

MyData Architecture Framework

Service Descriptions Specification

v. 2.0

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MyData Architecture defines the operations and APIs between the Operational Roles (Operator, Source, Sink etc.). Any descriptions or figures of the roles' internal structure or operations are for illustrative purposes only.

1. Introduction

This document specifies the minimum service and data description structures for MyData Services and Operator configuration. It replaces the earlier ‘MyData Service Registry’ specification.

This document is part of the MyData Architecture Framework release 2.0. The reader is assumed to be familiar with the ‘MyData Architecture Framework’ document and with the parallel technical specification documents available at

https://github.com/mydata-sdk/mydata-docs/tree/master/architecture_specs .

1.1 Notational Conventions

The keywords "MUST", "MUST NOT", "REQUIRED", "SHALL", "SHALL NOT", "SHOULD", "SHOULD NOT", "RECOMMENDED", "MAY", and "OPTIONAL" in this document are to be interpreted as described in [RFC2119].

1.2 Terminology

Key terminology used in this specification is defined in the Glossary of MyData Architecture Framework release 2.0 available at https://github.com/mydata-sdk/mydata-docs/tree/master/architecture_specs .

1.3 Formats

In MyData Architecture, all data records and their respective digital signatures exchanged between actors are expressed using Javascript Object Notation (JSON). Digital signatures are expressed as JSON Web Signature (JWS) structures and cryptographic keys as JSON Web Key (JWK) structures.

In this document, JSON definitions of the data records are presented without JWS structures. All Timestamps are in UTC in the NumericDate format as defined in [RFC7519].

2. Service Description

Services MUST provide information on their configuration and MyData endpoint locations. Depending on the service type and supported use cases the service description consists of a common part, data description part, processing purposes part, processing part and notification part.

Depending on the service registration model this data is either provided from a central service registry or from the service itself. If the service is providing the information by itself, it MUST use specified .well-known/mydata/ endpoint - for using .well-known URIs see [RFC5785]. Structure of this endpoint is defined in https://github.com/mydata-sdk/mydata-docs/tree/master/api_specs. Discovery of self-declared services is out of scope of this specification.

2.1 Common Service Description

Each service MUST provide basic information, such as data controller details and access URLs. Service Description object consists of unique serviceId and serviceDescription object.

Table 1: Common Service Description

KEY	TYPE	DESCRIPTION
serviceId	String	Unique ID for the service
serviceDescription	Object	See table 2

Table 2: Service Description object

KEY	TYPE	DESCRIPTION
serviceProvider	Object	See table 3
serviceDescriptionTitle	String	Service's commercial/official title
serviceIconURL	String	URL pointing to service's icon
humanReadableDescription	String	Description of the service
keywords	Array of strings	List of keywords describing the service
issued	String	When entry was created (system log data)

serviceDescriptionVersion	String	Service description version number																					
supportedProfiles	Array of strings	Possible profiles supported: “contract, consenting, 3rd party re-use, notification, objection”																					
compatibleServices	Array of strings	Compatible service’s IDs																					
cert	Object	<table border="1"> <thead> <tr> <th>KEY</th><th>TYPE</th><th>DESCRIPTION</th></tr> </thead> <tbody> <tr> <td>x5u</td><td>String</td><td>URL pointing to service’s x.509 certificate</td></tr> </tbody> </table>	KEY	TYPE	DESCRIPTION	x5u	String	URL pointing to service’s x.509 certificate															
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notificationUri	String	URI for subscribing notifications																					
dataDescription	Array	Array containing Data Description objects (see 2.2)																					
processingBases	Array	Array containing Processing Description objects (see 2.3)																					

		KEY	DESCRIPTION
		contract	Array containing Processing Description objects for contract based processing
		consent	Array containing Processing Description objects for consent based processing
		publicInterest	Array containing Processing Description objects for public interest based processing
		legitimateInterest	Array containing Processing Description objects for legitimate interest based processing
		vitalInterest	Array containing Processing Description objects for vital interest based processing

Table 3: Service Provider object

KEY	DESCRIPTION	VALUE
businessId	String	Service's business ID, e.g. VAT number
name	String	Name of the service
address1	String	Service's address
address2	String	Service's address
postalCode	String	Service's postal code
city	String	City where service is located
state	String	State where service is located
country	String	Country where service is located
email	String	Service's contact email

telephone	String	Service's contact telephone number
jurisdiction	String	Jurisdiction the service operates under

Service Description MAY be signed with the service's private key as defined in [RFC7515].

The JWS header MUST contain 'kid' field identifying services's key pair used to sign the Service Description.

2.2 Data Description

Each service processing or providing data (i.e. source) MUST describe the datasets it processes. Source service lists also datasets they can provide, and the API endpoint (distribution point). For clarification, a service does not need to describe data location if it uses data only internally i.e. it doesn't offer a related API for external use.

Table 4: Data description

KEY	TYPE	DESCRIPTION	
datasetId	String	Dataset’s ID	
title	String	Title	
description	String	Description of the dataset	
datasetSchema	Object	Object describing dataset’s schema	
		KEY	DESCRIPTION
		@context	JSON-LD context for the dataset (optional)
		@type	JSON-LD type for the dataset (optional)
		@id	JSON-LD id for the dataset
url	String	URL pointing to further description of the data, e.g. to JSON schema (optional)	
distribution	Array of objects	Objects describing dataset distribution point. NOT used in internal processing cases	

		distributionId	ID for the distribution
		accessUrl	URL where data is available
		format	Format of the data

2.3 Processing Description

Each service processing data MUST describe the processing purposes and what data it uses for each purpose. Purposes refer to datasets using dataset's schema information. Each processing base ("contract", "consent", "publicInterest", "legitimateInterest", "vitalInterest") service uses is described using Processing Description described in table 3.

