

**National information system
labeling monitoring
product traceability
"ASL BELGISI"**

OPEN API 3.0.3

Marking code ordering interface

ICOM REST API v2

Special software

Programmer's Guide

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DEFINITIONS AND ABBREVIATIONS

The following abbreviations and definitions are used in this document:

Abbreviations	Deciphering
ASL BELGISI	National information system for monitoring labeling and traceability of products "ASL BELGISI"
UOT	Participant in the turnover of goods
MOD	Place of business
SP	Service provider
TIN	Taxpayer Identification Number, used to identify legal entities
PINFL	Personal identification number of a physical person, used to identify physical persons, including those engaged in individual entrepreneurial activity.
PA	Personal account of OTP in NIS "ASL BELGISI"
MCOI	Marking code ordering interface
MC	Marking code
CI	Identification code
PG	Product group
GTIN	(Global Trade Item Number - a global number of a commodity unit in the GS1 international commodity database.
SI	Digital identification tool

1 GENERAL DESCRIPTION

1.1 Assignment of the marking code ordering interface

The Marking Code Ordering Interface (MCOI) is intended for interaction of participants of goods turnover (UOT) with the Marking Information System and performance of the following operations with marking codes (MC):

- Registration of orders for the issue (generation) of MCs, including for the purposes of their transfer to service providers;
- Receipt (unloading) of MCs from registered MC emission orders;
- Closing of MC issue orders;
- Review and search for MC issue orders registered by the UOT, including those generated through a service provider;
- Registration of MC transaction reports, including evaluation of printing quality (validation) of digital identification means, application (use) of MC, aggregation of labeled goods, etc;
- Search and view registered reports (transactions) with MC, including those registered through a service provider.

Approximate sequence of invoking MCOI methods when performing product labeling and aggregation processes:

- User Authorization;
- Registration of an order for the issue of MC;
- Checking the status of MC issue order fulfillment;
- Receipt of ordered MCs;
- Registration of the report on assessment of the quality of printing (validation) of digital identification means;
- Registration of the MC application report;
- Registering a report on the aggregation of labeled goods.

1.2 Change history

Documentation Version:

- 1.1.17

Change History:

- First version of the document

1.3 Bench parameters

The address of the production environment:

- <https://icom.xtrace.aslbelgisi.uz>

The address of the staging environment:

- <https://icom.xtrace.stage.aslbelgisi.uz>

1.4 Settings and restrictions

The following settings and restrictions are set when interacting with the Marking Code Ordering Interface API:

Parameter	Limitations
Authorization token lifetime	30 minutes
Re-authorization token lifetime	... minutes
Number of active orders (maximum)	100 units.
Number of codes in one order / sub-order (maximum)	150 thousand MC order sub-order 100 thousand MC
Number of sub-orders in one order (maximum)	10 units.
Number of codes in one report (maximum)	30 thousand MC
Report retention time before evacuation to cold storage	365 days
Time of validity of the technical user activation link	7 days
Number of accesses to MCOI methods (maximum)	100 hits per minute

1.5 Request response codes (HTTP status)

Query Response Codes:

HTTP code	Description
200 OK	Request successfully processed
400 Bad Request	Request rejected, request errors detected
401 Unauthorized	Authorization is required for the request
403 Forbidden	Access denied (no rights to execute the request)
404 Not found	The requested object was not found
429 Too many requests	Limit exceeded
500 Server Errors	Internal server error

1.6 Errors in processing requests

If an error occurs, the response returns the error code and a brief description of the error.

Response Parameters:

Parameter	Description	Type	Required.
globalErrors	Error array	Array of Object	Yes
globalError	Error object	Object	Yes
errorCode	Error code	String	Yes
error	Text description of the error	String	Yes
Code	Symbolic error code	String	No

requestBodyJsonPath	Name and jsonPath of parameter with error from request body	String	No
requestQueryJsonPath	Name and, if available, jsonPath of the parameter with error from query request	String	No
requestPathJsonPath	Name and, if available, the jsonPath of the parameter with the error from the request path	String	No
errorId	Error identifier. Used to quickly find information about the error in the service logs	String	No
service	Symbol code of the current service	String	No
context	Parameter name and value with additional context about the error. Can be used to generate a custom error message	Object	No

Example of an unsuccessful response:

```
{
  }, "globalErrors": [
    {
      "error": "No permission for operation",
      "errorCode": 201
    }
  ]
}
```

Error Handbook:

Significance	Deciphering
1	The service is temporarily unavailable. Please try again after a few seconds
201	Insufficient rights to perform the operation
...	...

2 AUTHENTICATION

In order to interact with MCOI via the UOT API, it is necessary to authorize in the PA and create a technical user and define its access rights.

Each UOT can create one or more technical users, e.g., create a separate technical user for different software products and/or production sites.

2.1 Creating a technical user

To create a technical user, you need to:

- log in to the Personal account, go to the section "Organization Profile", subsection "Users"
- select the "Add User" option, select the "Technical User" user type and define its access rights;
- fill in the required fields, including an up-to-date e-mail address;
- confirm the activation of the technical user by clicking on the link sent to the e-mail address specified when creating the user;
- set the password of the created technical user.

