

Title	Digital Traffic Regulation Orders:  D-TRO Publication API Interface Control Document for Publishers (Traffic Regulation Authority and/or Digital Solution Provider)
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## 1 Document Control

## 1.1 Version History

Version	Author	Summary of changes	Date
2.0	Gabriel Popescu (PA Consulting)	Record Management enhancement for D-TRO submission	01/07/2024

#### 1.2 Document Review

Version	Reviewer(s)	Date
2.0	John Cooper (Department for Transport, Product Owner)	

# 1.3 Approved Versions

Version	Approver(s)	Date
2.0	Department for Transport	

# 2 Terms and Abbreviation

Term / Abbreviation	Definition
API	Application Programming Interface
CRUD	Create, Read, Update and Delete
D-TRO	Digital Traffic Regulation Order
DC	Data Consumer
DfT	Department for Transport
DSP	Digital Solution Provider
ICD	Interface Control Document
JSON	JavaScript Object Notation
MVP	Minimum Viable Product
TRA	Traffic Regulation Authority
TRO	Traffic Regulation Order
URI	Uniform Resource Identifier

#### 3 Introduction

As part of its 'Future of Mobility: Urban Strategy', the Department for Transport (DfT) is modernising the regulatory framework for Traffic Regulation Orders (TROs) (Traffic Management Orders in London) made under the Road Traffic Regulation Act 1984.

The Automated Vehicles Act 2024 (clause 93) provides statutory instruction for TRAs to provide information on a defined set of TROs, in a specified manner and form, to be provided in accordance with a specified model, standard or set of specifications. These will be the D-TRO Data Specification including the D-TRO Data Model, which are expected to be specified under secondary legislation.

The new regulatory framework will, subject to necessary secondary legislation coming into force, mandate that Traffic Regulation Authorities (TRAs) in England and Wales publish TROs as open data in a standardised and digital format that anyone can access, use and share.

The standardised digital format will be based on the Digital TRO (D-TRO) Data Specification that is described in this and other associated documents. This Data Specification is intended to be a free resource for all. The Data Specification is candidate in nature and may be subject to change without notification.

Taking into account the needs arising from the UK Industrial Strategy and recognising the requirements that will emerge from the deployment of Connected and Automated Vehicles (CAVs), this Data Specification provides a framework for how the data and information relating to TROs can be formed in the future. Availability of such a draft Data Specification, when suitably tested, will support the move towards TROs being easily accessible to the public whether using apps or driving connected vehicles.

# 4 Other Documents and Artefacts

This Interface Control Document (ICD) is part of the documents and artefacts that are available in connection to the D-TRO Service:

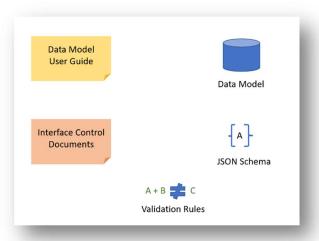


Figure 1 – Documents and artefacts supporting the D-TRO Service

This ICD forms part of the Data Specification that has been released for Beta, including the technical user guide which outlines the data modelling concepts defined to help support the definition and exchange of information relating traffic regulations. All the latest versions of documents and other artefacts of this release are listed in GitHub [#38].

# 5 Scope of this document

This ICD specifies the design of the interface for the D-TRO Publication API. This API enables integration between TRA systems and D-TRO Service for the purposes of allowing TRAs to:

- Publish their D-TROs to the D-TRO Service.
- Update and amend D-TROs that have been previously submitted to the D-TRO Service.
- Retrieve a history of the D-TROs issued by the TRAs held by the D-TRO Service.
- Search events and record of the existing D-TROs held by the D-TRO Service.
- · Retrieve existing rules and schemas within the D-TRO Service.

# 6 Target Audience

The target audience of this document includes:

 Traffic Regulation Authorities (TRAs) and or their Digital Solution Providers (DSPs) that currently manage the IT contracts within the authority.

Throughout this document where reference is made to TRA systems, this also refers to DSP systems.

# 7 Integration Architecture

## 7.1 Overview (API v1 methods)

Figure 2 below depicts the 'happy path' sequence of interactions between TRA systems and the D-TRO Service.

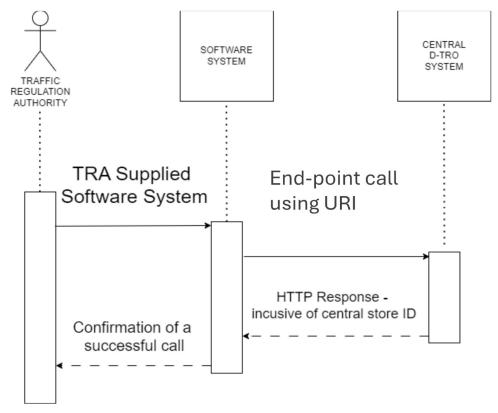


Figure 2 Expected API interactions

## 7.2 Design Principles

When integrating with this interface, the following design patterns and principles should be adopted to ensure that the non-functional characteristics of TRA systems and the D-TRO Service are effectively implemented:

ID	Pattern / Principle	Description
DP01	Guaranteed delivery	TRA systems must adopt an architecture that ensures guaranteed delivery of requests/responses to and from the D-TRO Service.
DP02	Loose coupling	TRA systems must adopt an architecture that is loosely coupled with the D-TRO Service and can detect, respond to, and recover from exceptions where the D-TRO Service is unavailable.

DP	03	GOV.UK API technical and	The interface will comply with published GOV.UK API technical and
		data standards	data standards.

# 8 Assumptions, Constraints, Risks and Dependencies

# 8.1 Assumptions

ID	Assumption	Impact if not true
A01	TRAs will adopt an 'API-first' approach to integrating with the D-TRO interface.	No web-based user interface is proposed to allow the registration of D-TROs. If API integration is not possible, the TRA will need a DSP to help with service integration.

## 8.2 Constraints

ID	Constraint
C01	Calls to the D-TRO Publication API will be subject to a quota constraining the number of requests that can be issued per second. Rate limiting values will be captured in future versions of this document.

#### 8.3 Risks

ID	Risk	Impact	Mitigation
R01	There is a risk that the D-TRO Service is unavailable due to a technical fault or unplanned maintenance.  (e.g., to address a critical security vulnerability identified in the underlying technology platform)	The operation of TRA systems that integrate with the D-TRO Service will be correspondingly impacted.	TRA systems will adopt the design patterns and policies specified in section 5 (see assumption A01).

## 8.4 Dependencies

ID	Dependency
D01	TRA systems must authenticate with the D-TRO Service using Google Apigee. API credentials will be supplied as part of activities to on-board and integrate with the D-TRO Service.
D02	TRA systems must securely manage API credentials.
D03	TRA systems must adhere to the design patterns and policies specified in section 7.

# 9 Endpoints available for TRAs and/or DSPs

Table 1 lists the endpoints relevant for this ICD. Additional endpoints for consumers are documented in Beta-01-DfT-D-TRO-ICD for Consumers\_v2.0.docx.

Ref.	HTTP verb	Endpoints	Name				
D-TROs							
D1	POST	/v1/dtros/createFromFile	Create a new D-TRO				
D2	PUT	/v1/dtros/updateFromFile/{id}	Update an existing D-TRO				
D3	POST	/v1/dtros/createFromBody	Create a new D-TRO				
D4	PUT	/v1/dtros/updateFromBody/{id}	Update an existing D-TRO				
D5	GET	/v1/dtros/{id}	Retrieve a D-TRO by D-TRO ID				
D6	DELETE	/v1/dtros/{id}	Delete a D-TRO by D-TRO ID				
D7	GET	/v1/dtros/sourceHistory/{dtroId}	Retrieve source history based by D-TRO ID				
D8	GET	/v1/dtros/provisionHistory/{dtroId}	Retrieve provisions history by D-TRO ID				
D9	POST	/v1/dtros/Ownership/{id}/{assignToTrald}	Assign ownership to a D-TRO by D-TRO ID				
	Events and Search						
ES1	POST	/v1/events	Query central data store events (e.g., D-TRO being created, updated, or deleted)				
ES2	POST	/v1/search	Find existing D-TROs that matches the requested criteria				
		Rules					
R1	GET	/v1/rules/versions	Retrieve available rule template versions				
R2	GET	/v1/rules	Retrieve available rule templates				
R3	GET	/v1/rules/{versions}	Retrieve rule template by version				
R4	GET	/v1/rules/{id}	Retrieve rule template by ID				
		Schemas					
S1	GET	/v1/schemas/versions	Retrieve available schema template versions				
S2	GET	/v1/schemas	Retrieve available schema templates.				
S3	GET	/v1/schemas/{version}	Retrieve schema template by version				
S4	GET	/v1/schemas/{id}	Retrieve schema template by ID				

Table 1 Summary of Publisher API endpoints

# 10 Interface Specification

This interface enables integration, via a RESTful API, between TRAs business processes and systems and the D-TRO Service for the recording of Digital Traffic Regulation Orders.

