/edit#heading=h.2uxtw84) | Mandatory | <fill in> |
| Versioning | [Deletion of an Indicator with Identity; Dates](https://docs.google.com/document/d/1Bk3QsGqS84odU2iJtTZ8GokLZIOuz52iM7QKkRhJtQc/edit#heading=h.1a346fx) | Mandatory | <fill in> |
| Versioning | [Deletion of a Sighting and Associated Observed Data](https://docs.google.com/document/d/1Bk3QsGqS84odU2iJtTZ8GokLZIOuz52iM7QKkRhJtQc/edit#heading=h.3u2rp3q) | Mandatory | <fill in> |
| Data Markings | [TLP Green + Indicator with IPv4 Address](https://docs.google.com/document/d/1Bk3QsGqS84odU2iJtTZ8GokLZIOuz52iM7QKkRhJtQc/edit#heading=h.2981zbj) | Mandatory | <fill in> |
| Data Markings | [TLP Amber + Two Indicators with IPv4 Address CIDR](https://docs.google.com/document/d/1Bk3QsGqS84odU2iJtTZ8GokLZIOuz52iM7QKkRhJtQc/edit#heading=h.odc9jc) | Mandatory | <fill in> |
| Data Markings | [TLP White and TLP Red + Indicator with IPv6 Address](https://docs.google.com/document/d/1Bk3QsGqS84odU2iJtTZ8GokLZIOuz52iM7QKkRhJtQc/edit#heading=h.38czs75) | Optional | <fill in> |
| Data Markings | [TLP Red + Relationship between Indicator with IPv4 Address and Malware](https://docs.google.com/document/d/1Bk3QsGqS84odU2iJtTZ8GokLZIOuz52iM7QKkRhJtQc/edit#heading=h.1nia2ey) | Optional | <fill in> |
| Custom Object Creation | [Custom Object Creation](https://docs.google.com/document/d/1Bk3QsGqS84odU2iJtTZ8GokLZIOuz52iM7QKkRhJtQc/edit#heading=h.47hxl2r) | Optional | <if supported, fill in> |
| Custom Property Creation | [Custom Property Creation](https://docs.google.com/document/d/1Bk3QsGqS84odU2iJtTZ8GokLZIOuz52iM7QKkRhJtQc/edit#heading=h.2mn7vak) | Optional | <if supported, fill in> |
| Custom Ingestion | [Required Respondent Support](https://docs.google.com/document/d/1Bk3QsGqS84odU2iJtTZ8GokLZIOuz52iM7QKkRhJtQc/edit#heading=h.thw4kt) | Mandatory | <fill in> |
| Create COA | [Create COA](https://docs.google.com/document/d/1Bk3QsGqS84odU2iJtTZ8GokLZIOuz52iM7QKkRhJtQc/edit#heading=h.11si5id) | Optional | <if supported, fill in> |
| Create COA Relationship | [Create COA with Relationship](https://docs.google.com/document/d/1Bk3QsGqS84odU2iJtTZ8GokLZIOuz52iM7QKkRhJtQc/edit#heading=h.3ls5o66) | Optional | <if supported, fill in> |

**Table 3.3.2 - Threat Intelligence Platform (TIP) Part 2 Test Verification List**

*(P == Producer; R == Respondent; M == Mandatory; O == Optional; UC# = Use Case#)*

|  |  |  |  |
| --- | --- | --- | --- |
| **Use Case** | **Test** | **Producer** | **Respondent** |
| Common Connection | [Basic Get](#_c72i1ta8syi0) | M | M |
| Common Connection | [Basic API-Root Get](#_7kipx5e0m5qe) | M | M |
| Common Connection | [Missing Authorization Parameter](#_pcm95cfgnu50) | M | M |
| Common Connection | [Incorrect Authorization Parameter](#_fhm9itafe26h) | M | M |
| Common Connection | [Incorrect API Root Info Get](#_px75baftjz91) | M | M |
| Common Connection | [Incorrect Collection Info Get](#_l9cwduadafmq) | M | M |
| Common Connection | [Incorrect version info get](#_u8pow1j5vh2t) | M | M |
| Basic Feed Sharing  | [Verify Collection Information](#_ol7kb2sgx8rv) | M | M |
| Basic Feed Sharing | Indicator Sharing - [Indicator IPv4 Address](https://docs.google.com/document/d/1l54RhjxwuXrZUQ19zIHUiZ7_c6otbLbVVfluKJogU7s/edit#heading=h.52yw5x7eqla4) | M | M |
| Basic Feed Sharing  | Indicator Sharing - [Indicator IPv4 Address CIDR](https://docs.google.com/document/d/1l54RhjxwuXrZUQ19zIHUiZ7_c6otbLbVVfluKJogU7s/edit#heading=h.qlaij3a7t010) | M | M |
| Basic Feed Sharing | Indicator Sharing -[Two Indicators with IPv4 Address CIDR](https://docs.google.com/document/d/1l54RhjxwuXrZUQ19zIHUiZ7_c6otbLbVVfluKJogU7s/edit#heading=h.eja4zzh2k1ms) | M | M |
| Basic Feed Sharing  | Indicator Sharing -[Indicator with IPv6 Address](https://docs.google.com/document/d/1l54RhjxwuXrZUQ19zIHUiZ7_c6otbLbVVfluKJogU7s/edit#heading=h.rstrrbmudaps) | O | O |
| Basic Feed Sharing  | Indicator Sharing -[Indicator with IPv6 Address CIDR](https://docs.google.com/document/d/1l54RhjxwuXrZUQ19zIHUiZ7_c6otbLbVVfluKJogU7s/edit#heading=h.yln28q46ueyx) | O | O |
| Basic Feed Sharing  | Indicator Sharing -[Indicator FQDN](https://docs.google.com/document/d/1l54RhjxwuXrZUQ19zIHUiZ7_c6otbLbVVfluKJogU7s/edit#heading=h.k17l33fnfk6) | M | M |
| Basic Feed Sharing | Indicator Sharing -[Indicator URL](https://docs.google.com/document/d/1l54RhjxwuXrZUQ19zIHUiZ7_c6otbLbVVfluKJogU7s/edit#heading=h.wo94lzilchda) | M | M |
| Basic Feed Sharing  | Indicator Sharing -[Indicator URL or FQDN](https://docs.google.com/document/d/1l54RhjxwuXrZUQ19zIHUiZ7_c6otbLbVVfluKJogU7s/edit#heading=h.35u95m1i27yd) | M | M |
| Basic Feed Sharing  | Indicator Sharing -[Indicator File hash with SHA256 or MD5 values](https://docs.google.com/document/d/1l54RhjxwuXrZUQ19zIHUiZ7_c6otbLbVVfluKJogU7s/edit#heading=h.eiedjyr5uo5s) | M | M |
| Basic Intel Collaboration | [Verify Collection Information](#_1jylpcorytxc) | M | M |
| Basic Intel Collaboration (UC1, UC2, UC3) | Indicator Sharing - [Indicator IPv4 Address](https://docs.google.com/document/d/1l54RhjxwuXrZUQ19zIHUiZ7_c6otbLbVVfluKJogU7s/edit#heading=h.52yw5x7eqla4) | Publish - M | Get & Update - MGet & Relate - M |
| Basic Intel Collaboration (UC1, UC2, UC3) | Indicator Sharing - [Indicator IPv4 Address CIDR](https://docs.google.com/document/d/1l54RhjxwuXrZUQ19zIHUiZ7_c6otbLbVVfluKJogU7s/edit#heading=h.qlaij3a7t010) | Publish - M | Get & Update - MGet & Relate - M |
| Basic Intel Collaboration (UC1, UC2, UC3) | Indicator Sharing -[Two Indicators with IPv4 Address CIDR](https://docs.google.com/document/d/1l54RhjxwuXrZUQ19zIHUiZ7_c6otbLbVVfluKJogU7s/edit#heading=h.eja4zzh2k1ms) | Publish - M | Get & Update - MGet & Relate - M |
| Basic Intel Collaboration (UC1, UC2, UC3) | Indicator Sharing -[Indicator with IPv6 Address](https://docs.google.com/document/d/1l54RhjxwuXrZUQ19zIHUiZ7_c6otbLbVVfluKJogU7s/edit#heading=h.rstrrbmudaps) | Publish - O | Get & Update - OGet & Relate - O |
| Basic Intel Collaboration (UC1, UC2, UC3) | Indicator Sharing -[Indicator with IPv6 Address CIDR](https://docs.google.com/document/d/1l54RhjxwuXrZUQ19zIHUiZ7_c6otbLbVVfluKJogU7s/edit#heading=h.yln28q46ueyx) | Publish - O | Get & Update - OGet & Relate - O |
| Basic Intel Collaboration (UC1, UC2, UC3) | Indicator Sharing -[Indicator FQDN](https://docs.google.com/document/d/1l54RhjxwuXrZUQ19zIHUiZ7_c6otbLbVVfluKJogU7s/edit#heading=h.k17l33fnfk6) | Publish - M | Get & Update - MGet & Relate - M |
| Basic Intel Collaboration (UC1, UC2, UC3) | Indicator Sharing -[Indicator URL](https://docs.google.com/document/d/1l54RhjxwuXrZUQ19zIHUiZ7_c6otbLbVVfluKJogU7s/edit#heading=h.wo94lzilchda) | Publish - M | Get & Update - MGet & Relate - M |
| Basic Intel Collaboration (UC1, UC2, UC3) | Indicator Sharing -[Indicator URL or FQDN](https://docs.google.com/document/d/1l54RhjxwuXrZUQ19zIHUiZ7_c6otbLbVVfluKJogU7s/edit#heading=h.35u95m1i27yd) | Publish - M | Get & Update - MGet & Relate - M |
| Basic Intel Collaboration (UC1, UC2, UC3) | Indicator Sharing -[Indicator File hash with SHA256 or MD5 values](https://docs.google.com/document/d/1l54RhjxwuXrZUQ19zIHUiZ7_c6otbLbVVfluKJogU7s/edit#heading=h.eiedjyr5uo5s) | Publish - M | Get & Update - MGet & Relate - M |

## 3.4 Security Incident and Event Management (SIEM)

For the purpose of this document a SIEM is defined as a software instance that acts as a producer and/or Respondent of STIX 2.0 content. The primary Respondent role of a SIEM is to report indicators and high-level information. The primary producer role of a SIEM is with respect to incidents, observations, and sightings.