The technical user ID (login) is generated automatically. The password of the technical user is set when the technical user is activated. The password is reset by locking and reactivating the technical user.

2.2 Customizing user rights

The availability of individual MCOI methods to a technical user is determined by the role(s) established for the respective technical user in the PA.

Method	necessary role
Register an order for MC issue	API Integrator
Obtain information on MC issue orders	API Integrator
Get information about sub-orders	API Integrator
Close order (sub-order) for MC issue	API Integrator
Receive (unload) MC from a sub-order	API Integrator
Get the list of MC packages unloaded from the sub-order	API Integrator
Record the MC application operation (report)	Creator of documents with the type "Documents of work with MC (Validation, Application)"
Receive the processing status of the MC Application operation	Creator of documents with the type "Documents of work with MC (Validation, Application)"
Register code validation operation	Creator of documents with the type "Documents of work with MC (Validation, Application)"

Method	necessary role
Register a MC aggregation operation (with a nested binary document)	Creator of documents with the "Aggregation" type
Get a list of documents	
Get the main parameters of the document	
Retrieve the content of the document	
Get a list of document errors	

2.3 User Authentication

Technical user authentication is performed by login and password. In response to the request, an authorization token and a re-authorization token are returned. All subsequent requests requiring authentication must be performed with the transfer of this authorization token. **Receiving a new authorization token invalidates the previously received authorization token.**

2.3.1 Request

General description of the request:

URL	https://{server}/api/users/authenticate
Method	POST
Authorization	-

Request parameters (request body):

Parameter	Description	Type	Required.
login	User Login	String	Yes
password	User password	String	Yes

Example of a request:

```
POST {server}/api/users/authenticate
```

```
{
  "login": "6e8login23",
  "password": "12345678"
}
```

2.3.2 Response to request

Response Parameters:

Parameter	Description	Type	Required.
accessToken	Authorization token	String	Yes
accessTokenType	Authorization token type (BEARER)	String	Yes
accessTokenExpiresIn	Authorization token lifetime, ms	String	Yes

refreshToken	Re-authorization token Allows you to get a new authorization token without using a username and password.	String	Yes
--------------	--	--------	-----

Example of a response to a request:

```
{
  "accessToken": "007d44bb-7bee-4552-9e00-c52ea94de57e",
}, "accessTokenType": { "BEARER",
}, "accessTokenExpiresIn": 1800000,
"refreshToken": "1fb99850-2ed8-4730-a068-f4e6f26c63fb"
}
```

2.4 Updating user authentication

It is recommended that user authentication be updated through the use of a re-authorization token.

2.4.1 Request

General description of the request:

URL	-
Method	-
Authorization	-

Request parameters (request body):

Parameter	Description	Type	Required.

Example of a request:

-

2.4.2 Response to request

Response Parameters:

Parameter	Description	Type	Required.

Example of a response to a request:

-

3 METHODS FOR WORKING WITH ORDERS

3.1 Register an order for MC issue

Registration of the order for MC issue is carried out by the UOT, both for independent execution and for transferring for execution to the service provider (SP). The identifier of the registered MC issue order is returned in the response.

The number of active MC issue orders (registered and unselected) is limited (see settings and limitations).

3.1.1 Request

General description of the request:

URL	https://{server}/api/orders
Method	POST
Authorization	Bearer token

Request parameters (request body):

Parameter	Description	Type	Required
productGroup	Product group (see reference)	String	Yes
releaseMethodType	Purpose of marking (see reference) Note. UOT with the role "Wholesale" and "Retail" can only register orders for the purpose of marking "Marking Remains" or "Commission Trading"	String	Yes
products	Sub-order list Note. The number of items (sub-orders) in one order is limited (see settings and restrictions).	Array of Object	Yes
*gtin	Product code (GTIN)	String	Yes
*quantity	Required number of MCs Note. The number of codes in one order (sub-orders) is limited (see settings and limitations).	Integer	Yes
*cisType	Type of packaging (see reference)	String	Yes
*serialNumberType	Method of generating serial numbers (see the reference)	String	Yes
*serialNumbers	Serial number array Note. Filled only if serialNumberType = SELF_MADE	JSON Array of String	No

*isPaid	An indication of the charge for providing the service of issuance and traceability of labeling codes. Note. If the service is expected to be provided strictly without charging, the attribute is filled with the value false. Otherwise, the correspondence between the expected and actual tariff is not checked. The actual tariffication is determined by the Operator in accordance with the legislative acts of the Republic of Uzbekistan.	Boolean	No
poNumber	Production order number	String	No
businessPlaceId	Identifier of the MOD under which the MC issuance order is registered Note. To be filled in if the order fulfillment is performed by UOT independently	Integer	No
contractorInfo	Information about the service provider (SP) Note. To be filled in if the order fulfillment is transferred to the service provider	Object	No
*contractorTin	TIN of the service provider	String	Yes
*contractorCountryCode	Service provider country code (see reference)	String	Yes

Example of a request:

POST https://{server}/api/orders

```
{
  "productGroup": "vegetableoil",
  "releaseMethodType": { "PRIMARY",
  { "products": [
    {
      "gtin": "04899215122371",
      "quantity": 10,
      "serialNumberType": "OPERATOR",
      "cisType": "UNIT".
    }
  ],
  }, "businessPlaceId": 27
}
```

3.1.2 Response to request

Response Parameters:

Parameter	Description	Type	Required.
orderId	Identifier of the registered MC issue order	String	Yes

Example of a response to a request:

```
{
  "orderId": "0e4c3dbb-d8d7-4de8-629a-fb36f69a905f"
}
```

3.2 Obtain information on orders for MC issue

The UOT may request:

- information on results of processing of a particular order for MC issue (by registered order identifier);
- the list of MC emission orders registered by it and their brief description (by different filtering parameters).