Overview				
Item	Value			
Name	D-TRO Publication (API)			
Publisher	Department for Transport			
Consumer	TRA / DSP			
Interface type	RESTful API SOAP API File transfer Other (please specify)			
Protocol	☐ HTTP ☐ HTTPS – must be HTTPS 1.1 or higher. ☐ Other (please specify)			
Test URL	To publish shortly			
Pre-Production URL	To published in a future revision of this document			
Production URL	To published in a future revision of this document			
Security Classification	UNMARKED OFFICIAL OFFICIAL-SENSITIVE SECRET TOP SECRET			
Authentication	Authentication to the application via the API endpoints for all public-facing environments (Third-party test and Production) will be controlled using the OAuth 2.0 framework (in keep with GOV.UK API technical and data standards). In order to obtain the necessary token, the user must either be onboarded with a TRA or cleared by the CSO before being allowed to self-register to use D-TRO via a portal and obtain the authentication token.  It should be noted that for Private-Beta, IP restrictions will be in place, only allowing a select few addresses to call D-TRO API endpoints.			
Content type	application/json			
Content encoding	UTF-8			
Non-Repudiation	The use of OAuth 2.0 credentials paired with X-Correlation-ID headers will be used to uniquely identify an API invocation for non-repudiation purposes.			

Notes applicable to all methods:

- 1. Dates and times all date and time records shall be expressed in UTC using the ISO 8601-1:2019 extended format (e.g. YYYY-MM-DDTHH:MM:SSZ).
- 2. Correlation identifier all identifiers shall be expressed using UUID ISO/IEC 11578:1996 specification. The format consists of 32 hexadecimal digits plus 4 hyphens (8-4-4-12).
- 3. The size of a D-TRO submission must not exceed 10MB.

## 10.1Endpoints D-TROs

The below methods are provisioned for creation, modification, and retrieval of D-TRO records.

The tables below cover the following endpoints specific for D-TROs.

Ref.	Endpoints	Name
D1	/v1/dtros/createFromFile	Create a new D-TRO from a file
D2	/v1/dtros/updateFromFile/{id}	Update an existing D-TRO from a file
D3	/v1/dtros/createFromBody	Create a new D-TRO
D4	/v1/dtros/updateFromBody/{id}	Update an existing D-TRO
D5	/v1/dtros/{id}	Retrieve a D-TRO by D-TRO ID
D6	/v1/dtros/{id}	Delete a D-TRO by D-TRO ID
D7	/v1/dtros/sourceHistory/{dtroId}	Retrieve source history based by D-TRO ID
D8	/v1/dtros/provisionHistory/{dtroId}	Retrieve provisions history by D-TRO ID
D9	/v1/dtros/Ownership/{id}/{assignToTrald}	Assign ownership to a D-TRO by D-TRO ID

Reference	D1							
Item	Value	Value						
POST	/v1/dtros/creat	teFromFil	е					
Name	Create a new	D-TRO						
Description	This POST me Service by pro			oublishers to recor as a file	d a new D-TR	O to the D-TRO		
Input data type(s)	<ul><li>☑ JSON</li><li>☑ XML</li><li>☑ File</li><li>☑ Other (please)</li></ul>	☑ JSON ☑ XML						
Input	Header Parameters							
Structure	Field Name	Data Type	Min Length	Max Length	Opportunity	Notes		
	X- Correlation- ID	string	36	36	Mandatory	UUID formatted string to track the request through the enquiries stack.		
	Та	int	4	5	Mandatory	The TRA who creates the D-TRO		
	Request Para	meters						
	Field Name	Data Type	Min Length	Max Length	Opportunity	Notes		

Reference	D1						
Item	Value		·ı				
POST	/v1/dtros/creat		ile				
Name	Create a new						
Description					ord a new D-TR	O to the D-TRO	
	Service by pro						
	file	file	1KB	10MB	Mandatory	A file containing JSON payload describing a D-TRO. File should be provided through a multipart/formdata request having UTF8 encoding.	
Input data scope	When invoking this endpoint, the supplied file must contain a full D-TRO representation. Payloads will be assessed against the schema (created and activated in schemas endpoints), semantic JSON rules and custom rules (created in rules endpoints) for validity against the D-TRO data model.						
Output data type	☑ JSON ☑ XML ☑ File ☑ Other (please	se speci	fy)				
Output	Response Par	ameters					
data structure	Field Name	Data Type	Min Length	Max Length	Opportunity	Notes	
	Id	string	36	36	Mandatory	UUID formatted string containing a D-TRO Service identifier for the newly created D-TRO record.	
Responses							
200 OK	{     "id": "3fa85f64-5717-4562-b3fc-2c963f66afa6" }						
404 Not Found	{   "message": "Not found",   "errors": [     "Schema version not found."   ] }						

Reference	D1	D1					
Item	Value	Value					
POST	/v1/dtros/create	FromFile					
Name	Create a new D	-TRO					
Description	This POST met	hod allows data publishers to record a new D-TRO to the D-TRO					
•		iding the D-TRO as a file					
400 Bad	{						
Request	`"errors": {						
-	property: [						
	"Unexpected	d end when deserializing object. Path <i>property</i> ."					
	]						
	},						
		tools.ietf.org/html/rfc7231#section-6.5.1",					
		more validation errors occurred.",					
	"status": 400,	Man 677600h46027406h62602nh006f na 604nf422n0074d 00"					
		0f4aa677608b15827106b63502eb806f-ca691cf133c8871d-00"					
Other error	HTTP Code	Error Type					
codes	400	Bad request					
	403	Access denied/forbidden					
	404	Not found					
	<ul> <li>405 Method not allowed</li> <li>429 Too many requests</li> <li>500 Internal server error</li> </ul>						
	502	Bad gateway					
	503	Service unavailable					
	504	Gateway timeout					

Reference	D2	D2				
Item	Value					
PUT	/v1/dtros/uploadFromFile{id}					
Name	Updates an e		. ,			
Description	· ·			ublishers to undate	an existinα Γ	-TRO to the D-TRO
Booonpaon	Service.	uiou allo	wo data p	abilotioro to apaat	o arr oxiotiing E	THO LO LIIO B THO
Input data	☑ JSON					
type(s)	⊠ XML					
	☑ File	_				
	☑ Other (plea		fy)			
Input Structure	Header Parar		D 41	<b>.</b>		NI (
Structure	Field Name	Data	Min	Max Length	Opportunity	Notes
•	X-	Type string	Length 36	36	Mandatory	UUID formatted
	Correlation-	Sung	30	30	iviaridatory	string to track the
	ID					request through
						the enquiries
						stack.
	Та	int	4	5	Mandatory	The TRA who
						creates the D- TRO.
	Request Para	meters				IKU.
•	Field Name	Data	Min	Max Length	Opportunity	Notes
	Ticia Name	Type	Length	Wax Longin	Оррогили	140103
	file	file	1KB	10MB	Mandatory	A file containing
						JSON payload
						describing a D-
•	Id	string	36	36	Mandatory	TRO. UUID formatted
	lu lu	Sung	30	30	iviaridatory	string representing
						the D-TRO to be
						updated. File
						should be
						provided through a
						multipart/form-data
						request having UTF8 encoding.
Input data	When invokin	a this en	dpoint. th	e supplied file mus	st contain a ful	
scope				assessed against		
						om rules (created in
		ts) for va	lidity aga	inst the D-TRO da	ta model.	
Output	☑ JSON					
data type	☑ XML					
	│ 区 File │ 区 Other (plea	ase sneci	fv)			
Responses	_ = Other (piec	add apcol	· <i>1</i> /			
201	{					
Created	"id": "3fa85f	64-5717-	4562-b3f	c-2c963f66afa6"		
	}					