Any software instance being qualified as a SIEM must confirm test results for the following tests.

**Table 3.4.1 - Security Incident and Event Management (SIEM) Part 1 Test Verification List**

|  |  |  |  |
| --- | --- | --- | --- |
| **Use Case** | **Test** | **Verification** | **Results** |
| Indicator Sharing | [Indicator IPv4 Address](https://docs.google.com/document/d/1Bk3QsGqS84odU2iJtTZ8GokLZIOuz52iM7QKkRhJtQc/edit#heading=h.3oy7u29) | Mandatory | <fill in> |
| Indicator Sharing | [Indicator IPv4 Address CIDR](https://docs.google.com/document/d/1Bk3QsGqS84odU2iJtTZ8GokLZIOuz52iM7QKkRhJtQc/edit#heading=h.243i4a2) | Mandatory | <fill in> |
| Indicator Sharing | [Two Indicators with IPv4 Address CIDR](https://docs.google.com/document/d/1Bk3QsGqS84odU2iJtTZ8GokLZIOuz52iM7QKkRhJtQc/edit#heading=h.j8sehv) | Mandatory | <fill in> |
| Indicator Sharing | [Indicator with IPv6 Address](https://docs.google.com/document/d/1Bk3QsGqS84odU2iJtTZ8GokLZIOuz52iM7QKkRhJtQc/edit#heading=h.338fx5o) | Optional | <if supported, fill in> |
| Indicator Sharing | [Indicator with IPv6 Address CIDR](https://docs.google.com/document/d/1Bk3QsGqS84odU2iJtTZ8GokLZIOuz52iM7QKkRhJtQc/edit#heading=h.1idq7dh) | Optional | <if supported, fill in> |
| Indicator Sharing | [Indicator FQDN](https://docs.google.com/document/d/1Bk3QsGqS84odU2iJtTZ8GokLZIOuz52iM7QKkRhJtQc/edit#heading=h.42ddq1a) | Mandatory | <fill in> |
| Indicator Sharing | [Indicator URL](https://docs.google.com/document/d/1Bk3QsGqS84odU2iJtTZ8GokLZIOuz52iM7QKkRhJtQc/edit#heading=h.2hio093) | Mandatory | <fill in> |
| Indicator Sharing | [Indicator URL or FQDN](https://docs.google.com/document/d/1Bk3QsGqS84odU2iJtTZ8GokLZIOuz52iM7QKkRhJtQc/edit#heading=h.wnyagw) | Mandatory | <fill in> |
| Indicator Sharing | [Indicator File hash with SHA256 or MD5 values](https://docs.google.com/document/d/1Bk3QsGqS84odU2iJtTZ8GokLZIOuz52iM7QKkRhJtQc/edit#heading=h.3gnlt4p) | Mandatory | <fill in> |
| Sighting Sharing | [Producer Test Case Data](https://docs.google.com/document/d/1Bk3QsGqS84odU2iJtTZ8GokLZIOuz52iM7QKkRhJtQc/edit#heading=h.1vsw3ci) | Optional | <fill in> |
| Sighting Sharing | [Sighting + Indicator with IPv4 Address](https://docs.google.com/document/d/1Bk3QsGqS84odU2iJtTZ8GokLZIOuz52iM7QKkRhJtQc/edit#heading=h.20xfydz) | Mandatory | <fill in> |
| Sighting Sharing | [Sighting + Indicator with IPv4 Address Matching CIDR](https://docs.google.com/document/d/1Bk3QsGqS84odU2iJtTZ8GokLZIOuz52iM7QKkRhJtQc/edit#heading=h.4kx3h1s) | Mandatory | <fill in> |
| Sighting Sharing | [Sighting + Indicator with IPv6 Address Matching CIDR](https://docs.google.com/document/d/1Bk3QsGqS84odU2iJtTZ8GokLZIOuz52iM7QKkRhJtQc/edit#heading=h.302dr9l) | Optional | <if supported, fill in> |
| Sighting Sharing | [Sighting + Indicator with NO observed data](https://docs.google.com/document/d/1Bk3QsGqS84odU2iJtTZ8GokLZIOuz52iM7QKkRhJtQc/edit#heading=h.1f7o1he) | Mandatory | <fill in> |
| Sighting Sharing | [Sighting + Indicator with URL](https://docs.google.com/document/d/1Bk3QsGqS84odU2iJtTZ8GokLZIOuz52iM7QKkRhJtQc/edit#heading=h.3z7bk57) | Mandatory | <fill in> |
| Sighting Sharing | [Sighting + Indicator with File Hash](https://docs.google.com/document/d/1Bk3QsGqS84odU2iJtTZ8GokLZIOuz52iM7QKkRhJtQc/edit#heading=h.2eclud0) | Mandatory | <fill in> |
| Versioning  | [Creation of an Indicator with Identity and Date](https://docs.google.com/document/d/1Bk3QsGqS84odU2iJtTZ8GokLZIOuz52iM7QKkRhJtQc/edit#heading=h.4fsjm0b) | Mandatory | <fill in> |
| Versioning | [Modification of an Indicator with Identity and Date](https://docs.google.com/document/d/1Bk3QsGqS84odU2iJtTZ8GokLZIOuz52iM7QKkRhJtQc/edit#heading=h.2uxtw84) | Mandatory | <fill in> |
| Versioning | [Deletion of an Indicator with Identity; Dates](https://docs.google.com/document/d/1Bk3QsGqS84odU2iJtTZ8GokLZIOuz52iM7QKkRhJtQc/edit#heading=h.1a346fx) | Mandatory | <fill in> |
| Versioning | [Deletion of a Sighting and Associated Observed Data](https://docs.google.com/document/d/1Bk3QsGqS84odU2iJtTZ8GokLZIOuz52iM7QKkRhJtQc/edit#heading=h.3u2rp3q) | Mandatory | <fill in> |
| Data Markings | [TLP Green + Indicator with IPv4 Address](https://docs.google.com/document/d/1Bk3QsGqS84odU2iJtTZ8GokLZIOuz52iM7QKkRhJtQc/edit#heading=h.2981zbj) | Mandatory | <fill in> |
| Data Markings | [TLP Amber + Two Indicators with IPv4 Address CIDR](https://docs.google.com/document/d/1Bk3QsGqS84odU2iJtTZ8GokLZIOuz52iM7QKkRhJtQc/edit#heading=h.odc9jc) | Mandatory | <fill in> |
| Data Markings | [TLP White and TLP Red + Indicator with IPv6 Address](https://docs.google.com/document/d/1Bk3QsGqS84odU2iJtTZ8GokLZIOuz52iM7QKkRhJtQc/edit#heading=h.38czs75) | Optional | <fill in> |
| Data Markings | [TLP Red + Relationship between Indicator with IPv4 Address and Malware](https://docs.google.com/document/d/1Bk3QsGqS84odU2iJtTZ8GokLZIOuz52iM7QKkRhJtQc/edit#heading=h.1nia2ey) | Optional | <fill in> |
| Custom Object Creation | [Custom Object Creation](https://docs.google.com/document/d/1Bk3QsGqS84odU2iJtTZ8GokLZIOuz52iM7QKkRhJtQc/edit#heading=h.47hxl2r) | Optional | <if supported, fill in> |
| Custom Property Creation | [Custom Property Creation](https://docs.google.com/document/d/1Bk3QsGqS84odU2iJtTZ8GokLZIOuz52iM7QKkRhJtQc/edit#heading=h.2mn7vak) | Optional | <if supported, fill in> |
| Custom Ingestion | [Required Respondent Support](https://docs.google.com/document/d/1Bk3QsGqS84odU2iJtTZ8GokLZIOuz52iM7QKkRhJtQc/edit#heading=h.thw4kt) | Mandatory | <fill in> |
| Create COA | [Create COA](https://docs.google.com/document/d/1Bk3QsGqS84odU2iJtTZ8GokLZIOuz52iM7QKkRhJtQc/edit#heading=h.11si5id) | Optional | <if supported, fill in> |
| Create COA Relationship | [Create COA with Relationship](https://docs.google.com/document/d/1Bk3QsGqS84odU2iJtTZ8GokLZIOuz52iM7QKkRhJtQc/edit#heading=h.3ls5o66) | Optional | <if supported, fill in> |