3.2.1 Request

General description of the request:

URL	https://{server}/api/orders
Method	GET
Authorization	Bearer token

Query parameters (query):

Parameter	Description	Type	Required.
orderId	MC issue order identifier	String	No
status	Status of orders according to the reference (see reference)	String	No
productGroup	Order commodity group	String	No
contractorTin	TIN of the service provider to whom the order is assigned	String	No
poNumber	Production order number	String	No
dateFrom	The date the order was created accordance with ISO 8601. Example: '2011-12-03T10:15:30Z' or '2011-12-03T10:15:30+01:00' Note. Records created from the specified date/time (inclusive), to date/time dateTo (if specified), or to the current system date/time (if dateTo is not specified) are returned	String	No

dateTo	The date the order was created accordance with ISO 8601. Example: '2011-12-03T10:15:30Z' or '2011-12-03T10:15:30+01:00' Note. When the parameter is applied, records created before the date/time specified in this parameter (from dateFrom) are shown. If not specified, the end date/time is taken to be the date/time before the current system date/time If dateTo< dateFrom, an error is returned on the request	String	No
limit	Limit of returned rows per page (default 100).	Integer	No
cursor	Cursor identifier. It is used to organize page-by-page data display. Note. To get the next page (bundle) of records, the ID of the last document on the previous page (bundle) of records is specified.	String	No

Example of a request:

```
GET https://{server}/api/orders?dateFrom=2025-01-01T10:00:00Z
```

3.2.2 Response to request

Response Parameters:

Parameter	Description	Type	Required.
orderInfos	Array of MC emission orders corresponding to the specified search (filtering) parameters	Array of Object	Yes
*orderId	MC issue order identifier	String	Yes
*productGroup	Product group (see reference)	String	Yes
*releaseMethodType	Purpose of marking (see reference guide)	String	Yes
*orderStatus	MC issue order status (see reference)	String	Yes
*createDate	Time of order creation (in epoch millis)	String	Yes
*poNumber	Production order number	String	No
*rejectionReason	Reason for rejecting the order. All deviation reasons for all sub-orders are displayed	String	No

Example of a response to a request:

```
{
  }, "orderInfos": [
    {
      "orderId": "0e4c06b2-d71b-4726-58c8-2beaa4ce24b1",
      "productGroup": "vegetableoil",
    }, "orderStatus": { "READY",
      "releaseMethodType": { "PRIMARY",
        { "poNumber": "1",
          "createDate": "2025-01-30T11:02:02.492Z"
        }
      },
    },
    {
      "orderId": "0e4c3dbb-d8d7-4de8-629a-fb36f69a905f",
      "productGroup": "vegetableoil",
    }, "orderStatus": { "READY",
      "releaseMethodType": { "PRIMARY",
        { "poNumber": "1",
          "createDate": "2025-01-30T13:08:06.47Z"
        }
      },
    }
  ]
}
```

3.3 Get information about sub-orders

The UOT may request:

- information on the results of processing of a particular sub-order (by MC issue order identifier and commodity code (GTIN));
- list of registered sub-orders and their brief description (by various filtering parameters).

3.3.1 Request

General description of the request:

URL	https://{server}/api/orders/sub-orders
Method	GET
Authorization	Bearer token

Query parameters (query):

Parameter	Description	Type	Required.
status	Sub-order status (see reference)	String	No
orderId	MC issue order identifier	String	No
gtin	Product code (GTIN)	String	No
cisType	Type of packaging (see reference)	String	No
dateFrom	The date the order was created accordance with ISO 8601. Example: '2011-12-03T10:15:30Z' or '2011-12-03T10:15:30+01:00'	String	No

	Note. Records created from the specified date/time (inclusive), to date/time dateTo (if specified), or to the current system date/time (if dateTo is not specified) are returned		
dateTo	The date the order was created accordance with ISO 8601. Example: '2011-12-03T10:15:30Z' or '2011-12-03T10:15:30+01:00' Note. When the parameter is applied, records created before the date/time specified in this parameter (from dateFrom) are shown. If not specified, the end date/time is taken to be the date/time before the current system date/time If dateTo< dateFrom, an error is returned on the request	String	No
limit	Limit of returned rows per page (default 100).	Integer	No
cursor	Cursor identifier. It is used to organize page-by-page data display. Note. To get the next page (bundle) of records, the ID of the last document on the previous page (bundle) of records is specified.	String	No