Reference	D2						
Item	Value						
PUT	/v1/dtros/uploadF	/v1/dtros/uploadFromFile{id}					
Name	Updates an exist	ing D-TRO					
Description	This PUT method	d allows data publishers to update an existing D-TRO to the D-TRO					
·	Service.	·					
404 Not	{						
Found	"message": "No	t found",					
	"errors": [						
	"Schema versi	on not found."					
	[ ]						
100 5	}						
400 Bad	{ ""- (						
Request	"errors": {						
	property: [	and when descripting chiest. Dath preparty."					
	1 Unexpected	end when deserializing object. Path property."					
	\ \ \						
		pols.ietf.org/html/rfc7231#section-6.5.1",					
		nore validation errors occurred.",					
	"status": 400,	ioro validation onoro occanica.					
	1	4aa677608b15827106b63502eb806f-ca691cf133c8871d-00"					
	}						
Other error	HTTP Code	Error Type					
codes	400	Bad request					
	403	Access denied/forbidden					
	404	Not found					
	405	Method not allowed					
	429	Too many requests					
	500	Internal server error					
	502	Bad gateway					
	503	Service unavailable					
	504	Gateway timeout					

Reference	D3								
Item	Value								
POST	/v1/dtros/createFromBody								
Name	Create a new [								
Description	_		ws data r	oublishers to reco	rd a new D-TR	O to the D-TRO			
	Service.								
Input data type(s)	☑ JSON ☑ XML ☑ File ☑ Other (pleas		y)						
Input	Header Param	_	1			I			
Structure	Field Name	Data Type	Min Length	Max Length	Opportunity	Notes			
	X- Correlation- ID	string	36	36	Mandatory	UUID formatted string to track the request through the enquiries stack.			
	ta	int	4	5	Mandatory	The TRA who creates the D-TRO			
		Request Parameters							
	Field Name	Data Type	Min Length	Max Length	Opportunity	Notes			
	data	object	1KB	10MB	Mandatory	A JSON payload describing a D-TRO. Payload should be UTF8 encoded.			
Input data scope	{     "schemaVersion": "3.2.0",     "data": {         "source": {        omitted for brevity.         }     }								
Output data type	☑ JSON ☑ XML ☑ File ☑ Other (please specify)								
Output	Response Para								
data structure	Field Name	Data Type	Min Length	Max Length	Opportunity	Notes			
	id	string	36	36	Mandatory	UUID formatted string containing a D-TRO Service identifier for the newly created D- TRO record.			

Reference	D3						
Item	Value						
POST	/v1/dtros/createFromBody						
Name	Create a new D	•					
Description	This POST meth	nod allows data publishers to record a new D-TRO to the D-TRO					
•	Service.						
Responses							
200 OK	{ "id": "3fa85f64- }	.5717-4562-b3fc-2c963f66afa6"					
404 Not	{						
Found	"message": "No	ot found",					
	"errors": [	sian makfarmad "					
	Schema vers	sion not found."					
	١						
400 Bad	{						
Request	"errors": {						
•	property: [						
		d end when deserializing object. Path property."					
	]						
	},						
		tools.ietf.org/html/rfc7231#section-6.5.1",					
		more validation errors occurred.",					
	"status": 400,	sta 077000b 45007400b 00500 - b 000t 004 -t400 - 0074 -b 00"					
	traceid: 00-9	lf4aa677608b15827106b63502eb806f-ca691cf133c8871d-00"					
Other error	HTTP Code	Error Type					
codes	400	Bad request					
00000	403	Access denied/forbidden					
	404	Not found					
	405	Method not allowed					
	429	Too many requests					
	500	Internal server error					
	502	Bad gateway					
	503	Service unavailable					
	504	Gateway timeout					

Reference	D4							
Item	Value							
PUT	/v1/dtros/uploadFromBody{id}							
Name	Updates an exist		<del>, , ,</del>					
Description	•	This PUT method allows data publishers to update an existing D-TRO to the D-						
Description	TRO Service.	a allows	data pubi	1311013 10	update all exi			
Input data	☑ JSON							
type(s)	<b>⊠</b> XML							
	☑ File							
Input	☑ Other (please Header Paramet)							
Structure	Field Name	Data	Min	Max	Opportunity	Notes		
Cirdotaro	i leiu ivallie	Type	Length	Length	Opportunity	Notes		
	X-Correlation-	string	36	36	Mandatory	UUID formatted string to		
	ID				,	track the request		
						through the enquiries		
						stack.		
	ta	int	4	5	Mandatory	The TRA who creates		
	Request Parame	iters				the D-TRO.		
	Field Name	Data	Min	Max	Opportunity	Notes		
	Ticia Name	Type	Length	Length	Opportunity	140103		
	data	object	1KB	10MB	Mandatory	A JSON payload		
						describing a D-TRO.		
						Payload should be UTF8		
	: 4	- <b>4</b>	200	20	Name de termin	encoded.		
	id	string	36	36	Mandatory	UUID formatted string representing the D-TRO		
						to be updated.		
Input data	{	1	I .					
scope	"schemaVersi	on": "3.2	.0",					
	"data": {							
	"source": {							
	omitted for bre	vity.						
	}							
	}							
Output data	☑ JSON							
type	<b>⊠</b> XML							
	<b>⊠</b> File							
D	☑ Other (please specify)							
Responses	r							
201 Created	{     "id": "3fa85f64-{	5717 /50	52 h3fc 2	-063f66a	fa6"			
Created	}	J1 11-450	)Z-D3IC-Z	COOTOGA	iau			
404 Not	{							
Found	`"message": "No	t found",						
	"errors": [							
	"Schema versi	ion not fo	ound."					
	<sup>1</sup>							
	}							

Reference	D4				
Item	Value				
PUT	/v1/dtros/uploadFr	romBody{id}			
Name	Updates an existir	, ,			
Description	•	allows data publishers to update an existing D-TRO to the D-			
400 Bad Request	<pre>"errors": {     property: [         "Unexpected end when deserializing object. Path property." ] }, "type": "https://tools.ietf.org/html/rfc7231#section-6.5.1", "title": "One or more validation errors occurred.", "status": 400, "traceld": "00-9f4aa677608b15827106b63502eb806f-ca691cf133c8871d-00"</pre>				
Other error	HTTP Code	Error Type			
codes	400	Bad request			
	403	Access denied/forbidden			
	404	Not found			
	405 Method not allowed				
	429	Too many requests			
	500 Internal server error				
	502	Bad gateway			
	503	Service unavailable			
	504	Gateway timeout			