**Table 3.4.2 - Security Incident and Event Management (SIEM) Part 2 Test Verification List**

*(P == Producer; R == Respondent; M == Mandatory; O == Optional; UC# = Use Case#)*

|  |  |  |  |
| --- | --- | --- | --- |
| **Use Case** | **Test** | **Producer** | **Respondent** |
| Common Connection | [Basic Get](#_c72i1ta8syi0) | M | M |
| Common Connection | [Basic API-Root Get](#_7kipx5e0m5qe) | M | M |
| Common Connection | [Missing Authorization Parameter](#_pcm95cfgnu50) | M | M |
| Common Connection | [Incorrect Authorization Parameter](#_fhm9itafe26h) | M | M |
| Common Connection | [Incorrect API Root Info Get](#_px75baftjz91) | M | M |
| Common Connection | [Incorrect Collection Info Get](#_l9cwduadafmq) | M | M |
| Common Connection | [Incorrect version info get](#_u8pow1j5vh2t) | M | M |
| Basic Feed Sharing  | [Verify Collection Information](#_ol7kb2sgx8rv) | M | M |
| Basic Feed Sharing | Indicator Sharing - [Indicator IPv4 Address](https://docs.google.com/document/d/1l54RhjxwuXrZUQ19zIHUiZ7_c6otbLbVVfluKJogU7s/edit#heading=h.52yw5x7eqla4) | M | M |
| Basic Feed Sharing  | Indicator Sharing - [Indicator IPv4 Address CIDR](https://docs.google.com/document/d/1l54RhjxwuXrZUQ19zIHUiZ7_c6otbLbVVfluKJogU7s/edit#heading=h.qlaij3a7t010) | M | M |
| Basic Feed Sharing | Indicator Sharing -[Two Indicators with IPv4 Address CIDR](https://docs.google.com/document/d/1l54RhjxwuXrZUQ19zIHUiZ7_c6otbLbVVfluKJogU7s/edit#heading=h.eja4zzh2k1ms) | M | M |
| Basic Feed Sharing  | Indicator Sharing -[Indicator with IPv6 Address](https://docs.google.com/document/d/1l54RhjxwuXrZUQ19zIHUiZ7_c6otbLbVVfluKJogU7s/edit#heading=h.rstrrbmudaps) | O | O |
| Basic Feed Sharing  | Indicator Sharing -[Indicator with IPv6 Address CIDR](https://docs.google.com/document/d/1l54RhjxwuXrZUQ19zIHUiZ7_c6otbLbVVfluKJogU7s/edit#heading=h.yln28q46ueyx) | O | O |
| Basic Feed Sharing  | Indicator Sharing -[Indicator FQDN](https://docs.google.com/document/d/1l54RhjxwuXrZUQ19zIHUiZ7_c6otbLbVVfluKJogU7s/edit#heading=h.k17l33fnfk6) | M | M |
| Basic Feed Sharing | Indicator Sharing -[Indicator URL](https://docs.google.com/document/d/1l54RhjxwuXrZUQ19zIHUiZ7_c6otbLbVVfluKJogU7s/edit#heading=h.wo94lzilchda) | M | M |
| Basic Feed Sharing  | Indicator Sharing -[Indicator URL or FQDN](https://docs.google.com/document/d/1l54RhjxwuXrZUQ19zIHUiZ7_c6otbLbVVfluKJogU7s/edit#heading=h.35u95m1i27yd) | M | M |
| Basic Feed Sharing  | Indicator Sharing -[Indicator File hash with SHA256 or MD5 values](https://docs.google.com/document/d/1l54RhjxwuXrZUQ19zIHUiZ7_c6otbLbVVfluKJogU7s/edit#heading=h.eiedjyr5uo5s) | M | M |
| Basic Intel Collaboration | [Verify Collection Information](#_1jylpcorytxc) | M | M |
| Basic Intel Collaboration (UC1, UC2, UC3) | Indicator Sharing - [Indicator IPv4 Address](https://docs.google.com/document/d/1l54RhjxwuXrZUQ19zIHUiZ7_c6otbLbVVfluKJogU7s/edit#heading=h.52yw5x7eqla4) | Publish - M | Get & Update - MGet & Relate - M |
| Basic Intel Collaboration (UC1, UC2, UC3) | Indicator Sharing - [Indicator IPv4 Address CIDR](https://docs.google.com/document/d/1l54RhjxwuXrZUQ19zIHUiZ7_c6otbLbVVfluKJogU7s/edit#heading=h.qlaij3a7t010) | Publish - M | Get & Update - MGet & Relate - M |
| Basic Intel Collaboration (UC1, UC2, UC3) | Indicator Sharing -[Two Indicators with IPv4 Address CIDR](https://docs.google.com/document/d/1l54RhjxwuXrZUQ19zIHUiZ7_c6otbLbVVfluKJogU7s/edit#heading=h.eja4zzh2k1ms) | Publish - M | Get & Update - MGet & Relate - M |
| Basic Intel Collaboration (UC1, UC2, UC3) | Indicator Sharing -[Indicator with IPv6 Address](https://docs.google.com/document/d/1l54RhjxwuXrZUQ19zIHUiZ7_c6otbLbVVfluKJogU7s/edit#heading=h.rstrrbmudaps) | Publish - O | Get & Update - OGet & Relate - O |
| Basic Intel Collaboration (UC1, UC2, UC3) | Indicator Sharing -[Indicator with IPv6 Address CIDR](https://docs.google.com/document/d/1l54RhjxwuXrZUQ19zIHUiZ7_c6otbLbVVfluKJogU7s/edit#heading=h.yln28q46ueyx) | Publish - O | Get & Update - OGet & Relate - O |
| Basic Intel Collaboration (UC1, UC2, UC3) | Indicator Sharing -[Indicator FQDN](https://docs.google.com/document/d/1l54RhjxwuXrZUQ19zIHUiZ7_c6otbLbVVfluKJogU7s/edit#heading=h.k17l33fnfk6) | Publish - M | Get & Update - MGet & Relate - M |
| Basic Intel Collaboration (UC1, UC2, UC3) | Indicator Sharing -[Indicator URL](https://docs.google.com/document/d/1l54RhjxwuXrZUQ19zIHUiZ7_c6otbLbVVfluKJogU7s/edit#heading=h.wo94lzilchda) | Publish - M | Get & Update - MGet & Relate - M |
| Basic Intel Collaboration (UC1, UC2, UC3) | Indicator Sharing -[Indicator URL or FQDN](https://docs.google.com/document/d/1l54RhjxwuXrZUQ19zIHUiZ7_c6otbLbVVfluKJogU7s/edit#heading=h.35u95m1i27yd) | Publish - M | Get & Update - MGet & Relate - M |
| Basic Intel Collaboration (UC1, UC2, UC3) | Indicator Sharing -[Indicator File hash with SHA256 or MD5 values](https://docs.google.com/document/d/1l54RhjxwuXrZUQ19zIHUiZ7_c6otbLbVVfluKJogU7s/edit#heading=h.eiedjyr5uo5s) | Publish - M | Get & Update - MGet & Relate - M |

## 3.5 Threat Mitigation System (TMS)

For the purpose of this document, TMS is a software mitigates threats in a network. For some of the test use cases, It may act as both a Producer and Respondent. The Respondent TMS primarily reports indicators. The Producer TMS primarily reports sightings.

Any software instance being qualified as a TMS must confirm test results for the following use cases.