Table 5: Processing description

KEY	TYPE	DESCRIPTION	
purposeId	String	Purpose’s Id, MUST be unique within the service description	
description	Array	Array of description objects containing localised information about the purpose	
		KEY	VALUE
		language	Language used in information, ISO 639-1 coded
		descriptionUrl	URL pointing to information about the purpose
		title	Purpose’s human-readable title
		description	Purpose’s human-readable description
		iconUrl	URL pointing to icon for the purpose
requiredDatasets	Array of strings	IDs of the core datasets this processing purpose requires (to provide a meaningful outcome, i.e. without which the intended processing cannot fulfill its basic target)	

optionalDatasets	Array of strings	IDs of the datasets this processing purpose may use when permitted by data subject. Used only for consent based processing bases
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2.5 Notification Description

Services supporting Notifications MUST describe what notifications they support.

Table 6: Notification description

KEY	TYPE	DESCRIPTION
notifications	Array	Array of notification description objects
	Notification Object	Object describing notifications user can subscribe
id	String	Unique ID, used for subscribing notification
name	String	Notification's name (e.g. "Address Information", should pinpoint clearly what type of data has been processed)
shortDescription	String	Short description
longDescription	String	Long description
url	String	URL pointing to notification description

3. Operator Configuration

Operator MUST provide information on its configuration and MyData endpoint locations. Operator MUST implement `well-known/mydata/operator` endpoint. Structure of this endpoint is defined in https://github.com/mydata-sdk/mydata-docs/tree/master/architecture_specs Operator discovery is out of scope of this specification.

3.1 Operator Description

Table 7. Operator description

KEY	TYPE	DESCRIPTION															
operatorId	String	Unique ID for the operator															
serviceProvider	Object	See table 3															
serviceDescription Version	String	Service description version number															
Supported profiles	Array of strings	Profiles the operator support															
cert	Object	<table> <tr> <th>KEY</th><th>TYPE</th><th>DESCRIPTION</th></tr> <tr> <td>x5u</td><td>String</td><td>URL pointing to operator's X.509 certificate</td></tr> </table>	KEY	TYPE	DESCRIPTION	x5u	String	URL pointing to operator's X.509 certificate									
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linkingRedirectUri	String	URL user should be redirected after service has been linked. Used in service linking starting from the operator															
createdOnDate	String	When the service description was created (system log)															
createdByUserId	String	User who created the service description (system log)															

Operator Description MAY be signed with the operator's private key as defined in [RFC7515].

The JWS header MUST contain 'kid' field identifying operator's key pair used to sign the Operator Description

4. Deployment Options

Service Descriptions can be provided from centralised source (Service Registry model, see earlier MyData Architecture releases) or the service can provide the information itself (decentralised model). Service must be registered to a service registry instance that serves the Operator's (or multiple Operators') registry services, if the Service Registry approach is used.

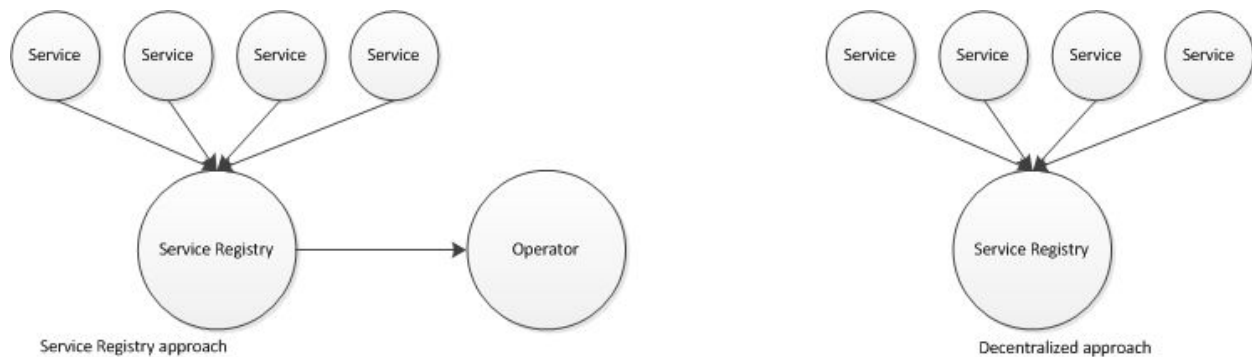


Figure 4.1 Centralised versus decentralised provisioning of service descriptions

5. References

- [RFC2119] Bradner, S, "Key words for use in RFCs to Indicate Requirement Levels", BCP 14, RFC 2119, March 1997.
- [RFC5785]: Nottingham, M, Hammer-Lahav, E, Defining Well-Known Uniform Resource Identifiers (URIs), 2010.
- [RFC7515] Jones, M, Bradley, J, Sakimura, N, "JSON Web Signature", RFC 7515, May 2015
- [RFC7519] Jones, M., Bradley, J., Sakimura, N. "JSON Web Token (JWT)", RFC 7519, May 2015