Reference	D5					
Item	Value					
GET	/v1/dtros/{id}					
Name	Get a D-TRO by	id				
Description			data nubli	ishers ret	rieve an existii	ng D-TRO from the D-
Becompain	TRO Service, ba		•			
Input data	☑ JSON		- aqu-			
type(s)	<b>⋈</b> XML					
	ĭ File					
	☑ Other (please)					
Input	Header Paramet					
Structure	Field Name	Data	Min	Max	Opportunity	Notes
	\(\frac{1}{2}\)	Туре	Length	Length		
	X-Correlation-	string	36	36	Mandatory	UUID formatted string
	ID					to track the request
						through the enquiries stack.
	Request Parame	 eters				Stack.
	Field Name	Data	Min	Max	Opportunity	Notes
	Ticia Name	Type	Length	Length	Opportunity	Notes
	id	string	36	36	Mandatory	UUID formatted string
						containing the unique
						identification of a D-
						TDO
						TRO.
Input data						contain a full UUID
Input data scope	representation. I	f the unic	ue identif	ier match	es with one of	-
scope	representation. I within the D-TR0	f the unic	ue identif	ier match	es with one of	contain a full UUID
Scope	representation. I within the D-TR0 ☑ JSON	f the unic	ue identif	ier match	es with one of	contain a full UUID
scope	representation. I within the D-TR0 ☑ JSON ☑ XML	f the unic	ue identif	ier match	es with one of	contain a full UUID
Scope	representation. I within the D-TR0 ☑ JSON ☒ XML ☒ File	f the unic O Service	ue identif	ier match	es with one of	contain a full UUID
Scope	representation. I within the D-TR0 ☑ JSON ☑ XML	f the unic D Service specify)	ue identif	ier match	es with one of	contain a full UUID
Output data type	representation. I within the D-TR0 ☑ JSON ☑ XML ☑ File ☑ Other (please	f the unic D Service specify)	ue identif	ier match	es with one of e retrieved.	contain a full UUID
Output data type  Output	representation. I within the D-TR0 ☑ JSON ☑ XML ☑ File ☑ Other (please Response Parar	f the unic O Service specify) neters	ue identif , that D-T	ier match RO will b	es with one of	contain a full UUID the existing D-TROs
Output data type  Output data	representation. I within the D-TR0 ☑ JSON ☑ XML ☑ File ☑ Other (please Response Parar	f the unic D Service Specify) neters	ue identif , that D-T	ier match RO will b	es with one of e retrieved.	contain a full UUID the existing D-TROs
Output data type  Output data structure	representation. I within the D-TR0 ☑ JSON ☑ XML ☑ File ☑ Other (please Response Parar Field Name	f the unice  Service  specify)  neters  Data  Type	ue identif , that D-T	ier match RO will b	es with one of e retrieved.  Opportunity	contain a full UUID the existing D-TROs  Notes
Output data type  Output data structure  Responses	representation. I within the D-TR0 ☑ JSON ☑ XML ☑ File ☑ Other (please Response Parar Field Name	f the unice  Service  specify)  neters  Data  Type	ue identif , that D-T	ier match RO will b	es with one of e retrieved.  Opportunity	contain a full UUID the existing D-TROs  Notes  D-TRO retrieved from
Output data type  Output data structure	representation. I within the D-TR0 ☑ JSON ☑ XML ☑ File ☑ Other (please Response Parar Field Name	f the unice  Service  specify)  neters  Data  Type	ue identif , that D-T	ier match RO will b	es with one of e retrieved.  Opportunity	contain a full UUID the existing D-TROs  Notes  D-TRO retrieved from
Output data type  Output data structure  Responses	representation. I within the D-TR0 ☑ JSON ☑ XML ☑ File ☑ Other (please Response Parar Field Name	specify) neters Data Type JSON	Min Length	ier match RO will b	es with one of e retrieved.  Opportunity	contain a full UUID the existing D-TROs  Notes  D-TRO retrieved from
Output data type  Output data structure  Responses	representation. I within the D-TRO  JSON XML File Other (please Response Parar Field Name  Data	specify) neters Data Type JSON	Min Length	ier match RO will b	es with one of e retrieved.  Opportunity	contain a full UUID the existing D-TROs  Notes  D-TRO retrieved from
Output data type  Output data structure  Responses	representation. I within the D-TRO  I JSON I XML I File I Other (please Response Parar  Field Name  Data  {     "schemaVersi" data": {     "source": {	specify) neters Data Type JSON	Min Length	ier match RO will b	es with one of e retrieved.  Opportunity	contain a full UUID the existing D-TROs  Notes  D-TRO retrieved from
Output data type  Output data structure  Responses	representation. I within the D-TRO  I JSON I XML I File I Other (please Response Parar Field Name  Data  {     "schemaVersi" data": {	specify) neters Data Type JSON	Min Length	ier match RO will b	es with one of e retrieved.  Opportunity	contain a full UUID the existing D-TROs  Notes  D-TRO retrieved from
Output data type  Output data structure  Responses	representation. I within the D-TRO  I JSON I XML I File I Other (please Response Parar  Field Name  Data  {     "schemaVersi" data": {     "source": {	specify) neters Data Type JSON	Min Length	ier match RO will b	es with one of e retrieved.  Opportunity	contain a full UUID the existing D-TROs  Notes  D-TRO retrieved from
Output data type  Output data structure  Responses	representation. I within the D-TRO  I JSON I XML I File I Other (please Response Parar  Field Name  Data  {     "schemaVersi" data": {     "source": {	specify) meters Data Type JSON  ion": "3.2	Min Length	ier match RO will b	es with one of e retrieved.  Opportunity	contain a full UUID the existing D-TROs  Notes  D-TRO retrieved from
Output data type  Output data structure  Responses	representation. I within the D-TRO  within the D-TRO  JSON  XML  File  Other (please Response Parar  Field Name  Data  {     "schemaVersi     "data": {         "source": {             "provision": {	specify) meters Data Type JSON  ion": "3.2	Min Length	ier match RO will b	es with one of e retrieved.  Opportunity	contain a full UUID the existing D-TROs  Notes  D-TRO retrieved from
Output data type  Output data structure  Responses	representation. I within the D-TRO SINGUIST JSON SIXML SIFILE Other (please Response Parar Field Name  Data  {     "schemaVers"     "data": {         "source": {             "provision": {	specify) meters Data Type JSON  ion": "3.2	Min Length	ier match RO will b	es with one of e retrieved.  Opportunity	contain a full UUID the existing D-TROs  Notes  D-TRO retrieved from
Output data type  Output data structure  Responses	representation. I within the D-TRO  within the D-TRO  JSON  XML  File  Other (please Response Parar  Field Name  Data  {     "schemaVersi     "data": {         "source": {             "provision": {	specify) meters Data Type JSON  ion": "3.2	Min Length	ier match RO will b	es with one of e retrieved.  Opportunity	contain a full UUID the existing D-TROs  Notes  D-TRO retrieved from
Output data type  Output data structure  Responses	representation. I within the D-TRO  within the D-TRO  JSON  XML  File  Other (please Response Parar  Field Name  Data  {     "schemaVersi     "data": {         "source": {             "provision": {	specify) meters Data Type JSON  ion": "3.2	Min Length	ier match RO will b	es with one of e retrieved.  Opportunity	contain a full UUID the existing D-TROs  Notes  D-TRO retrieved from

D-f	Dr						
Reference	D5						
Item	Value						
GET	/v1/dtros/{id}						
Name	Get a D-TRO by ic						
Description		allows data publishers retrieve an existing D-TRO from the D- ed on its unique identification.					
404 Not Found	{     "message": "Not found",     "errors": [         "D-TRO with id 3fa85f64-5717-4562-b3fc-2c963f66afa6 not found."     ]						
Other error	HTTP Code	Error Type					
codes	400	Bad request					
	403	Access denied/forbidden					
	404	Not found					
	405	Method not allowed					
	429	Too many requests					
	500	Internal server error					
	502	Bad gateway					
	503	Service unavailable					
	504	Gateway timeout					

Reference	D6					
Item	Value					
DELETE	/v1/dtros/{id}					
Name	Delete a D-TRO	bv id				
Description	This DELETE method allows data publishers soft delete an existing D-TRO from					
	the D-TRO Servi					
Input data type(s)	☑ JSON ☑ XML ☑ File ☑ Other (please	specify)		•		
Input	Header Paramet	ers				
Structure	Field Name	Data Type	Min Length	Max Length	Opportunity	Notes
	X-Correlation- ID	string	36	36	Mandatory	UUID formatted string to track the request through the enquiries stack.
	ta	int	4	5	Mandatory	The TRA who creates the D-TRO.
	Request Parame	ters				
	Field Name	Data Type	Min Length	Max Length	Opportunity	Notes
	id	string	36	36	Mandatory	UUID formatted string containing the unique identification of a D-TRO.
Input data scope		f the unic	que identif	ier match	es with one of	st contain a full UUID the existing D-TROs
Output data type	☑ JSON ☑ XML ☑ File ☑ Other (please	specify)	,			
Output	Response Paran	neters				
data structure	Field Name	Data Type	Min Length	Max Length	Opportunity	Notes
	Data	JSON	-	-	Mandatory	D-TRO retrieved from the D-TRO Service
Responses						
204 No Content						
404 Not Found	{     "message": "Not found",     "errors": [         "D-TRO with id 3fa85f64-5717-4562-b3fc-2c963f66afa6 not found."     ] }					

Reference	D6					
Item	Value					
DELETE	/v1/dtros/{id}					
Name	Delete a D-TRO b	y id				
Description		This DELETE method allows data publishers soft delete an existing D-TRO from the D-TRO Service, based on its unique identification.				
Other error	HTTP Code Error Type					
codes	400	Bad request				
	403	Access denied/forbidden				
	404	Not found				
	405	Method not allowed				
	429	Too many requests				
	500	Internal server error				
	502	Bad gateway				
	503	Service unavailable				
	504	Gateway timeout				