**Table 3.5.1 - Threat Mitigation System (TMS) Part 1 Test Verification List**

|  |  |  |  |
| --- | --- | --- | --- |
| **Use Case** | **Test** | **Verification** | **Results** |
| Indicator Sharing | [Indicator IPv4 Address](https://docs.google.com/document/d/1Bk3QsGqS84odU2iJtTZ8GokLZIOuz52iM7QKkRhJtQc/edit#heading=h.3oy7u29) | Mandatory | <fill in> |
| Indicator Sharing | [Indicator IPv4 Address CIDR](https://docs.google.com/document/d/1Bk3QsGqS84odU2iJtTZ8GokLZIOuz52iM7QKkRhJtQc/edit#heading=h.243i4a2) | Mandatory | <fill in> |
| Indicator Sharing | [Two Indicators with IPv4 Address CIDR](https://docs.google.com/document/d/1Bk3QsGqS84odU2iJtTZ8GokLZIOuz52iM7QKkRhJtQc/edit#heading=h.j8sehv) | Mandatory | <fill in> |
| Indicator Sharing | [Indicator with IPv6 Address](https://docs.google.com/document/d/1Bk3QsGqS84odU2iJtTZ8GokLZIOuz52iM7QKkRhJtQc/edit#heading=h.338fx5o) | Optional | <if supported, fill in> |
| Indicator Sharing | [Indicator with IPv6 Address CIDR](https://docs.google.com/document/d/1Bk3QsGqS84odU2iJtTZ8GokLZIOuz52iM7QKkRhJtQc/edit#heading=h.1idq7dh) | Optional | <if supported, fill in> |
| Indicator Sharing | [Indicator FQDN](https://docs.google.com/document/d/1Bk3QsGqS84odU2iJtTZ8GokLZIOuz52iM7QKkRhJtQc/edit#heading=h.42ddq1a) | Mandatory | <fill in> |
| Indicator Sharing | [Indicator URL](https://docs.google.com/document/d/1Bk3QsGqS84odU2iJtTZ8GokLZIOuz52iM7QKkRhJtQc/edit#heading=h.2hio093) | Mandatory | <fill in> |
| Indicator Sharing | [Indicator URL or FQDN](https://docs.google.com/document/d/1Bk3QsGqS84odU2iJtTZ8GokLZIOuz52iM7QKkRhJtQc/edit#heading=h.wnyagw) | Mandatory | <fill in> |
| Indicator Sharing | [Indicator File hash with SHA256 or MD5 values](https://docs.google.com/document/d/1Bk3QsGqS84odU2iJtTZ8GokLZIOuz52iM7QKkRhJtQc/edit#heading=h.3gnlt4p) | Mandatory | <fill in> |
| Sighting Sharing | [Producer Test Case Data](https://docs.google.com/document/d/1Bk3QsGqS84odU2iJtTZ8GokLZIOuz52iM7QKkRhJtQc/edit#heading=h.1vsw3ci) | Mandatory | <fill in> |
| Sighting Sharing | [Sighting + Indicator with IPv4 Address](https://docs.google.com/document/d/1Bk3QsGqS84odU2iJtTZ8GokLZIOuz52iM7QKkRhJtQc/edit#heading=h.20xfydz) | Mandatory | <fill in> |
| Sighting Sharing | [Sighting + Indicator with IPv4 Address Matching CIDR](https://docs.google.com/document/d/1Bk3QsGqS84odU2iJtTZ8GokLZIOuz52iM7QKkRhJtQc/edit#heading=h.4kx3h1s) | Mandatory | <fill in> |
| Sighting Sharing | [Sighting + Indicator with IPv6 Address Matching CIDR](https://docs.google.com/document/d/1Bk3QsGqS84odU2iJtTZ8GokLZIOuz52iM7QKkRhJtQc/edit#heading=h.302dr9l) | Optional | <if supported, fill in> |
| Sighting Sharing | [Sighting + Indicator with NO observed data](https://docs.google.com/document/d/1Bk3QsGqS84odU2iJtTZ8GokLZIOuz52iM7QKkRhJtQc/edit#heading=h.1f7o1he) | Mandatory | <fill in> |
| Sighting Sharing | [Sighting + Indicator with URL](https://docs.google.com/document/d/1Bk3QsGqS84odU2iJtTZ8GokLZIOuz52iM7QKkRhJtQc/edit#heading=h.3z7bk57) | Mandatory | <fill in> |
| Sighting Sharing | [Sighting + Indicator with File Hash](https://docs.google.com/document/d/1Bk3QsGqS84odU2iJtTZ8GokLZIOuz52iM7QKkRhJtQc/edit#heading=h.2eclud0) | Mandatory | <fill in> |
| Versioning  | [Creation of an Indicator with Identity and Date](https://docs.google.com/document/d/1Bk3QsGqS84odU2iJtTZ8GokLZIOuz52iM7QKkRhJtQc/edit#heading=h.4fsjm0b) | Mandatory | <fill in> |
| Versioning | [Modification of an Indicator with Identity and Date](https://docs.google.com/document/d/1Bk3QsGqS84odU2iJtTZ8GokLZIOuz52iM7QKkRhJtQc/edit#heading=h.2uxtw84) | Mandatory | <fill in> |
| Versioning | [Deletion of an Indicator with Identity; Dates](https://docs.google.com/document/d/1Bk3QsGqS84odU2iJtTZ8GokLZIOuz52iM7QKkRhJtQc/edit#heading=h.1a346fx) | Mandatory | <fill in> |
| Versioning | [Deletion of a Sighting and Associated Observed Data](https://docs.google.com/document/d/1Bk3QsGqS84odU2iJtTZ8GokLZIOuz52iM7QKkRhJtQc/edit#heading=h.3u2rp3q) | Mandatory | <fill in> |
| Data Markings | [TLP Green + Indicator with IPv4 Address](https://docs.google.com/document/d/1Bk3QsGqS84odU2iJtTZ8GokLZIOuz52iM7QKkRhJtQc/edit#heading=h.2981zbj) | Mandatory | <fill in> |
| Data Markings | [TLP Amber + Two Indicators with IPv4 Address CIDR](https://docs.google.com/document/d/1Bk3QsGqS84odU2iJtTZ8GokLZIOuz52iM7QKkRhJtQc/edit#heading=h.odc9jc) | Mandatory | <fill in> |
| Data Markings | [TLP White and TLP Red + Indicator with IPv6 Address](https://docs.google.com/document/d/1Bk3QsGqS84odU2iJtTZ8GokLZIOuz52iM7QKkRhJtQc/edit#heading=h.38czs75) | Optional | <fill in> |
| Data Markings | [TLP Red + Relationship between Indicator with IPv4 Address and Malware](https://docs.google.com/document/d/1Bk3QsGqS84odU2iJtTZ8GokLZIOuz52iM7QKkRhJtQc/edit#heading=h.1nia2ey) | Optional | <fill in> |
| Custom Object Creation | [Custom Object Creation](https://docs.google.com/document/d/1Bk3QsGqS84odU2iJtTZ8GokLZIOuz52iM7QKkRhJtQc/edit#heading=h.47hxl2r) | Optional | <if supported, fill in> |
| Custom Property Creation | [Custom Property Creation](https://docs.google.com/document/d/1Bk3QsGqS84odU2iJtTZ8GokLZIOuz52iM7QKkRhJtQc/edit#heading=h.2mn7vak) | Optional | <if supported, fill in> |
| Custom Ingestion | [Required Respondent Support](https://docs.google.com/document/d/1Bk3QsGqS84odU2iJtTZ8GokLZIOuz52iM7QKkRhJtQc/edit#heading=h.thw4kt) | Mandatory | <fill in> |
| Create COA | [Create COA](https://docs.google.com/document/d/1Bk3QsGqS84odU2iJtTZ8GokLZIOuz52iM7QKkRhJtQc/edit#heading=h.11si5id) | Optional | <if supported, fill in> |
| Create COA Relationship | [Create COA with Relationship](https://docs.google.com/document/d/1Bk3QsGqS84odU2iJtTZ8GokLZIOuz52iM7QKkRhJtQc/edit#heading=h.3ls5o66) | Optional | <if supported, fill in> |

**Table 3.5.2 - Threat Mitigation System (TMS) Part 2 Test Verification List**

*(P == Producer; R == Respondent; M == Mandatory; O == Optional; UC# = Use Case#)*

|  |  |  |  |
| --- | --- | --- | --- |
| **Use Case** | **Test** | **Producer** | **Respondent** |
| Common Connection | [Basic Get](#_c72i1ta8syi0) | na | M |
| Common Connection | [Basic API-Root Get](#_7kipx5e0m5qe) | na | M |
| Common Connection | [Missing Authorization Parameter](#_pcm95cfgnu50) | na | M |
| Common Connection | [Incorrect Authorization Parameter](#_fhm9itafe26h) | na | M |
| Common Connection | [Incorrect API Root Info Get](#_px75baftjz91) | na | M |
| Common Connection | [Incorrect Collection Info Get](#_l9cwduadafmq) | na | M |
| Common Connection | [Incorrect version info get](#_u8pow1j5vh2t) | na | M |
| Basic Feed Sharing  | [Verify Collection Information](#_ol7kb2sgx8rv) | na | M |
| Basic Feed Sharing | Indicator Sharing - [Indicator IPv4 Address](https://docs.google.com/document/d/1l54RhjxwuXrZUQ19zIHUiZ7_c6otbLbVVfluKJogU7s/edit#heading=h.52yw5x7eqla4) | na | M |
| Basic Feed Sharing  | Indicator Sharing - [Indicator IPv4 Address CIDR](https://docs.google.com/document/d/1l54RhjxwuXrZUQ19zIHUiZ7_c6otbLbVVfluKJogU7s/edit#heading=h.qlaij3a7t010) | na | M |
| Basic Feed Sharing | Indicator Sharing -[Two Indicators with IPv4 Address CIDR](https://docs.google.com/document/d/1l54RhjxwuXrZUQ19zIHUiZ7_c6otbLbVVfluKJogU7s/edit#heading=h.eja4zzh2k1ms) | na | M |
| Basic Feed Sharing  | Indicator Sharing -[Indicator with IPv6 Address](https://docs.google.com/document/d/1l54RhjxwuXrZUQ19zIHUiZ7_c6otbLbVVfluKJogU7s/edit#heading=h.rstrrbmudaps) | na | O |
| Basic Feed Sharing  | Indicator Sharing -[Indicator with IPv6 Address CIDR](https://docs.google.com/document/d/1l54RhjxwuXrZUQ19zIHUiZ7_c6otbLbVVfluKJogU7s/edit#heading=h.yln28q46ueyx) | na | O |
| Basic Feed Sharing  | Indicator Sharing -[Indicator FQDN](https://docs.google.com/document/d/1l54RhjxwuXrZUQ19zIHUiZ7_c6otbLbVVfluKJogU7s/edit#heading=h.k17l33fnfk6) | na | M |
| Basic Feed Sharing | Indicator Sharing -[Indicator URL](https://docs.google.com/document/d/1l54RhjxwuXrZUQ19zIHUiZ7_c6otbLbVVfluKJogU7s/edit#heading=h.wo94lzilchda) | na | M |
| Basic Feed Sharing  | Indicator Sharing -[Indicator URL or FQDN](https://docs.google.com/document/d/1l54RhjxwuXrZUQ19zIHUiZ7_c6otbLbVVfluKJogU7s/edit#heading=h.35u95m1i27yd) | na | M |
| Basic Feed Sharing  | Indicator Sharing -[Indicator File hash with SHA256 or MD5 values](https://docs.google.com/document/d/1l54RhjxwuXrZUQ19zIHUiZ7_c6otbLbVVfluKJogU7s/edit#heading=h.eiedjyr5uo5s) | na | M |
| Basic Intel Collaboration | [Verify Collection Information](#_1jylpcorytxc) | na | na |
| Basic Intel Collaboration (UC1, UC2, UC3) | Indicator Sharing - [Indicator IPv4 Address](https://docs.google.com/document/d/1l54RhjxwuXrZUQ19zIHUiZ7_c6otbLbVVfluKJogU7s/edit#heading=h.52yw5x7eqla4) | na | na |
| Basic Intel Collaboration (UC1, UC2, UC3) | Indicator Sharing - [Indicator IPv4 Address CIDR](https://docs.google.com/document/d/1l54RhjxwuXrZUQ19zIHUiZ7_c6otbLbVVfluKJogU7s/edit#heading=h.qlaij3a7t010) | na | na |
| Basic Intel Collaboration (UC1, UC2, UC3) | Indicator Sharing -[Two Indicators with IPv4 Address CIDR](https://docs.google.com/document/d/1l54RhjxwuXrZUQ19zIHUiZ7_c6otbLbVVfluKJogU7s/edit#heading=h.eja4zzh2k1ms) | na | na |
| Basic Intel Collaboration (UC1, UC2, UC3) | Indicator Sharing -[Indicator with IPv6 Address](https://docs.google.com/document/d/1l54RhjxwuXrZUQ19zIHUiZ7_c6otbLbVVfluKJogU7s/edit#heading=h.rstrrbmudaps) | na | na |
| Basic Intel Collaboration (UC1, UC2, UC3) | Indicator Sharing -[Indicator with IPv6 Address CIDR](https://docs.google.com/document/d/1l54RhjxwuXrZUQ19zIHUiZ7_c6otbLbVVfluKJogU7s/edit#heading=h.yln28q46ueyx) | na | na |
| Basic Intel Collaboration (UC1, UC2, UC3) | Indicator Sharing -[Indicator FQDN](https://docs.google.com/document/d/1l54RhjxwuXrZUQ19zIHUiZ7_c6otbLbVVfluKJogU7s/edit#heading=h.k17l33fnfk6) | na | na |
| Basic Intel Collaboration (UC1, UC2, UC3) | Indicator Sharing -[Indicator URL](https://docs.google.com/document/d/1l54RhjxwuXrZUQ19zIHUiZ7_c6otbLbVVfluKJogU7s/edit#heading=h.wo94lzilchda) | na | na |
| Basic Intel Collaboration (UC1, UC2, UC3) | Indicator Sharing -[Indicator URL or FQDN](https://docs.google.com/document/d/1l54RhjxwuXrZUQ19zIHUiZ7_c6otbLbVVfluKJogU7s/edit#heading=h.35u95m1i27yd) | na | na |
| Basic Intel Collaboration (UC1, UC2, UC3) | Indicator Sharing -[Indicator File hash with SHA256 or MD5 values](https://docs.google.com/document/d/1l54RhjxwuXrZUQ19zIHUiZ7_c6otbLbVVfluKJogU7s/edit#heading=h.eiedjyr5uo5s) | na | na |