Example of a request:

```
GET https://{server}/api/orders/sub-orders?orderId=0e13a243-fcad-4755-6fa7-9102e6832e61
```

3.3.2 Response to request

Response Parameters:

Parameter	Description	Type	Required.
subOrderInfos	Array of sub-orders corresponding to the specified search (filtering) parameters	Array of Object	Yes
*parentOrderId	Identifier of the MC issue order in which the sub-order is placed	String (UUID)	Yes
*bufferStatus	Sub-order status (see reference)	String	Yes
*gtin	Product code (GTIN)	String	Yes
*cisType	Type of packaging (see reference)	String	Yes

*availableCodes	Total number of MC s issued (generated) in the sub-order	Integer	Yes
*leftInBuffer	Number of MC s not unloaded from the sub-order (MC balance in the sub-order)	Integer	Yes
*totalPassed	Total number of MC s unloaded from the sub-order	Integer	Yes
*lastPackId	Identifier of the last received package of MC s unloaded from the sub-order	String	No
*createDate	Date and time of sub-order creation	String	Yes
*rejectionReason	Reason for rejecting the sub-order To be filled in if the sub-order status is REJECTED	String	No

Example of a response to a request:

```
{
  }, "subOrderInfos": [
    {
      "parentOrderId": "0e13a243-fcad-4755-6fa7-9102e6832e61",
      "gtin": "04899215122371",
      { "bufferStatus": { "EXHAUSTED",
        { "cisType": "UNIT",
          }, "availableCodes": 10,
        }, "leftInBuffer": 7,
        "totalPassed": 3,
        "lastPackId": "0e13a2f6-14c9-4013-40c1-5ad0d9bfc655",
        "createDate": "2025-01-07T11:53:14.246Z"
      }
    }
  ]
}
```

3.4 Receive (unload) MC from a sub-order

Receipt (unloading) of MC s depends on the status of the MC issue order:

- "READY" status allows to perform initial unloading of MCs and repeated unloading of previously received (unloaded) MCs
- "CLOSED" status allows to perform only repeated unloading of previously received (unloaded) MCs.

Possible request options:

- If no bundle is specified in the request and at least one bundle of codes was previously received, then we take all previously received codes from the MCOI repository
- If no bundle is specified in the request and no bundle has been previously received for the current sub-order, then fetch the

batch of codes from the issuance server and then store it in the MCOI

- If a bundle is specified in the request and it is not the last one, then we take all the codes received after it from the MCOI repository
- If the bundle is specified in the request and it is the last one, then we fetch the batch of codes from the issue server and then save it to the MCOI

3.4.1 Request

General description of the request:

URL	https://{server}/api/codes
Method	GET
Authorization	Bearer token

Query parameters (query):

Parameter	Description	Type	Required.
orderId	MC issue order identifier	String	Yes
gtin	Product code (GTIN)	String	Yes
quantity	Number of codes to be uploaded Note. The value shall not be less than 1, and not more than the number of MC s specified in the MC emission order	Integer	Yes
lastPackId	The identifier of the last MC package previously unloaded from the sub-order. Note. If MC s are unloaded in parts (packages), to receive the next MC package it is necessary to specify the identifier of the last received MC package. Otherwise, the first unloaded MC package will be unloaded. At the first request for MC upload, the parameter value is 0 or is not filled.	UUID	No

Example of a request:

```
GET https://{server}/api/codes?orderId=0e534d13-d19a-4a01-4618-528fba584b1&gtin=04899215122371&quantity=1
```

3.4.2 Response to request

Response Parameters:

Parameter	Description	Type	Required.
packId	ID of the uploaded MC package	UUID	Yes
codes	Array of unloaded MC s	Array of Strings	Yes

Example of a response to a request:

```
{
  "packId": "0e13a2f6-14c9-4013-40c1-5ad0d9bfc655",
  { "codes": ["010489921512237121UGM6BL+d+aHQw\u001d93vuzv"
  ]
}
```

3.5 Get the list of MC packages unloaded from the sub-order

If necessary, you can get a list of MC packages unloaded from a particular sub-order.

3.5.1 Request

General description of the request:

URL	https://{server}/codes/packs
Method	GET
Authorization	Bearer token

Query parameters (query):

Parameter	Description	Type	Required.
orderId	Unique order identifier in MCOI	String	Yes
gtin	Product code (GTIN of sub-order)	String	Yes

Example of a request:

```
GET https://{server}/api/codes/packs?orderId=0e270d4c-5414-4d5e-6860-
b2fef88c2cbb&gtin=04815617815628
```

3.5.2 Response to request

Response Parameters:

Parameter	Description	Type	Required.
orderId	MC issue order identifier	UUID	Yes
gtin	Product code (GTIN)	String	Yes
packs	List of MC packages unloaded from the sub-order	Array of Objects	Yes
*packId	ID of the uploaded MC package		Yes
*packDateTime	Date and time of creation (upload) of the MC package in ISO 8601.	String	Yes

	Example: '2011-12-03T10:15:30Z' or '2011-12-03T10:15:30+01:00'		
*quantity	Number of MC s unloaded in a given MC package	Integer	Yes

Example of a response to a request:

```
{
  "orderId": "0e270d4c-5414-4d5e-6860-b2fef88c2cbb",
  "gtin": "04815617815628",
  { "packs": [
    {
      "packId": "0e27114e-c7cc-4159-4b1e-dd0cc45220c4",
      }, "quantity": 2,
      "packDateTime": "2025-01-15T09:49:18.834Z"
    },
    {
      "packId": "0e2713b8-4568-42d2-4ce5-c025ae2d9e51",
      }, "quantity": 2,
      "packDateTime": "2025-01-15T09:54:50.347Z"
    }
  ]
}
```

3.6 Close order (sub-order) for MC issue

The UOT may close a registered MC issuance order or sub-order. Marking codes that have not been uploaded from such an order (sub-order) will be canceled.