Reference	D7					
Item	Value					
GET		Hiotopy/(o	ltrold)			
	/v1/dtros/source			h ! al		
Name	Get the source h					
Description	D-TRO from the					ce history of an existing ification.
Input data type(s)	☑ JSON ☑ XML ☑ File ☑ Other (please					
Input	Header Paramet				1	
Structure	Field Name	Data Type	Min Length	Max Length	Opportunity	Notes
	X-Correlation- ID	string	36	36	Mandatory	UUID formatted string to track the request through the enquiries stack.
	Request Parame	eters				
	Field Name	Data Type	Min Length	Max Length	Opportunity	Notes
	dtrold	string	36	36	Mandatory	UUID formatted string containing the unique identification of a D-TRO.
Input data scope		f the uniq	ue identifi	er match	es with one of	must contain a full UUID the existing D-TROs
Output data type	☑ JSON ☑ XML ☑ File ☑ Other (please	specify)				
Output	Response Parar	neters				
data structure	Field Name	Data Type	Min Length	Max Length	Opportunity	Notes
	Data	JSON	-	-	Mandatory	D-TRO retrieved from the D-TRO Service
Responses						
200 OK	[					
500 Internal Server Error	{     "message": "Int     "errors": [         "An unexpecte     ] }			,		

Reference	D7					
Item	Value					
GET	/v1/dtros/sourceHi	story/{dtroId}				
Name	Get the source his	tory of a D-TRO by id				
Description		This GET method allows data publishers retrieve the source history of an existing D-TRO from the D-TRO Service, based on its unique identification.				
Other error	HTTP Code	Error Type				
codes	400	Bad request				
	403	Access denied/forbidden				
	404	Not found				
	405	Method not allowed				
	429	Too many requests				
	500	Internal server error				
	502	Bad gateway				
	503	Service unavailable				
	504	Gateway timeout				

Reference	D8					
Item	Value					
GET	/v1/dtros/provision	nHistory	//Sdtrold\			
Name	Get the provision			20 by id		
					riava tha pravi	sions history of an
Description	existing D-TRO					que identification.
Input data type(s)	☑ JSON ☑ XML ☑ File ☑ Other (please					
Input	Header Paramet					
Structure	Field Name	Data Type	Min Length	Max Length	Opportunity	Notes
	X-Correlation- ID	string	36	36	Mandatory	UUID formatted string to track the request through the enquiries stack.
	Request Parame	eters				
	Field Name	Data Type	Min Length	Max Length	Opportunity	Notes
	dtrold	string	36	36	Mandatory	UUID formatted string containing the unique identification of a D-TRO.
Input data scope		ation. If th	ne unique	identifier	matches with	ter must contain a full one of the existing D- /ed.
Output data type	☑ JSON ☑ XML ☑ File ☑ Other (please		,			
Output	Response Parar					
data structure	Field Name	Data Type	Min Length	Max Length	Opportunity	Notes
	Data	JSON	-	-	Mandatory	D-TRO retrieved from the D-TRO Service
Responses						
200 OK	[					

Reference	D8					
Item	Value					
GET	/v1/dtros/provision	nHistory/{dtroId}				
Name	•	s history of a D-TRO by id				
Description	This GET method	allows data publishers retrieve the provisions history of an om the D-TRO Service, based on its unique identification.				
500 Internal Server Error	{   "message": "Internal Server Error",   "errors": [     "An unexpected error occurred."   ]					
Other error	HTTP Code	Error Type				
codes	400	Bad request				
	403	Access denied/forbidden				
	404	Not found				
	405	Method not allowed				
	429	Too many requests				
	500	Internal server error				
	502	Bad gateway				
	503	Service unavailable				
	504	Gateway timeout				

Reference	D9						
Item	Value						
POST	/v1/dtros/Owners	/v1/dtros/Ownership/{id}/{assignToTraId}					
Name	Assign an existing D-TRO to a different TRA by its unique identifier						
Description	current owner TF identification.					existing D-TRO from the ce, based on its unique	
Input data type(s)	☑ JSON ☑ XML ☑ File ☑ Other (please						
Input	Header Paramet	ers					
Structure	Field Name	Data Type	Min Length	Max Length	Opportunity	Notes	
	X-Correlation- ID	string	36	36	Mandatory	UUID formatted string to track the request through the enquiries stack.	
	ta	int	4	5	Mandatory	The TRA who creates the D-TRO.	
	Request Parame	eters					
	Field Name	Data Type	Min Length	Max Length	Opportunity	Notes	
	id	string	36	36	Mandatory	UUID formatted string containing the unique identification of a D-TRO.	
	assignToTrald	int	4	5	Mandatory	The new TRA identification number that will take ownership to the current D-TRO.	
Input data scope			•	•	•	I parameter must contain Trald must be based on	
Output data type	☑ JSON ☑ XML ☑ File ☑ Other (please						
Output data	Response Parar Field Name		Min	Mov	Opportunity	Notes	
structure		Data Type	Min Length	Max Length	Opportunity	Notes	
_	Data	JSON	-	-	Mandatory	D-TRO retrieved from the D-TRO Service.	
Responses							
204 No Content							
404 Not Found	{     "message": "No "errors": [ "D-TRO not fo ] }						

Reference	D9	D9				
Item	Value					
POST	/v1/dtros/Ownersh	ip/{id}/{assignToTraId}				
Name	Assign an existing	D-TRO to a different TRA by its unique identifier				
Description	This POST method allows data publishers to reassign an existing D-TRO from the current owner TRA to another one within the D-TRO Service, based on its unique identification.					
Other error	HTTP Code	Error Type				
codes	400	Bad request				
	403	Access denied/forbidden				
	404	Not found				
	405	Method not allowed				
	429	Too many requests				
	500	Internal server error				
	502	Bad gateway				
	503	Service unavailable				
	504	Gateway timeout				

# 10.2Events and Search

Ref.	Endpoints	Name
ES1	/v1/events	Query D-TRO Service data for stored events
ES2	/v1/search	Find existing D-TROs that matches requested criteria.

Reference	ES1					
Item	Value					
POST	/v1/events					
Name	or deleted).					s being created, updated,
Description	deleted) on exist					(created, updated or
Input data type(s)	☑ JSON ☑ XML ☑ File ☑ Other (please					
Input	Header Paramet				I =	
Structure	Field Name	Data Type	Min Length	Max Length	Opportunity	Notes
	X-Correlation- ID	string	36	36	Mandatory	UUID formatted string to track the request through the enquiries stack.
	ta	string	4	5	Mandatory	The TRA SWA code that events are search for
	Request Parame	eters				
	Field Name	Data Type	Min Length	Max Length	Opportunity	Notes
	data	object	1KB	10MB	Mandatory	A JSON payload containing a D-TRO events to search. Payload should be UTF8 encoded.
Input data scope		his endpo	oint, the re	equest pa	yload must co	ntain a search query
	object. {     "page": 1,     "pageSize": 50,     "since": "2022-07-04T06:07:41.180Z",     "regulationStart": {         "operator": ">",         "value": "2022-07-04T06:07:41.180Z"         },         "regulationEnd": {         "operator": "<",         "value": "2024-07-04T06:07:41.180Z"         } }					

POST /v1/events  Name Query D-TRO Service data for stored events (e.g., D-TROs being or deleted).  Description This POST method allows data publishers to query events (creat					
Name Query D-TRO Service data for stored events (e.g., D-TROs being or deleted).  Description This POST method allows data publishers to query events (creat					
or deleted).  Description This POST method allows data publishers to query events (creat	a created undated				
Description This POST method allows data publishers to query events (creat	, , , , , , , , , , , , , , , , , , , ,				
	This POST method allows data publishers to query events (created, updated or deleted) on existing D-TROs within the D-TRO Service.				
Output					
	☑ JSON				
⊠ File					
☑ Other (please specify)					
Output Response Parameters					
data Field Name Data Min Max Opportunity Notes	3				
structure Type Length Length					
id string 36 36 Mandatory UUID conta	formatted string ining a D-TRO ce identifier for the reated D-TRO d.				
Responses					
200 OK {     "events": [],     "page": 1,     "pageSize": 0,     "totalCount": 0	"page": 1, "pageSize": 0,				
404 Not { Found "message": "Not found",     "errors": [         "Schema version not found."         ] }	"errors": [				
400 Bad Request  "errors": {     property: [         "Unexpected end when deserializing object. Path property."         ]     },     "type": "https://tools.ietf.org/html/rfc7231#section-6.5.1",     "title": "One or more validation errors occurred.",     "status": 400,     "traceId": "00-9f4aa677608b15827106b63502eb806f-ca691cf13 }	property: [     "Unexpected end when deserializing object. Path property." ] }, "type": "https://tools.ietf.org/html/rfc7231#section-6.5.1", "title": "One or more validation errors occurred.",				
Other error HTTP Code Error Type					
codes 400 Bad request					
403 Access denied/forbidden					
404 Not found					
405 Method not allowed					
429 Too many requests					
500 Internal server error					
502 Bad gateway					
503 Service unavailable					