## 3.6 Threat Detection System (TDS)

For the purpose of this document a TDS detects threats in a network and may or may not mitigate them. It may act as both a Producer and Respondent depending on the type of use case. The Respondent is primarily concerned with indicators. The Producer role is primarily concerned with sightings.

Any software instance being qualified as a TMS must confirm test results for the following use cases.

**Table 3.6.1 - Threat Detection System (TMS) Part 1 Test Verification List**

|  |  |  |  |
| --- | --- | --- | --- |
| **Use Case** | **Test** | **Verification** | **Results** |
| Indicator Sharing | [Indicator IPv4 Address](https://docs.google.com/document/d/1Bk3QsGqS84odU2iJtTZ8GokLZIOuz52iM7QKkRhJtQc/edit#heading=h.3oy7u29) | Mandatory | <fill in> |
| Indicator Sharing | [Indicator IPv4 Address CIDR](https://docs.google.com/document/d/1Bk3QsGqS84odU2iJtTZ8GokLZIOuz52iM7QKkRhJtQc/edit#heading=h.243i4a2) | Mandatory | <fill in> |
| Indicator Sharing | [Two Indicators with IPv4 Address CIDR](https://docs.google.com/document/d/1Bk3QsGqS84odU2iJtTZ8GokLZIOuz52iM7QKkRhJtQc/edit#heading=h.j8sehv) | Mandatory | <fill in> |
| Indicator Sharing | [Indicator with IPv6 Address](https://docs.google.com/document/d/1Bk3QsGqS84odU2iJtTZ8GokLZIOuz52iM7QKkRhJtQc/edit#heading=h.338fx5o) | Optional | <if supported, fill in> |
| Indicator Sharing | [Indicator with IPv6 Address CIDR](https://docs.google.com/document/d/1Bk3QsGqS84odU2iJtTZ8GokLZIOuz52iM7QKkRhJtQc/edit#heading=h.1idq7dh) | Optional | <if supported, fill in> |
| Indicator Sharing | [Indicator FQDN](https://docs.google.com/document/d/1Bk3QsGqS84odU2iJtTZ8GokLZIOuz52iM7QKkRhJtQc/edit#heading=h.42ddq1a) | Mandatory | <fill in> |
| Indicator Sharing | [Indicator URL](https://docs.google.com/document/d/1Bk3QsGqS84odU2iJtTZ8GokLZIOuz52iM7QKkRhJtQc/edit#heading=h.2hio093) | Mandatory | <fill in> |
| Indicator Sharing | [Indicator URL or FQDN](https://docs.google.com/document/d/1Bk3QsGqS84odU2iJtTZ8GokLZIOuz52iM7QKkRhJtQc/edit#heading=h.wnyagw) | Mandatory | <fill in> |
| Indicator Sharing | [Indicator File hash with SHA256 or MD5 values](https://docs.google.com/document/d/1Bk3QsGqS84odU2iJtTZ8GokLZIOuz52iM7QKkRhJtQc/edit#heading=h.3gnlt4p) | Mandatory | <fill in> |
| Sighting Sharing | [Producer Test Case Data](https://docs.google.com/document/d/1Bk3QsGqS84odU2iJtTZ8GokLZIOuz52iM7QKkRhJtQc/edit#heading=h.1vsw3ci) | Mandatory | <fill in> |
| Sighting Sharing | [Sighting + Indicator with IPv4 Address](https://docs.google.com/document/d/1Bk3QsGqS84odU2iJtTZ8GokLZIOuz52iM7QKkRhJtQc/edit#heading=h.20xfydz) | Mandatory | <fill in> |
| Sighting Sharing | [Sighting + Indicator with IPv4 Address Matching CIDR](https://docs.google.com/document/d/1Bk3QsGqS84odU2iJtTZ8GokLZIOuz52iM7QKkRhJtQc/edit#heading=h.4kx3h1s) | Mandatory | <fill in> |
| Sighting Sharing | [Sighting + Indicator with IPv6 Address Matching CIDR](https://docs.google.com/document/d/1Bk3QsGqS84odU2iJtTZ8GokLZIOuz52iM7QKkRhJtQc/edit#heading=h.302dr9l) | Optional | <if supported, fill in> |
| Sighting Sharing | [Sighting + Indicator with NO observed data](https://docs.google.com/document/d/1Bk3QsGqS84odU2iJtTZ8GokLZIOuz52iM7QKkRhJtQc/edit#heading=h.1f7o1he) | Mandatory | <fill in> |
| Sighting Sharing | [Sighting + Indicator with URL](https://docs.google.com/document/d/1Bk3QsGqS84odU2iJtTZ8GokLZIOuz52iM7QKkRhJtQc/edit#heading=h.3z7bk57) | Mandatory | <fill in> |
| Sighting Sharing | [Sighting + Indicator with File Hash](https://docs.google.com/document/d/1Bk3QsGqS84odU2iJtTZ8GokLZIOuz52iM7QKkRhJtQc/edit#heading=h.2eclud0) | Mandatory | <fill in> |
| Versioning  | [Creation of an Indicator with Identity and Date](https://docs.google.com/document/d/1Bk3QsGqS84odU2iJtTZ8GokLZIOuz52iM7QKkRhJtQc/edit#heading=h.4fsjm0b) | Mandatory | <fill in> |
| Versioning | [Modification of an Indicator with Identity and Date](https://docs.google.com/document/d/1Bk3QsGqS84odU2iJtTZ8GokLZIOuz52iM7QKkRhJtQc/edit#heading=h.2uxtw84) | Mandatory | <fill in> |
| Versioning | [Deletion of an Indicator with Identity; Dates](https://docs.google.com/document/d/1Bk3QsGqS84odU2iJtTZ8GokLZIOuz52iM7QKkRhJtQc/edit#heading=h.1a346fx) | Mandatory | <fill in> |
| Versioning | [Deletion of a Sighting and Associated Observed Data](https://docs.google.com/document/d/1Bk3QsGqS84odU2iJtTZ8GokLZIOuz52iM7QKkRhJtQc/edit#heading=h.3u2rp3q) | Mandatory | <fill in> |
| Data Markings | [TLP Green + Indicator with IPv4 Address](https://docs.google.com/document/d/1Bk3QsGqS84odU2iJtTZ8GokLZIOuz52iM7QKkRhJtQc/edit#heading=h.2981zbj) | Mandatory | <fill in> |
| Data Markings | [TLP Amber + Two Indicators with IPv4 Address CIDR](https://docs.google.com/document/d/1Bk3QsGqS84odU2iJtTZ8GokLZIOuz52iM7QKkRhJtQc/edit#heading=h.odc9jc) | Mandatory | <fill in> |
| Data Markings | [TLP White and TLP Red + Indicator with IPv6 Address](https://docs.google.com/document/d/1Bk3QsGqS84odU2iJtTZ8GokLZIOuz52iM7QKkRhJtQc/edit#heading=h.38czs75) | Optional | <fill in> |
| Data Markings | [TLP Red + Relationship between Indicator with IPv4 Address and Malware](https://docs.google.com/document/d/1Bk3QsGqS84odU2iJtTZ8GokLZIOuz52iM7QKkRhJtQc/edit#heading=h.1nia2ey) | Optional | <fill in> |
| Custom Object Creation | [Custom Object Creation](https://docs.google.com/document/d/1Bk3QsGqS84odU2iJtTZ8GokLZIOuz52iM7QKkRhJtQc/edit#heading=h.47hxl2r) | Optional | <if supported, fill in> |
| Custom Property Creation | [Custom Property Creation](https://docs.google.com/document/d/1Bk3QsGqS84odU2iJtTZ8GokLZIOuz52iM7QKkRhJtQc/edit#heading=h.2mn7vak) | Optional | <if supported, fill in> |
| Custom Ingestion | [Required Respondent Support](https://docs.google.com/document/d/1Bk3QsGqS84odU2iJtTZ8GokLZIOuz52iM7QKkRhJtQc/edit#heading=h.thw4kt) | Mandatory | <fill in> |
| Create COA | [Create COA](https://docs.google.com/document/d/1Bk3QsGqS84odU2iJtTZ8GokLZIOuz52iM7QKkRhJtQc/edit#heading=h.11si5id) | Optional | <if supported, fill in> |
| Create COA Relationship | [Create COA with Relationship](https://docs.google.com/document/d/1Bk3QsGqS84odU2iJtTZ8GokLZIOuz52iM7QKkRhJtQc/edit#heading=h.3ls5o66) | Optional | <if supported, fill in> |