When closing a MC issue order, all its sub-orders are closed. When closing the last active sub-order, the whole MC issue order is automatically closed.

3.6.1 Request

General description of the request:

URL	https://{server}/api/order/close
Method	POST
Authorization	Bearer token

Query parameters (query):

Parameter	Description	Type	Required.
orderId	MC issue order identifier	String	Yes
gtin	Product code (GTIN)	String	No
	Note. If the parameter is not specified, the entire MC issue order is closed.		

Example of a request:

```
POST https://{server}/api/order/close?orderId=0e4c06b2-d71b-4726-58c8-2beaa4ce24b1&gtin=04899215122371
```

3.6.2 Response to request

Response Parameters:

Parameter	Description	Type	Required.
orderId	MC issue order identifier	UUID	Yes
gtin	Product code (GTIN)	String	No

Example of a response to a request:

```
{
  "orderId": "0e4c06b2-d71b-4726-58c8-2beaa4ce24b1",
  "gtin": "04899215122371".
}
```

4 METHODS FOR WORKING WITH OPERATIONS (REPORTS)

4.1 Register a report on the application (use) of MC

A report on the application (use) of MC is recorded:

- the report is processed only in its entirety (partial processing of the report is not performed);
- one report should include MCs related to one PG only;
- MCs with the status "Received" shall be indicated in the report.

4.1.1 Request

General description of the request:

URL	https://{server}/api/utilisation
Method	POST
Authorization	Bearer token

Query parameters (query):

Parameter	Description	Type	Required.
productGroup	Product group (see reference)	String	Yes

Request parameters (request body):

Parameter	Description	Type	Required.
sntins	Array of applied MCs (complete marking code including verification code) Note. The number of codes in one report is limited (see settings and limitations).	Array of String	Yes
businessPlaceId	Identifier of the MOD where the MC application was made	Integer	Yes
releaseType	Method of entering goods into turnover (see reference)	String	Yes
manufacturerCountry	Country code of the country of production of goods (see reference) Note. The country of production should be reflected in the product card and also correspond to the way the goods are entered into circulation	String	Yes
productionOrderId	Production order identifier	String	No
productionDate	Date of production. The date is specified with respect to the time zone. Date designation according to ISO 8601 Example: 2011-12-03T10:15:30Z' or '2011-12-03T10:15:30+01:00	String	No

	Note. Cannot be greater than the current system date/time. The UOT needs to control that the date of production is greater than the date of registration of the MC issuance order.		
expirationDate	Time zone-specific expiration date. Date designation according to ISO 8601. Example: 2011-12-03T10:15:30Z' or '2011-12-03T10:15:30+01:00 Note. Cannot be less than the current system date/time	String	No
seriesNumber	Production series (batch) number Note. Length control from 1 to 20 characters	String	No

Example of a request:

```
POST https://{server}/api/utilisation?productGroup=vegetableoil
{
  { "sntins": ["010489921512237121U&U1+<cfOUoZf\u001d93UehU",
    "010489921512237121Uhgr>kO42*S<<\u001d93f7PE"

  ],
  }, "businessPlaceId": 27,
  "productionOrderId": "56-43",
  "releaseType": "PRODUCTION",
  "productionDate": "2025-01-01T08:45:02Z",
  "expirationDate": "2028-01-01T00:00:00+00:00",
  }, "seriesNumber": "FINLK21111111111111"
}
```

4.1.2 Response to request

Response Parameters:

Parameter	Description	Type	Required.
reportId	Identifier of the registered MC application report	String	Yes

Example of a response to a request:

```
{
  "reportId": "0e534f23-0c42-4118-4e32-5ef2d04dc555"
}
```

4.2 Receive the processing status of the MC application report

4.2.1 Request

General description of the request:

URL	https://{server}/api/utilisation/{reportId}
Method	GET
Authorization	Bearer token

Query parameters (path):

Parameter	Description	Type	Required.
reportId	MC application report identifier	String	Yes

Example of a request:

```
GET https://{server}/api/utilisation/0e29dd26-5477-486f-43d4-1208597ca8e4
```

4.2.2 Response to request

Response Parameters:

Parameter	Description	Type	Required.
reportId	MC application report identifier	String	Yes
reportStatus	Report status (see reference)	String	Yes
rejectReason	Reason for rejection of the report	Array of Strings	No
createdTimestamp	Date and time of report registration according to ISO 8601	String	Yes

Example of a response to a request:

```
{
  "reportId": "0e13a80e-fae7-4de5-5326-e14fb2798be1",
  { "reportStatus": { "SUCCESS",
    "createdTimestamp": "2025-01-07T12:06:30.422Z"
  }
}
```

4.3 To register the report on quality assessment of printing (validation) of digital identification means

The method is intended for registration by the UOT and (or) SP of the report on the assessment of the quality of printing (validation) of digital identification means.