Reference	ES2					
Item	Value					
POST	/v1/search					
Name		Find existing D-TROs that matches requested criteria.				
Description	This POST method allows data publishers to query D-TROs that matches certain					
2000	criteria within the D-TRO Service.					
Input data type(s)	☑ JSON ☑ XML ☑ File					
Input	Other (please specify)  Header Parameters					
Structure	Field Name	Data	Min	Max	Opportunity	Notes
Otraotare	rieiu ivaille	Type	Length	Length	Opportunity	Notes
	X-Correlation- ID	string	36	36	Mandatory	UUID formatted string to track the request through the enquiries stack.
	ta	string	4	5	Mandatory	The TRA SWA code that query search is for
	Request Parame	eters			I .	and query course to
	Field Name	Data	Min	Max	Opportunity	Notes
		Туре	Length	Length	, ,	
	data	object	1KB	10MB	Mandatory	A JSON payload containing query search. Payload should be UTF8 encoded.
Input data scope	be UTF8 encoded.  When invoking this endpoint, the request payload must contain a search query object.  {     "queries": [					
Output data type	☑ JSON ☑ XML ☑ File ☑ Other (please	specify)				

Reference	ES2						
Item	Value						
POST	/v1/search						
Name	Find existing D-TROs that matches requested criteria.						
Description	This POST method allows data publishers to query D-TROs that matches certain criteria within the D-TRO Service.						
Output	Response Parameters						
data structure	Field Name	Data Type	Min Length	Max Length	Opportunity	Notes	
	data	JSON array	-	-	Mandatory	Result array	
Responses							
200 OK	{     "results": [       {        omitted for bre         "vehicleType'         "taxi"       ],        omitted for bre     "page": 1,     "pageSize": 1,     "totalCount": 1 }	': [					
200 OK	{     "results": [],     "page": 1,     "pageSize": 0,     "totalCount": 0 }						
400 Bad Request	{     "message": "Bit    "errors": [			l that is lik	kely due to a tr	ransient failure."	

Reference	ES2					
Item	Value					
POST	/v1/search					
Name	Find existing D-TROs that matches requested criteria.					
Description	This POST method allows data publishers to query D-TROs that matches certain criteria within the D-TRO Service.					
Other error	HTTP Code	Error Type				
codes	400	Bad request				
	403	Access denied/forbidden				
	404	Not found				
	405	Method not allowed				
	429	Too many requests				
	500	Internal server error				
	502	Bad gateway				
	503	Service unavailable				
	504	Gateway timeout				

## 10.3Rules

Ref.	Endpoints	Name
R1	/v1/rules/versions	Retrieve available rule template versions
R2	/v1/rules	Retrieve available rule templates
R3	/v1/rules/{versions}	Retrieve rule template by version
R4	/v1/rules/{id}	Retrieve rule template by id

Reference	R1	R1					
Item	Value	Value					
GET	/v1/rules/version	/v1/rules/versions					
Name	Get available rule	e templat	e version	s <sup>1</sup>			
Description	D-TRO Service.	d allows	data publi	shers to	retrieve rule te	mplate versions from the	
Input data type(s)	<ul><li>IX XML</li><li>IX File</li><li>IX Other (please</li></ul>						
Input	Header Paramet		1		1		
Structure	Field Name	Data Type	Min Length	Max Length	Opportunity	Notes	
	X-Correlation- ID	string	36	36	Mandatory	UUID formatted string to track the request through the enquiries stack.	
	Request Parame	eters					
	Field Name	Data Type	Min Length	Max Length	Opportunity	Notes	
	-	-	-	-	-	-	
Input data scope	-						
Output data type	☑ JSON ☑ XML ☑ File ☑ Other (please specify)						
Output	Response Paran	neters					
data structure	Field Name	Data Type	Min Length	Max Length	Opportunity	Notes	
	Data	JSON	-	-	Mandatory	Array containing JSON objects	
Responses							

<sup>&</sup>lt;sup>1</sup> **Rules Template**: Defines logical conditions (rule) that data must satisfy within specific paths (path) of the DTRO. It is used to enforce business rules, validation criteria, or complex data relationships.

Deference	R1					
Reference						
Item		Value				
GET	/v1/rules/versions					
Name	Get available rule	template versions <sup>1</sup>				
Description	This GET method D-TRO Service.	allows data publishers to retrieve rule template versions from the				
200 OK	[ {     "schemaVersion": "3.2.0" }					
500	{					
Internal	"message": "Inte	rnal Server Error",				
Server	"errors": [					
Error	"An unexpected	l error occurred."				
	1					
	}					
Other error	HTTP Code	Error Type				
codes	400	Bad request				
	403	Access denied/forbidden				
	404	Not found				
	405	Method not allowed				
	429	Too many requests				
	500	Internal server error				
	502	Bad gateway				
	503	Service unavailable				
	504	Gateway timeout				

Reference	R2					
Item	Value					
GET	/v1/rules					
Name	Get available rule templates					
Description		•		shers to 1	retrieve rule te	mplates from the D-TRO
Description	Service.	a allows	data publi	311013 10 1	ictricve ruic te	
Input data	☑ JSON					
type(s)	<b>⊠</b> XML					
	<b>⊠</b> File					
	☑ Other (please					
Input	Header Paramet		1.0		10 1 "	N /
Structure	Field Name	Data	Min	Max	Opportunity	Notes
	X-Correlation-	Type	Length 36	Length 36	Mandatory	LILUD formatted string
	ID	string	30	30	Mandatory	UUID formatted string to track the request
						through the enquiries
						stack.
	Request Parame	eters			•	•
	Field Name	Data	Min	Max	Opportunity	Notes
		Type	Length	Length		
	-	-	-	-	-	-
Input data	-					
scope	TZ ICON					
Output data type	☑ JSON ☑ XML					
data type	☑ ⊼IVIL ☑ File					
1	☑ Other (please specify)					
Output	Response Parar					
data			Min	Max	Opportunity	Notes
	Response Parar Field Name	neters Data Type	Min Length	Max Length		
data	Response Parar	neters Data			Opportunity  Mandatory	Array containing JSON
data structure	Response Parar Field Name	neters Data Type	Length			
data structure Responses	Response Parar Field Name	neters Data Type	Length			Array containing JSON
data structure	Response Parar Field Name	neters Data Type	Length			Array containing JSON
data structure Responses	Response Parar Field Name  Data  [	neters Data Type JSON	Length -			Array containing JSON
data structure Responses	Response Parar Field Name  Data  [ {     "schemaVe	neters Data Type JSON rsion": "3	Length -			Array containing JSON
data structure Responses	Response Parar Field Name  Data  [	neters Data Type JSON rsion": "3	Length -			Array containing JSON
data structure Responses	Response Parar Field Name  Data  [	neters Data Type JSON rsion": "3	Length -			Array containing JSON
data structure Responses	Response Parar Field Name  Data  [	neters Data Type JSON rsion": "3	Length -			Array containing JSON
data structure Responses	Response Parar Field Name  Data  [	neters Data Type JSON rsion": "3	Length -			Array containing JSON
data structure Responses	Response Parar Field Name  Data  [	rsion": "3	Length -	Length -	Mandatory	Array containing JSON
data structure Responses	Response Parar Field Name  Data  [	rsion": "3 [ evity. {    [    "var": "s	Length -	Length -	Mandatory	Array containing JSON
data structure Responses	Response Parar Field Name  Data  [	rsion": "3 [ evity. {    [    "var": "s	Length -	Length -	Mandatory	Array containing JSON
data structure Responses	Response Parar Field Name  Data  [	rsion": "3 [ evity. { [ "var": "s	Length -	Length - rentTraO	Mandatory wner"	Array containing JSON
data structure Responses	Response Parar Field Name  Data  [	rsion": "3 [ evity. { [ "var": "s	Length - 3.2.0",	Length - rentTraO	Mandatory wner"	Array containing JSON
data structure Responses	Response Parar Field Name  Data  [	rsion": "3 [ evity. { [ "var": "s	Length - 3.2.0",	Length - rentTraO	Mandatory wner"	Array containing JSON
data structure Responses	Response Parar Field Name  Data  [	rsion": "3 [ evity. { [ "var": "s	Length - 3.2.0",	Length - rentTraO	Mandatory wner"	Array containing JSON
data structure Responses	Response Parar Field Name  Data  [	rsion": "3 [ evity. { [ "var": "s	Length - 3.2.0",	Length - rentTraO	Mandatory wner"	Array containing JSON
data structure Responses	Response Parar Field Name  Data  [	rsion": "3 [ evity. { [ "var": "s	Length - 3.2.0",	Length - rentTraO	Mandatory wner"	Array containing JSON
data structure Responses	Response Parar Field Name  Data  [	rsion": "3 [ evity. { [ "var": "s	Length - 3.2.0",	Length - rentTraO	Mandatory wner"	Array containing JSON