**Table 3.6.2 - Threat Detection System (TDS) Part 2 Test Verification List**

*(P == Producer; R == Respondent; M == Mandatory; O == Optional; UC# = Use Case#)*

|  |  |  |  |
| --- | --- | --- | --- |
| **Use Case** | **Test** | **Producer** | **Respondent** |
| Common Connection | [Basic Get](#_c72i1ta8syi0) | na | M |
| Common Connection | [Basic API-Root Get](#_7kipx5e0m5qe) | na | M |
| Common Connection | [Missing Authorization Parameter](#_pcm95cfgnu50) | na | M |
| Common Connection | [Incorrect Authorization Parameter](#_fhm9itafe26h) | na | M |
| Common Connection | [Incorrect API Root Info Get](#_px75baftjz91) | na | M |
| Common Connection | [Incorrect Collection Info Get](#_l9cwduadafmq) | na | M |
| Common Connection | [Incorrect version info get](#_u8pow1j5vh2t) | na | M |
| Basic Feed Sharing  | [Verify Collection Information](#_ol7kb2sgx8rv) | na | M |
| Basic Feed Sharing | Indicator Sharing - [Indicator IPv4 Address](https://docs.google.com/document/d/1l54RhjxwuXrZUQ19zIHUiZ7_c6otbLbVVfluKJogU7s/edit#heading=h.52yw5x7eqla4) | na | M |
| Basic Feed Sharing  | Indicator Sharing - [Indicator IPv4 Address CIDR](https://docs.google.com/document/d/1l54RhjxwuXrZUQ19zIHUiZ7_c6otbLbVVfluKJogU7s/edit#heading=h.qlaij3a7t010) | na | M |
| Basic Feed Sharing | Indicator Sharing -[Two Indicators with IPv4 Address CIDR](https://docs.google.com/document/d/1l54RhjxwuXrZUQ19zIHUiZ7_c6otbLbVVfluKJogU7s/edit#heading=h.eja4zzh2k1ms) | na | M |
| Basic Feed Sharing  | Indicator Sharing -[Indicator with IPv6 Address](https://docs.google.com/document/d/1l54RhjxwuXrZUQ19zIHUiZ7_c6otbLbVVfluKJogU7s/edit#heading=h.rstrrbmudaps) | na | O |
| Basic Feed Sharing  | Indicator Sharing -[Indicator with IPv6 Address CIDR](https://docs.google.com/document/d/1l54RhjxwuXrZUQ19zIHUiZ7_c6otbLbVVfluKJogU7s/edit#heading=h.yln28q46ueyx) | na | O |
| Basic Feed Sharing  | Indicator Sharing -[Indicator FQDN](https://docs.google.com/document/d/1l54RhjxwuXrZUQ19zIHUiZ7_c6otbLbVVfluKJogU7s/edit#heading=h.k17l33fnfk6) | na | M |
| Basic Feed Sharing | Indicator Sharing -[Indicator URL](https://docs.google.com/document/d/1l54RhjxwuXrZUQ19zIHUiZ7_c6otbLbVVfluKJogU7s/edit#heading=h.wo94lzilchda) | na | M |
| Basic Feed Sharing  | Indicator Sharing -[Indicator URL or FQDN](https://docs.google.com/document/d/1l54RhjxwuXrZUQ19zIHUiZ7_c6otbLbVVfluKJogU7s/edit#heading=h.35u95m1i27yd) | na | M |
| Basic Feed Sharing  | Indicator Sharing -[Indicator File hash with SHA256 or MD5 values](https://docs.google.com/document/d/1l54RhjxwuXrZUQ19zIHUiZ7_c6otbLbVVfluKJogU7s/edit#heading=h.eiedjyr5uo5s) | na | M |
| Basic Intel Collaboration | [Verify Collection Information](#_1jylpcorytxc) | na | na |
| Basic Intel Collaboration (UC1, UC2, UC3) | Indicator Sharing - [Indicator IPv4 Address](https://docs.google.com/document/d/1l54RhjxwuXrZUQ19zIHUiZ7_c6otbLbVVfluKJogU7s/edit#heading=h.52yw5x7eqla4) | na | na |
| Basic Intel Collaboration (UC1, UC2, UC3) | Indicator Sharing - [Indicator IPv4 Address CIDR](https://docs.google.com/document/d/1l54RhjxwuXrZUQ19zIHUiZ7_c6otbLbVVfluKJogU7s/edit#heading=h.qlaij3a7t010) | na | na |
| Basic Intel Collaboration (UC1, UC2, UC3) | Indicator Sharing -[Two Indicators with IPv4 Address CIDR](https://docs.google.com/document/d/1l54RhjxwuXrZUQ19zIHUiZ7_c6otbLbVVfluKJogU7s/edit#heading=h.eja4zzh2k1ms) | na | na |
| Basic Intel Collaboration (UC1, UC2, UC3) | Indicator Sharing -[Indicator with IPv6 Address](https://docs.google.com/document/d/1l54RhjxwuXrZUQ19zIHUiZ7_c6otbLbVVfluKJogU7s/edit#heading=h.rstrrbmudaps) | na | na |
| Basic Intel Collaboration (UC1, UC2, UC3) | Indicator Sharing -[Indicator with IPv6 Address CIDR](https://docs.google.com/document/d/1l54RhjxwuXrZUQ19zIHUiZ7_c6otbLbVVfluKJogU7s/edit#heading=h.yln28q46ueyx) | na | na |
| Basic Intel Collaboration (UC1, UC2, UC3) | Indicator Sharing -[Indicator FQDN](https://docs.google.com/document/d/1l54RhjxwuXrZUQ19zIHUiZ7_c6otbLbVVfluKJogU7s/edit#heading=h.k17l33fnfk6) | na | na |
| Basic Intel Collaboration (UC1, UC2, UC3) | Indicator Sharing -[Indicator URL](https://docs.google.com/document/d/1l54RhjxwuXrZUQ19zIHUiZ7_c6otbLbVVfluKJogU7s/edit#heading=h.wo94lzilchda) | na | na |
| Basic Intel Collaboration (UC1, UC2, UC3) | Indicator Sharing -[Indicator URL or FQDN](https://docs.google.com/document/d/1l54RhjxwuXrZUQ19zIHUiZ7_c6otbLbVVfluKJogU7s/edit#heading=h.35u95m1i27yd) | na | na |
| Basic Intel Collaboration (UC1, UC2, UC3) | Indicator Sharing -[Indicator File hash with SHA256 or MD5 values](https://docs.google.com/document/d/1l54RhjxwuXrZUQ19zIHUiZ7_c6otbLbVVfluKJogU7s/edit#heading=h.eiedjyr5uo5s) | na | na |

#

## 3.7 Threat intelligence Sink (TIS)

For the purpose of this document, a (TIS) is a software instance that consumes STIX 2.0 content in order to perform translations to domain specific formats. Those translations are consumable by enforcement and/or detection systems that do not natively support STIX 2.0. These TIS consumers may or may not have the capability of reporting sightings. A (TIS) that consumes STIX content will typically consume indicators.

Any software instance being qualified as a (TIS) must confirm test results for the following use cases.