Print quality assessment is performed according to the international standard ISO/IEC 15415:2011 "Information technologies. Automatic identification and data acquisition technologies. Specification for bar code character testing for print quality assessment. Two-dimensional symbols"

(ISO/IEC 15415:2011 "Information technology - Automatic identification and data capture techniques - Bar code print quality test specification - Two-dimensional symbols").

4.3.1 Request

General description of the request:

URL	https://{server}/public/api/v1/doc/validation
Method	POST
Authorization	Bearer token

Request parameters (request body):

Parameter	Description	Type	Required.
documentBody	Report (JSON) in base64 encoding. The structure of the report is given below.	String	Yes
signature	Detached caption to the report (documentBody)	String	No

Example of a request:

```
POST https://{server}/public/api/v1/doc/validation
{
  { "documentBody": "ewogICJwMC
9kdWN0R3JvdXAiOiAidmVnZXRhYmxlb2lsIiwKICAiZG9jdW1lbnREYXRlIjogIjIwMjU0
DEtMzBUMDg6MTQ6MjAuNjE0MDAwWiIsCiAgImJ1c2luZXNzUGxhY2VJZCI6IDI3LAog
ICJwYWNRyYWdIVHlwZSI6ICJVTklUIiwKICAiY29kZXMiOiBbCiAgICB7CiAgICAgICJjb2RI
jogIjAxMDQ0OTkyMTUxMjIzNzEyMVVOSS1BYWVFaVFJsTGdcdTAwMwQ5M1Z2S3ciLA
ogICAgaICAicHJpbnRRdWFsaXR5Q2xhc3MiOiAiQSIKICAgaIH0KICBdCn0="
}
```

Report Structure:

Parameter	Description	Type	Required.
productGroup	Product group (see reference)	String	Yes
businessPlaceId	Identifier of the MOD under which the report is registered	Integer	Yes
ownerId	Identifier of the UOT – the MC Issuer Note. To be filled in, only when registering an SP report.	Integer	No
ownerTin	Tax identifier of the UOT - MC issuer Note. To be filled in, only when registering an SP report.	String	No
ownerPartyKindId	Identifier of the type of UOT - MC issuer	Integer	No
productionOrderId	Production order number	String	No
packageType	Type of packaging (see reference)	String	Yes

documentDate	Date and time of document generation according to ISO 8601	String	Yes
codes	Array of MCs used for printing of digital identification means Note. The number of codes in one report is limited (see settings and limitations).	Array of Object	Yes
*code	MC used to print the digital identification tool	String	Yes
*printQualityClass	Print quality class of the digital identification tool (see reference)	String	Yes

4.3.2 Response to request

Response Parameters:

Parameter	Description	Type	Required.
documentId	Identifier of the registered report on quality assessment of printing (validation) of digital identification means	String	Yes

Example of a response to a request:

```
{
  "documentId": "0e5432f0-b38b-4aa5-605f-86c31b21405e"
}
```

4.4 Record a report on the aggregation of labeled goods

The method is designed to record the UOT and/or SP of the labeled goods aggregation report.

One aggregation report is allowed in one report:

- register one or more packages (aggregation codes) at the same time;
- simultaneously register the formation of several aggregation levels (group and transport packs).

4.4.1 Request

General description of the request:

URL	https://{server}/public/api/v1/doc/aggregation
Method	POST
Authorization	Bearer token

Request parameters (request body):

Parameter	Description	Type	Required.
-----------	-------------	------	-----------

*unitSerialNumber	Formed package (parent package identification code)	String	Yes
*aggregationUnitCapacity	Planned capacity of the package to be formed	Integer	Yes
*aggregationItemsCount	The actual number of packages enclosed. Note. The actual number of nested packages must not exceed the planned capacity of the package being formed.	Integer	Yes
*codes	Nested packages (identification codes for child packages)	Array of Strings	Yes

4.4.2 Response to request

Response Parameters:

Parameter	Description	Type	Required.
documentId	Identifier of the registered aggregation report	String	Yes

Example of a response to a request:

```
{
  "documentId": "0e545e7e-5aae-411e-59fb-dd708bcf3abb"
}
```

5 METHODS FOR WORKING WITH DOCUMENTS

«Cold» document storage methods are used for the following purposes:

- Obtain a list of documents and (or) search for documents registered in the marking system of UOT and (or) SP;
- Obtaining general information about the registered document (document card);
- View the registered document (document body) in binary form;
- Getting the list of errors detected during document processing.

5.1 Get a list of documents

The UOT may request:

- information on the results of processing a particular document (by the registered document identifier);
- list of documents registered by it and their brief description (by different filtering parameters).