Deference	DO					
Reference	R2					
Item	Value	Value				
GET	/v1/rules					
Name	Get available rule	templates				
Description	This GET method Service.	allows data publishers to retrieve rule templates from the D-TRO				
500 Internal Server Error	{   "message": "Internal Server Error",   "errors": [   "An unexpected error occurred."   ] }					
Other error	HTTP Code	Error Type				
codes	400	Bad request				
	403	Access denied/forbidden				
	404	Not found				
	405	Method not allowed				
	429	Too many requests				
	500	Internal server error				
	502	Bad gateway				
	503	Service unavailable				
	504	Gateway timeout				

Reference	R3					
Item	Value					
GET	/v1/rules/{version}					
Name	Get available rule template by version					
					otriovo o rulo	template by version from
Description	the D-TRO Servi		uata publi	SHEIS TO I	etrieve a ruie	template by version from
Input data type(s)	☑ JSON ☑ XML ☑ File					
	☑ Other (please)	specify)				
Input	Header Paramet	ers				
Structure	Field Name	Data	Min	Max	Opportunity	Notes
		Туре	Length	Length		
	X-Correlation- ID	string	36	36	Mandatory	UUID formatted string to track the request through the enquiries stack.
	Request Parame	eters				
	Field Name	Data Type	Min Length	Max Length	Opportunity	Notes
	version	string	5	5	Mandatory	String representation of rule version
Input data scope	When invoking tl {Major}.{Minor}.{		oint, the re	equest pa	rameter must l	be string in this format:
Output data type	☑ JSON ☑ XML ☑ File ☑ Other (please					
Output	Response Paran					
data	Field Name	Data	Min	Max	Opportunity	Notes
structure		Туре	Length	Length		
	Data	JSON	-	-	Mandatory	Array containing JSON objects
Responses						
200 OK	{     "schemaVersion": "3.2.0",     "template": [					

Reference	R3				
_					
Item	Value				
GET	/v1/rules/{version}				
Name	Get available rule	template by version			
Description	This GET method the D-TRO Service	allows data publishers to retrieve a rule template by version from e.			
500 Internal Server Error	{   "message": "Internal Server Error",   "errors": [    "An unexpected error occurred."   ]   ]				
Other error	HTTP Code	Error Type			
codes	400	Bad request			
	403	Access denied/forbidden			
	404	Not found			
	405	Method not allowed			
	429	Too many requests			
	500	Internal server error			
	502	Bad gateway			
	503	Service unavailable			
	504	Gateway timeout			

Reference	R4					
Item	Value					
GET	/v1/rules/{id}					
Name	Get available rule template by unique identifier					
Description		This GET method allows data publishers retrieve a rule template from the D-TRO				
Description	Service.	u allows	uata publi	311613161	rieve a ruie tei	ilpiate from the D-TNO
Input data	☑ JSON					
type(s)	⊠ XML					
	<b>坚</b> File					
	☑ Other (please					
Input Structure	Header Paramet		1 8 41			l NI /
Structure	Field Name	Data	Min	Max	Opportunity	Notes
	X-Correlation-	Type string	Length 36	Length 36	Mandatory	UUID formatted string
	ID	Sung	30	30	Manuatory	to track the request
						through the enquiries
						stack.
	Request Parame	eters				
	Field Name	Data	Min	Max	Opportunity	Notes
		Туре	Length	Length		11111D ( 11 1 1 1 1
	id	string	36	36	Mandatory	UUID formatted string representing the rule to
						be retrieved.
Input data	When invoking t	nis endpo	int the id	paramet	⊥ er must be stri	ing in UUID format.
scope		отр с	,	p		9
Output	☑ JSON					
data type	⊠ XML					
	☑ File	anacifu)				
Output	☑ Other (please Response Parar)					
data	Field Name	Data	Min	Max	Opportunity	Notes
structure	Tiola Hamo	Type	Length	Length	Opportunity	110100
	Data	JSON	-	-	Mandatory	Array containing JSON
					_	objects
Responses						
200 OK	<b> </b> {	u u <del>a</del> c	0.11			
	"schemaVersi	on": "3.2.	.υ",			
	"template": [					
	โ omitted for bre	vitv				
	"rule": {					
	"in": [					
	{				-	
	_	/ar": "sou	rce.currer	ntTraOwr	er"	
	<b>}</b> ,					
	\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	service d	lata": "swa	codes"		
	}	.c. v.oc_0	iata . 3WC			
	] 1 ,					
	}					
	}					
	}					

Reference	R4				
Item	Value				
GET	/v1/rules/{id}				
Name	, ,	template by unique identifier			
Description	This GET method Service.	allows data publishers retrieve a rule template from the D-TRO			
500 Internal Server Error	{   "message": "Internal Server Error",   "errors": [   "An unexpected error occurred."   ]   }				
Other error	HTTP Code	Error Type			
codes	400	Bad request			
	403	Access denied/forbidden			
	404	Not found			
	405	Method not allowed			
	429	Too many requests			
	500	Internal server error			
	502	Bad gateway			
	503	Service unavailable			
	504	Gateway timeout			

# 10.4Schemas

Ref.	Endpoints	Name
S1	/v1/schemas/versions	Retrieve available schema template versions
S2	/v1/schemas	Retrieve available schema templates
S3	/v1/schemas/{versions}	Retrieve schema template by version
S4	/v1/schemas/{id}	Retrieve schema template by id

Reference	S1					
Item	Value					
GET	/v1/schemas/ver	sions				
Name	Get available sch	nema ten	nplate ver	sions <sup>2</sup>		
Description	This GET method the D-TRO Servi		data publi	shers to i	retrieve schem	na template versions from
Input data type(s)	☑ JSON ☑ XML ☑ File ☑ Other (please					
Input	Header Paramet					
Structure	Field Name	Data Type	Min Length	Max Length	Opportunity	Notes
	X-Correlation-ID	string	36	36	Mandatory	UUID formatted string to track the request through the enquiries stack.
	Request Parame	ters				
	Field Name	Data Type	Min Length	Max Length	Opportunity	Notes
	-	-	-	-	-	-
Input data scope	-					
Output data type	☑ JSON ☑ XML ☑ File ☑ Other (please specify)					
Output	Response Paran					
data structure	Field Name	Data Type	Min Length	Max Length	Opportunity	Notes
	Data	JSON	-	-	Mandatory	Array containing JSON objects

<sup>&</sup>lt;sup>2</sup> **Schema Template**: Specifies the expected structure, data types, and constraints (type, minimum, maximum, etc.) for each field within the DTRO. It ensures consistency, integrity, and compatibility of data across systems or processes.