**Table 3.7.1 — Threat Intelligence Sink (TIS) Part 1 Test Verification List**

|  |  |  |  |
| --- | --- | --- | --- |
| **Use Case** | **Test** | **Verification** | **Results** |
| Indicator Sharing | [Indicator IPv4 Address](https://docs.google.com/document/d/1l54RhjxwuXrZUQ19zIHUiZ7_c6otbLbVVfluKJogU7s/edit#heading=h.52yw5x7eqla4) | Mandatory | <fill in> |
| Indicator Sharing | [Indicator IPv4 Address CIDR](https://docs.google.com/document/d/1l54RhjxwuXrZUQ19zIHUiZ7_c6otbLbVVfluKJogU7s/edit#heading=h.qlaij3a7t010) | Mandatory | <fill in> |
| Indicator Sharing | [Two Indicators with IPv4 Address CIDR](https://docs.google.com/document/d/1l54RhjxwuXrZUQ19zIHUiZ7_c6otbLbVVfluKJogU7s/edit#heading=h.eja4zzh2k1ms) | Mandatory | <fill in> |
| Indicator Sharing | [Indicator with IPv6 Address](https://docs.google.com/document/d/1l54RhjxwuXrZUQ19zIHUiZ7_c6otbLbVVfluKJogU7s/edit#heading=h.rstrrbmudaps) | Optional | <if supported, fill in> |
| Indicator Sharing | [Indicator with IPv6 Address CIDR](https://docs.google.com/document/d/1l54RhjxwuXrZUQ19zIHUiZ7_c6otbLbVVfluKJogU7s/edit#heading=h.yln28q46ueyx) | Optional | <if supported, fill in> |
| Indicator Sharing | [Indicator FQDN](https://docs.google.com/document/d/1l54RhjxwuXrZUQ19zIHUiZ7_c6otbLbVVfluKJogU7s/edit#heading=h.k17l33fnfk6) | Mandatory | <fill in> |
| Indicator Sharing | [Indicator URL](https://docs.google.com/document/d/1l54RhjxwuXrZUQ19zIHUiZ7_c6otbLbVVfluKJogU7s/edit#heading=h.wo94lzilchda) | Mandatory | <fill in> |
| Indicator Sharing | [Indicator URL or FQDN](https://docs.google.com/document/d/1l54RhjxwuXrZUQ19zIHUiZ7_c6otbLbVVfluKJogU7s/edit#heading=h.35u95m1i27yd) | Mandatory | <fill in> |
| Indicator Sharing | [Indicator File hash with SHA256 or MD5 values](https://docs.google.com/document/d/1l54RhjxwuXrZUQ19zIHUiZ7_c6otbLbVVfluKJogU7s/edit#heading=h.eiedjyr5uo5s) | Mandatory | <fill in> |
| Sighting Sharing | [Producer Test Case Data](https://docs.google.com/document/d/1l54RhjxwuXrZUQ19zIHUiZ7_c6otbLbVVfluKJogU7s/edit#heading=h.s0qkgkp5ijs0) | Optional | <fill in> |
| Sighting Sharing | [Sighting + Indicator with IPv4 Address](https://docs.google.com/document/d/1l54RhjxwuXrZUQ19zIHUiZ7_c6otbLbVVfluKJogU7s/edit#heading=h.70fgqvsh3weq) | Optional | <fill in> |
| Sighting Sharing | [Sighting + Indicator with IPv4 Address Matching CIDR](https://docs.google.com/document/d/1l54RhjxwuXrZUQ19zIHUiZ7_c6otbLbVVfluKJogU7s/edit#heading=h.2wehk7z109r3) | Optional | <fill in> |
| Sighting Sharing | [Sighting + Indicator with IPv6 Address Matching CIDR](https://docs.google.com/document/d/1l54RhjxwuXrZUQ19zIHUiZ7_c6otbLbVVfluKJogU7s/edit#heading=h.6nwwbdlxpgj3) | Optional | <if supported, fill in> |
| Sighting Sharing | [Sighting + Indicator with NO observed data](https://docs.google.com/document/d/1l54RhjxwuXrZUQ19zIHUiZ7_c6otbLbVVfluKJogU7s/edit#heading=h.j2558gj028i2) | Optional | <fill in> |
| Sighting Sharing | [Sighting + Indicator with URL](https://docs.google.com/document/d/1l54RhjxwuXrZUQ19zIHUiZ7_c6otbLbVVfluKJogU7s/edit#heading=h.rm4v1ph0zf8p) | Optional | <fill in> |
| Sighting Sharing | [Sighting + Indicator with File Hash](https://docs.google.com/document/d/1l54RhjxwuXrZUQ19zIHUiZ7_c6otbLbVVfluKJogU7s/edit#heading=h.kdhtt33053jn) | Optional | <fill in> |
| Versioning  | [Creation of an Indicator with Identity and Date](https://docs.google.com/document/d/1l54RhjxwuXrZUQ19zIHUiZ7_c6otbLbVVfluKJogU7s/edit#heading=h.g8g6njc3bebz) | Optional | <fill in> |
| Versioning | [Modification of an Indicator with Identity and Date](https://docs.google.com/document/d/1l54RhjxwuXrZUQ19zIHUiZ7_c6otbLbVVfluKJogU7s/edit#heading=h.io33iz17c3mi) | Optional | <fill in> |
| Versioning | [Deletion of an Indicator with Identity; Dates](https://docs.google.com/document/d/1l54RhjxwuXrZUQ19zIHUiZ7_c6otbLbVVfluKJogU7s/edit#heading=h.6sq30p2dopxc) | Optional | <fill in> |
| Versioning | [Deletion of a Sighting and Associated Observed Data](https://docs.google.com/document/d/1l54RhjxwuXrZUQ19zIHUiZ7_c6otbLbVVfluKJogU7s/edit#heading=h.itw55fdgoou6) | Optional | <fill in> |
| Data Markings | [TLP Green + Indicator with IPv4 Address](https://docs.google.com/document/d/1l54RhjxwuXrZUQ19zIHUiZ7_c6otbLbVVfluKJogU7s/edit#heading=h.hs32gzwb45v8) | Mandatory | <fill in> |
| Data Markings | [TLP Amber + Two Indicators with IPv4 Address CIDR](https://docs.google.com/document/d/1l54RhjxwuXrZUQ19zIHUiZ7_c6otbLbVVfluKJogU7s/edit#heading=h.bnkdssdphelq) | Mandatory | <fill in> |
| Data Markings | [TLP White and TLP Red + Indicator with IPv6 Address](https://docs.google.com/document/d/1l54RhjxwuXrZUQ19zIHUiZ7_c6otbLbVVfluKJogU7s/edit#heading=h.ip5o6gwxz4) | Optional | <fill in> |
| Data Markings | [TLP Red + Relationship between Indicator with IPv4 Address and Malware](https://docs.google.com/document/d/1l54RhjxwuXrZUQ19zIHUiZ7_c6otbLbVVfluKJogU7s/edit#heading=h.ea45faikv32u) | Optional | <fill in> |
| Custom Object Creation | [Custom Object Creation](https://docs.google.com/document/d/1l54RhjxwuXrZUQ19zIHUiZ7_c6otbLbVVfluKJogU7s/edit#heading=h.jareutmf4g3e) | Optional | <if supported, fill in> |
| Custom Property Creation | [Custom Property Creation](https://docs.google.com/document/d/1l54RhjxwuXrZUQ19zIHUiZ7_c6otbLbVVfluKJogU7s/edit#heading=h.kby4gr9ncvuy) | Optional | <if supported, fill in> |
| Custom Ingestion | [Required Respondent Support](https://docs.google.com/document/d/1l54RhjxwuXrZUQ19zIHUiZ7_c6otbLbVVfluKJogU7s/edit#heading=h.n0jym44wzsst) | Mandatory | <fill in> |
| Create COA | [Create COA](https://docs.google.com/document/d/1l54RhjxwuXrZUQ19zIHUiZ7_c6otbLbVVfluKJogU7s/edit#heading=h.mxqmu4sr7eer) | Optional | <if supported, fill in> |
| Create COA Relationship | [Create COA with Relationship](https://docs.google.com/document/d/1l54RhjxwuXrZUQ19zIHUiZ7_c6otbLbVVfluKJogU7s/edit#heading=h.218wh3kvhl0d) | Optional | <if supported, fill in> |

**Table 3.7.2 - Threat Intelligence Sink (TIS) Part 2 Test Verification List**

*(P == Producer; R == Respondent; M == Mandatory; O == Optional; UC# = Use Case#)*

|  |  |  |  |
| --- | --- | --- | --- |
| **Use Case** | **Test** | **Producer** | **Respondent** |
| Common Connection | [Basic Get](#_c72i1ta8syi0) | na | M |
| Common Connection | [Basic API-Root Get](#_7kipx5e0m5qe) | na | M |
| Common Connection | [Missing Authorization Parameter](#_pcm95cfgnu50) | na | M |
| Common Connection | [Incorrect Authorization Parameter](#_fhm9itafe26h) | na | M |
| Common Connection | [Incorrect API Root Info Get](#_px75baftjz91) | na | M |
| Common Connection | [Incorrect Collection Info Get](#_l9cwduadafmq) | na | M |
| Common Connection | [Incorrect version info get](#_u8pow1j5vh2t) | na | M |
| Basic Feed Sharing  | [Verify Collection Information](#_ol7kb2sgx8rv) | na | M |
| Basic Feed Sharing | Indicator Sharing - [Indicator IPv4 Address](https://docs.google.com/document/d/1l54RhjxwuXrZUQ19zIHUiZ7_c6otbLbVVfluKJogU7s/edit#heading=h.52yw5x7eqla4) | na | M |
| Basic Feed Sharing  | Indicator Sharing - [Indicator IPv4 Address CIDR](https://docs.google.com/document/d/1l54RhjxwuXrZUQ19zIHUiZ7_c6otbLbVVfluKJogU7s/edit#heading=h.qlaij3a7t010) | na | M |
| Basic Feed Sharing | Indicator Sharing -[Two Indicators with IPv4 Address CIDR](https://docs.google.com/document/d/1l54RhjxwuXrZUQ19zIHUiZ7_c6otbLbVVfluKJogU7s/edit#heading=h.eja4zzh2k1ms) | na | M |
| Basic Feed Sharing  | Indicator Sharing -[Indicator with IPv6 Address](https://docs.google.com/document/d/1l54RhjxwuXrZUQ19zIHUiZ7_c6otbLbVVfluKJogU7s/edit#heading=h.rstrrbmudaps) | na | O |
| Basic Feed Sharing  | Indicator Sharing -[Indicator with IPv6 Address CIDR](https://docs.google.com/document/d/1l54RhjxwuXrZUQ19zIHUiZ7_c6otbLbVVfluKJogU7s/edit#heading=h.yln28q46ueyx) | na | O |
| Basic Feed Sharing  | Indicator Sharing -[Indicator FQDN](https://docs.google.com/document/d/1l54RhjxwuXrZUQ19zIHUiZ7_c6otbLbVVfluKJogU7s/edit#heading=h.k17l33fnfk6) | na | M |
| Basic Feed Sharing | Indicator Sharing -[Indicator URL](https://docs.google.com/document/d/1l54RhjxwuXrZUQ19zIHUiZ7_c6otbLbVVfluKJogU7s/edit#heading=h.wo94lzilchda) | na | M |
| Basic Feed Sharing  | Indicator Sharing -[Indicator URL or FQDN](https://docs.google.com/document/d/1l54RhjxwuXrZUQ19zIHUiZ7_c6otbLbVVfluKJogU7s/edit#heading=h.35u95m1i27yd) | na | M |
| Basic Feed Sharing  | Indicator Sharing -[Indicator File hash with SHA256 or MD5 values](https://docs.google.com/document/d/1l54RhjxwuXrZUQ19zIHUiZ7_c6otbLbVVfluKJogU7s/edit#heading=h.eiedjyr5uo5s) | na | M |
| Basic Intel Collaboration | [Verify Collection Information](#_1jylpcorytxc) | na | na |
| Basic Intel Collaboration (UC1, UC2, UC3) | Indicator Sharing - [Indicator IPv4 Address](https://docs.google.com/document/d/1l54RhjxwuXrZUQ19zIHUiZ7_c6otbLbVVfluKJogU7s/edit#heading=h.52yw5x7eqla4) | na | na |
| Basic Intel Collaboration (UC1, UC2, UC3) | Indicator Sharing - [Indicator IPv4 Address CIDR](https://docs.google.com/document/d/1l54RhjxwuXrZUQ19zIHUiZ7_c6otbLbVVfluKJogU7s/edit#heading=h.qlaij3a7t010) | na | na |
| Basic Intel Collaboration (UC1, UC2, UC3) | Indicator Sharing -[Two Indicators with IPv4 Address CIDR](https://docs.google.com/document/d/1l54RhjxwuXrZUQ19zIHUiZ7_c6otbLbVVfluKJogU7s/edit#heading=h.eja4zzh2k1ms) | na | na |
| Basic Intel Collaboration (UC1, UC2, UC3) | Indicator Sharing -[Indicator with IPv6 Address](https://docs.google.com/document/d/1l54RhjxwuXrZUQ19zIHUiZ7_c6otbLbVVfluKJogU7s/edit#heading=h.rstrrbmudaps) | na | na |
| Basic Intel Collaboration (UC1, UC2, UC3) | Indicator Sharing -[Indicator with IPv6 Address CIDR](https://docs.google.com/document/d/1l54RhjxwuXrZUQ19zIHUiZ7_c6otbLbVVfluKJogU7s/edit#heading=h.yln28q46ueyx) | na | na |
| Basic Intel Collaboration (UC1, UC2, UC3) | Indicator Sharing -[Indicator FQDN](https://docs.google.com/document/d/1l54RhjxwuXrZUQ19zIHUiZ7_c6otbLbVVfluKJogU7s/edit#heading=h.k17l33fnfk6) | na | na |
| Basic Intel Collaboration (UC1, UC2, UC3) | Indicator Sharing -[Indicator URL](https://docs.google.com/document/d/1l54RhjxwuXrZUQ19zIHUiZ7_c6otbLbVVfluKJogU7s/edit#heading=h.wo94lzilchda) | na | na |
| Basic Intel Collaboration (UC1, UC2, UC3) | Indicator Sharing -[Indicator URL or FQDN](https://docs.google.com/document/d/1l54RhjxwuXrZUQ19zIHUiZ7_c6otbLbVVfluKJogU7s/edit#heading=h.35u95m1i27yd) | na | na |
| Basic Intel Collaboration (UC1, UC2, UC3) | Indicator Sharing -[Indicator File hash with SHA256 or MD5 values](https://docs.google.com/document/d/1l54RhjxwuXrZUQ19zIHUiZ7_c6otbLbVVfluKJogU7s/edit#heading=h.eiedjyr5uo5s) | na | na |