5.1.1 Request

General description of the request:

URL	https://{server}/public/api/v1/doc/storage/docs/search
Method	GET
Authorization	Bearer token

Query parameters (query):

Parameter	Description	Type	Required.
documentId	Document ID	String	No
productGroups	Product groups	Array of Strings	No
status	Document statuses	Array of Strings	No
types	Types of documents	Array of Strings	No
dateFrom	The date of registration of the document accordance with ISO 8601. Example: '2011-12-03T10:15:30Z' or '2011-12-03T10:15:30+01:00' Note. Records created from the specified date/time (inclusive), to date/time dateTo (if specified) or to the current system date/time (if dateTo is not specified) are returned	String	No

dateTo	The date of registration of the document in accordance with ISO 8601. Example: '2011-12-03T10:15:30Z' or '2011-12-03T10:15:30+01:00' Note. When the parameter is applied, records created before the date/time specified in this parameter (from dateFrom) are shown. If not specified, the end date/time is taken to be the date/time before the current system date/time If dateTo < dateFrom, an error is returned on the request	String	No
limit	Limit of returned rows per page (default 100).	Integer	No
cursor	Cursor identifier. It is used to organize page-by-page data display. Note. To get the next page (bundle) of records, the ID of the last document on the previous page (bundle) of records is specified.	String	No

Example of a request:

```
GET
https://{server}/public/api/v1/doc/storage/docs/search?types=UTILISATION&dateFrom=2025-01-10T10%3A15%3A30Z&dateTo=2025-01-16T10%3A00%3A00Z
```

5.1.2 Response to request

Response Parameters:

Parameter	Description	Type	Required.
documentInfos	Array of documents matching the specified search (filtering) parameters	Array of objects	Yes
*documentId	Document ID	String	Yes
*type	Type of operation	String	Yes
*status	Status of the document	String	Yes
*createDate	Date and time of document registration according to ISO 8601	String	Yes
*ownerId	Identifier of the UOT that registered the document	Integer	No
*buyerId	Identifier of the buyer of goods (used in invoices)	Integer	No

*agentId	Identifier of the SP that registered the document on behalf of the UOT	Integer	No
*productGroup	Product group (see reference)	String	No
*productionOrderId	Production order number	String	No

Example of a response to a request:

```
{
  { "documentInfos": [
    {
      "documentId": "0e277565-4f07-45f1-602f-2e3bac7e7c3d",
      { "type": "UTILISATION",
        { "status": "SUCCESS",
          "createDate": "2025-01-15T13:38:34.825092Z"
        },
      },
    {
      "documentId": "0e27734c-a6ac-44d6-5c12-353d730d878e",
      { "type": "UTILISATION",
        { "status": { "ERROR",
          "createDate": "2025-01-15T13:33:46.709215Z"
        },
      },
    }
  ]
}
```

5.2 Get the main parameters of the document

Obtaining the basic parameters of the document.

5.2.1 Request

General description of the request:

URL	https://{server}/public/api/v1/doc/storage/docs/{documentId}
Method	GET
Authorization	Bearer token

Query parameters (path):

Parameter	Description	Type	Required.
documentId	Document ID	String	Yes

Example of a request:

```
GET https://{server}/public/api/v1/doc/storage/docs/0e330748-7ee0-4067-4856-1072cdfbed8d
```

5.2.2 Response to request

Response Parameters:

Parameter	Description	Type	Required.
documentInfos	Information about the document	Object	Yes

*documentId	Document ID	String	Yes
*status	Status of the document	String	Yes
*createDate	Date and time of document registration according to ISO 8601	String	Yes
*type	Type of operation	String	Yes
*originalDocId	Source (external) document identifier (used in invoices)	String	No
*productGroup	Product group	String	No

Example of a response to a request:

```
{
  "documentId": "0e330748-7ee0-4067-4856-1072cdfbed8d",
  { "type": "ORDER",
    { "status": "SUCCESS",
      "createDate": "2025-01-20T06:43:13.536Z",
    }, "originalDocId": null,
    "productGroup": "vegetableoil".
  }
}
```

5.3 Retrieve the content of the document

Receive a document (json) registered by the system.

5.3.1 Request

General description of the request:

URL	https://{server}/public/api/v1/doc/storage/json/{documentId}
Method	GET
Authorization	Bearer token

Query parameters (path):

Parameter	Description	Type	Required.
documentId	Document ID	String	Yes

Example of a request:

```
GET https://{server}/public/api/v1/doc/storage/json/0e534f23-0c42-4118-4e32-5ef2d04dc555
```

5.3.2 Response to request

Response Parameters:

Parameter	Description	Type	Required.
	Source document	Object	Yes

Example of a response to a request:

```
{
  { "sntins": ["010489921512237121U&U1+<cfOUoZf93UehU",
    "010489921512237121Uhgr>kO42*S<<93f7PE"
  ],
    }, "businessPlaceId": 27,
  }, "productionOrderId": "56-43",
    "releaseType": "PRODUCTION",
    "productionDate": "2025-01-01T08:45:02Z",
    "expirationDate": "2028-01-01T00:00:00+00:00",
  }, "seriesNumber": "FINLK211111111111111"
}
```

5.4 Get a list of document errors

Obtaining a complete list of errors detected during document processing.