Reference	S1					
Item		Value				
GET	/v1/schemas/versi					
Name	, , , , , , , , , , , , , , , , , , , ,					
		ema template versions <sup>2</sup>				
Description	the D-TRO Service	allows data publishers to retrieve schema template versions from				
Posponeos	the D-1RO Service	<del>5</del> .				
Responses	г					
200 OK	L					
	{   "schemaVersior	s". "2 2 0"				
	"isActive": true,	1. 3.2.0 ,				
	"rulesExist": true					
	}					
	1'					
500	{					
Internal	`"message": "Inter	nal Server Error",				
Server	"errors": [					
Error	"An unexpected	error occurred."				
	]					
	}					
Other error	HTTP Code	Error Type				
codes	400	Bad request				
	403	Access denied/forbidden				
	404	Not found				
	405	Method not allowed				
	429	Too many requests				
	500	Internal server error				
	502	Bad gateway				
	503	Service unavailable				
	504	Gateway timeout				

Reference	S2							
Item	Value							
GET	/v1/schemas							
Name	Get available sc	hema ten	nplates					
Description		This GET method allows data publishers to retrieve schema templates from the D-						
	TRO Service.							
Input data	☑ JSON							
type(s)	☑ XML ☑ File							
	☑ Other (please	specify)						
Input	Header Parame							
Structure	Field Name	Data	Min	Max	Opportunity	Notes		
		Туре	Length	Length				
	X-Correlation-	string	36	36	Mandatory	UUID formatted string		
	ID					to track the request		
						through the enquiries stack.		
	Request Parame	 eters				Stack.		
	Field Name	Data	Min	Max	Opportunity	Notes		
	Tiola Hallio	Type	Length	Length	Орронанну	110100		
	-	-	-	-	-	-		
Input data	-	1	•		1			
scope								
Output	☑ JSON							
data type	⊠ XML ⊠ File							
	⊠ File ☑ Other (please specify)							
Output	Response Parameters							
data	Field Name	Data	Min	Max	Opportunity	Notes		
structure		Туре	Length	Length				
	Data	JSON	-	-	Mandatory	Array containing JSON		
Posponeos						objects		
Responses 200 OK	Г							
200 OK	\							
	"schemaVersion": "3.2.0", "template": {     "type": "object",							
	"\$defs": { omitted for brevity.							
	}, "oneOf": [ omitted for brevity.							
	],							
	"\$schema": "https://json-schema.org/draft/2020-12/schema", "description": "DTRO v3.2.0 data model JSON schema",							
				uata mo	aei JSON SCh	ema*,		
	"additionalProperties": true },							
	"isActive": true							
	}							
	1							

Reference	S2					
Item		Value				
GET	/v1/schemas					
Name	Get available sche	ema templates				
Description	This GET method allows data publishers to retrieve schema templates from the D-TRO Service.					
500 Internal Server Error	{   "message": "Internal Server Error",   "errors": [   "An unexpected error occurred."   ] }					
Other error	HTTP Code	Error Type				
codes	400	Bad request				
	403	Access denied/forbidden				
	404	Not found				
	405	Method not allowed				
	429 Too many requests					
	500 Internal server error					
	502	Bad gateway				
	503	Service unavailable				
	504	Gateway timeout				

Reference	S3									
Item	Value									
GET	/v1/schemas/{version}									
Name	•		nnlate by y	version						
Description	Get available schema template by version  This GET method allows data publishers retrieve a schema template by version									
Booonpaon	from the D-TRO		data pabii	011010101	iovo a conomi	a template by version				
Input data	☑ JSON									
type(s)	⊠ XML									
	ĭ File									
In a set	☑ Other (please									
Input Structure	Header Paramet		NA:	N4	0	N-4				
Structure	Field Name	Data	Min	Max	Opportunity	Notes				
•	X-Correlation-	Type string	Length 36	Length 36	Mandatory	UUID formatted string				
	ID	Sung	30	30	Manuatory	to track the request				
						through the enquiries				
						stack.				
	Request Parame	eters		•						
	Field Name	Data	Min	Max	Opportunity	Notes				
		Туре	Length	Length						
	version	string	5	5	Mandatory	String representation of				
Input data	Mhan involving t	hio ondo	int the re	guest pe	romotor must	schema version				
Input data scope	{Major}.{Minor}.{		omi, me re	equest par	rameter must	be string in this format:				
Output	☑ JSON	i atony.								
data type	⊠ XML									
	<b>坚</b> File									
	☑ Other (please)									
Output	Response Parameters									
data structure	Field Name	Data	Min	Max	Opportunity	Notes				
Structure	Dete	Type JSON	Length	Length	Mandatan	Array containing ISON				
	Data	JSON	-	-	Mandatory	Array containing JSON objects				
200 OK	{					Objects				
200 011	"schemaVersi	ion": "3.2	.0".							
	"template": {		,							
	"type": "obj	ect",								
	"\$defs": {									
omitted for brevity.										
	"\$schema": "https://json-schema.org/draft/2020-12/schema",									
	"description": "DTRO v3.2.0 data model JSON schema",									
	"additionalProperties": true									
	},									
	"isActive": true	е								
	}									

Reference	S3					
Item	Value					
GET	/v1/schemas/{vers	ion}				
Name	,	ema template by version				
Description	This GET method allows data publishers retrieve a schema template by version from the D-TRO Service.					
Responses						
500 Internal Server Error	{   "message": "Internal Server Error",   "errors": [     "An unexpected error occurred."   ] }					
Other error	HTTP Code	Error Type				
codes	400	Bad request				
	403	Access denied/forbidden				
	404	Not found				
	405	Method not allowed				
	429	Too many requests				
	500	Internal server error				
	502	Bad gateway				
	503	Service unavailable				
	504	Gateway timeout				

Reference	S4									
Item	Value									
GET	/v1/schemas/{id	<b>.</b>								
Name	•		nnlate by i	unique id	entifier					
Description		Get available schema template by unique identifier.  This GET method allows data publishers retrieve a schema template from the D-								
Description	TRO Service.									
Input data	☑ JSON									
type(s)	⊠ XML									
	ĭ File									
	☑ Other (please									
Input	Header Parame		1			I				
Structure	Field Name	Data	Min	Max	Opportunity	Notes				
	V Completion	Type	Length	Length	Manalatami	LILID forms attend atmin or				
	X-Correlation- ID	string	36	36	Mandatory	UUID formatted string to track the request				
	טו					through the enquiries				
						stack.				
	Request Parame	eters		1		0.000				
	Field Name	Data	Min	Max	Opportunity	Notes				
		Type	Length	Length	, ,					
	id	string	36	36	Mandatory	UUID formatted string				
						representation of				
						schema unique				
Input data	When invoking t	hic andne	int the id	noromot	or must be str	identifier. ing in UUID format.				
scope	villeri irivokirig t	ilis ellupt	Jilit, tile id	paramet	ei musi be siii	ing in OOID format.				
Output	☑ JSON									
data type	■ XML									
	⊠ File									
	☑ Other (please									
Output	Response Parameters									
data structure	Field Name	Data	Min	Max	Opportunity	Notes				
Structure	Data	JSON	Length	Length	Mandatan	Array containing ISON				
	Data	JSON	-	-	Mandatory	Array containing JSON objects				
200 OK	{									
	"schemaVersion": "3.2.0",									
	"template": {									
	"type": "object", "\$defs": {									
	omitte									
	},									
	"oneOf": [									
	omitted for brevity.									
		],								
	],		"\$schema": "https://json-schema.org/draft/2020-12/schema", "description": "DTRO v3.2.0 data model JSON schema",							
	], "\$schema"									
	], "\$schema" "descriptior	n": "DTRC	) v3.2.0 da							
	], "\$schema" "descriptior "additionall	n": "DTRC	) v3.2.0 da							
	], "\$schema" "descriptior	n": "DTRO Properties	) v3.2.0 da							
	], "\$schema" "descriptior "additionall },	n": "DTRO Properties	) v3.2.0 da							
	], "\$schema" "descriptior "additionall },	n": "DTRO Properties	) v3.2.0 da							

Reference	S4				
Item	Value				
GET	/v1/schemas/{id}				
Name	Get available sche	ema template by unique identifier.			
Description	This GET method allows data publishers retrieve a schema template from the D-TRO Service.				
Responses					
500 Internal Server Error	"errors": [	rnal Server Error", error occurred."			
Other error	HTTP Code	Error Type			
codes	400	Bad request			
	403	Access denied/forbidden			
	404	Not found			
	405	Method not allowed			
	429	Too many requests			
	500	Internal server error			
	502	Bad gateway			
	503	Service unavailable			
	504	Gateway timeout			