## 3.8 TAXII Server (TXS)

For the purpose of this document, a TXS provides the ability for different systems to share STIX 2.0 content. The TXS does not produce any STIX content.

Any software instance being qualified as a TXS must confirm test results for the following use cases.

**Table 3.8.1 — TAXII Server (TXS) Part 2 Test Verification List**

|  |  |  |  |
| --- | --- | --- | --- |
| **Use Case** | **Test** | **Producer** | **Respondent** |
| Common Connection | [Basic Get](#_c72i1ta8syi0) | M | M |
| Common Connection | [Basic API-Root Get](#_7kipx5e0m5qe) | M | M |
| Common Connection | [Missing Authorization Parameter](#_pcm95cfgnu50) | M | M |
| Common Connection | [Incorrect Authorization Parameter](#_fhm9itafe26h) | M | M |
| Common Connection | [Incorrect API Root Info Get](#_px75baftjz91) | M | M |
| Common Connection | [Incorrect Collection Info Get](#_l9cwduadafmq) | M | M |
| Common Connection | [Incorrect version info get](#_u8pow1j5vh2t) | M | M |
| Basic Feed Sharing  | [Verify Collection Information](#_ol7kb2sgx8rv) | M | M |
| Basic Feed Sharing | Indicator Sharing - [Indicator IPv4 Address](https://docs.google.com/document/d/1l54RhjxwuXrZUQ19zIHUiZ7_c6otbLbVVfluKJogU7s/edit#heading=h.52yw5x7eqla4) | M | M |
| Basic Feed Sharing  | Indicator Sharing - [Indicator IPv4 Address CIDR](https://docs.google.com/document/d/1l54RhjxwuXrZUQ19zIHUiZ7_c6otbLbVVfluKJogU7s/edit#heading=h.qlaij3a7t010) | M | M |
| Basic Feed Sharing | Indicator Sharing -[Two Indicators with IPv4 Address CIDR](https://docs.google.com/document/d/1l54RhjxwuXrZUQ19zIHUiZ7_c6otbLbVVfluKJogU7s/edit#heading=h.eja4zzh2k1ms) | M | M |
| Basic Feed Sharing  | Indicator Sharing -[Indicator with IPv6 Address](https://docs.google.com/document/d/1l54RhjxwuXrZUQ19zIHUiZ7_c6otbLbVVfluKJogU7s/edit#heading=h.rstrrbmudaps) | M | M |
| Basic Feed Sharing  | Indicator Sharing -[Indicator with IPv6 Address CIDR](https://docs.google.com/document/d/1l54RhjxwuXrZUQ19zIHUiZ7_c6otbLbVVfluKJogU7s/edit#heading=h.yln28q46ueyx) | M | M |
| Basic Feed Sharing  | Indicator Sharing -[Indicator FQDN](https://docs.google.com/document/d/1l54RhjxwuXrZUQ19zIHUiZ7_c6otbLbVVfluKJogU7s/edit#heading=h.k17l33fnfk6) | M | M |
| Basic Feed Sharing | Indicator Sharing -[Indicator URL](https://docs.google.com/document/d/1l54RhjxwuXrZUQ19zIHUiZ7_c6otbLbVVfluKJogU7s/edit#heading=h.wo94lzilchda) | M | M |
| Basic Feed Sharing  | Indicator Sharing -[Indicator URL or FQDN](https://docs.google.com/document/d/1l54RhjxwuXrZUQ19zIHUiZ7_c6otbLbVVfluKJogU7s/edit#heading=h.35u95m1i27yd) | M | M |
| Basic Feed Sharing  | Indicator Sharing -[Indicator File hash with SHA256 or MD5 values](https://docs.google.com/document/d/1l54RhjxwuXrZUQ19zIHUiZ7_c6otbLbVVfluKJogU7s/edit#heading=h.eiedjyr5uo5s) | M | M |
| Basic Intel Collaboration | [Verify Collection Information](#_1jylpcorytxc) | M | M |
| Basic Intel Collaboration (UC1, UC2, UC3) | Indicator Sharing - [Indicator IPv4 Address](https://docs.google.com/document/d/1l54RhjxwuXrZUQ19zIHUiZ7_c6otbLbVVfluKJogU7s/edit#heading=h.52yw5x7eqla4) | M | M |
| Basic Intel Collaboration (UC1, UC2, UC3) | Indicator Sharing - [Indicator IPv4 Address CIDR](https://docs.google.com/document/d/1l54RhjxwuXrZUQ19zIHUiZ7_c6otbLbVVfluKJogU7s/edit#heading=h.qlaij3a7t010) | M | M |
| Basic Intel Collaboration (UC1, UC2, UC3) | Indicator Sharing -[Two Indicators with IPv4 Address CIDR](https://docs.google.com/document/d/1l54RhjxwuXrZUQ19zIHUiZ7_c6otbLbVVfluKJogU7s/edit#heading=h.eja4zzh2k1ms) | M | M |
| Basic Intel Collaboration (UC1, UC2, UC3) | Indicator Sharing -[Indicator with IPv6 Address](https://docs.google.com/document/d/1l54RhjxwuXrZUQ19zIHUiZ7_c6otbLbVVfluKJogU7s/edit#heading=h.rstrrbmudaps) | M | M |
| Basic Intel Collaboration (UC1, UC2, UC3) | Indicator Sharing -[Indicator with IPv6 Address CIDR](https://docs.google.com/document/d/1l54RhjxwuXrZUQ19zIHUiZ7_c6otbLbVVfluKJogU7s/edit#heading=h.yln28q46ueyx) | M | M |
| Basic Intel Collaboration (UC1, UC2, UC3) | Indicator Sharing -[Indicator FQDN](https://docs.google.com/document/d/1l54RhjxwuXrZUQ19zIHUiZ7_c6otbLbVVfluKJogU7s/edit#heading=h.k17l33fnfk6) | M | M |
| Basic Intel Collaboration (UC1, UC2, UC3) | Indicator Sharing -[Indicator URL](https://docs.google.com/document/d/1l54RhjxwuXrZUQ19zIHUiZ7_c6otbLbVVfluKJogU7s/edit#heading=h.wo94lzilchda) | M | M |
| Basic Intel Collaboration (UC1, UC2, UC3) | Indicator Sharing -[Indicator URL or FQDN](https://docs.google.com/document/d/1l54RhjxwuXrZUQ19zIHUiZ7_c6otbLbVVfluKJogU7s/edit#heading=h.35u95m1i27yd) | M | M |
| Basic Intel Collaboration (UC1, UC2, UC3) | Indicator Sharing -[Indicator File hash with SHA256 or MD5 values](https://docs.google.com/document/d/1l54RhjxwuXrZUQ19zIHUiZ7_c6otbLbVVfluKJogU7s/edit#heading=h.eiedjyr5uo5s) | M | M |

#

# 4 ​Appendix A. Acknowledgments

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#

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# 5 Appendix B. Revision History

|  |  |  |  |
| --- | --- | --- | --- |
| **Revision** | **Date** | **Editor** | **Changes Made** |
| 01 | 09/11/17 | Allan Thomson,Jason Keirstead | First Version* Fixed collection ids
* Added same org, different analysts for sharing collaboration
* Added TIS persona
* Defined test sections for common connection, basic feed sharing and collaboration
 |
|  |  |  |  |

1. For all tests performed in this section,IP addresses may be substituted as required by the tester’s environment, However, please ensure logs and other testing artifacts can prove support of the interoperability verification. [↑](#footnote-ref-1)
2. The test case behavior for Use Case #1, Use Case #2 and Use Case #3 are the same the Producers [↑](#footnote-ref-2)