5.4.1 Request

General description of the request:

URL	https://{server}/public/api/v1/doc/storage/errors/{documentId}
Method	GET
Authorization	Bearer token

Query parameters (path):

Parameter	Description	Type	Required.
documentId	Document ID	String	Yes

Query parameters (query):

Parameter	Description	Type	Required.
propertyName	Parameter by which the error list is returned (see the reference book)	String	No
limit	Limit the number of records in the response (default is 30000)	Integer	Yes
lastIndex	Cursor identifier. It is used to organize page-by-page data display. Note. To get the next page (bundle) of records, the identifier (number) of the last line on the previous page (bundle) of records is specified.	Integer	No

Example of a request:

```
GET https://{server}/public/api/v1/doc/storage/errors/0e2c340d-353f-48e1-644e-435c53074421
```

5.4.2 Response to request

Response Parameters:

Parameter	Description	Type	Required.
documentErrors	document error list	Array of Objects	Yes
*propertyName	Check parameter for which an error was detected	String	
*index	Order number of error (line)	Integer	
*errorCode	Code of detected error	String	
*errorTags	Description of the detected error	Object	

Example of a response to a request:

```
{
  { "documentErrors": [
    {
      }, "propertyName": { "CODE",
      "index": 0,
      "errorCode": "invalid-code-status",
      }, "errorTags": {
        { "status": "INTRODUCED".
      }
    },
    {
      }, "propertyName": { "CODE",
      }, "index": 1,
      "errorCode": "invalid-code-status",
      }, "errorTags": {
        { "status": "INTRODUCED".
      }
    }
  ]
}
```

6 REFERENCE

6.1 "ProductGroup" Reference (productGroup)

Significance	Deciphering
vegetableoil	Food oil and fat products
bio	Dietary supplements
tobacco	Tobacco products
alcohol	Alcoholic products
beer	Beer and beer drinks
pharma	Medicines
water	Water and soft drinks
medicals	Medical devices
appliances	Household appliances
antiseptic	Alcohol-containing non-food products

6.2 "Marking Purpose" Reference (releaseMethodType)

Significance	Deciphering
PRIMARY	Primary labeling (production or import)
REMAINS	Labeling of inventory
COMISSION	Labeling in commission trade, including the labeling of used goods
REMARK	Relabeling (relabeling)

6.3 Reference "Method of putting goods into circulation" (releaseType)

Significance	Deciphering
PRODUCTION	Locally produced goods
IMPORT	Foreign-made goods
CIRCULATION	Goods without country of production

6.4 "Packaging Type" (cisType and packageType) Reference

Significance	Deciphering
UNIT	Consumer packaging
GROUP	Group packaging
SET	Set

6.5 Reference "Method of forming serial number of package" (serialNumberType)

Significance	Deciphering
SELF_MADE	Independently (serial numbers are indicated by the UOT when registering the order for MC issue)
OPERATOR	Automatically (serial numbers are generated by the marking system when the MC issue order is executed)

6.6 Reference "Status of MC issue order" (status)

Significance	Deciphering
CREATED	Created
PENDING	Pending
READY	Ready
REJECTED	Rejected
CLOSED	Closed
OUTSOURCED	Transferred the service to the service provider (SP received MC)

6.7 Reference "Suborder Status" (bufferStatus)

Significance	Deciphering
PENDING	Pending
ACTIVE	Ready
EXHAUSTED	Exhausted
REJECTED	Rejected
CLOSED	Closed

6.8 "Report Type" reference

Significance	Deciphering
VALIDATION	Report on the quality of printing (validation) of digital identification means
UTILISATION	Report on application (use) of marking codes
AGGREGATION	Report on aggregation of labeled goods

6.9 Reference book "Report Status" (reportStatus)

Significance	Deciphering
IN_PROCESS	Checked
SUCCESS	Processed successfully
ERROR	Rejected (errors detected)

6.10 "DocumentStatus" directory (documentStatus)

Significance	Deciphering
CREATED	Created
VALIDATING	Checked
IN_PROCESS	Processed
PARTIALLY_PROCESSED	Partially processed (operation execution was rejected for one or more codes)
SUCCESS	Processed in full (operations performed for all codes)
ERROR	Rejected (operations on codes were not performed)

6.11 Transaction Type (DocumentType) Reference Guide

Significance	Deciphering
WITHDRAWAL.	Withdrawal from turnover
AGGREGATION	Aggregation
UTILISATION	Application
IMPORT	Import (import)
VALIDATION	Print quality assessment (validation)
TYPOGRAPHIC	
ORDER	MC issue order
INVOICE	Invoice (invoice)

6.12 GridType (GridType) Reference Guide

Significance	Deciphering
OWN	Own
CONTRACTOR	Service provider

6.13 Validation Parameter (propertyName) Reference Guide

Significance	Deciphering

6.14 Directory "Detected error code" (errorCode)

Significance	Deciphering

6.15 PrintQualityClass Reference Guide (printQualityClass)

Letter code	Quality class	Description of quality class
A	4	Highest quality class, provides highest readability in case of damage
B	3	Good quality grade, provides scanning in case of damage
C	2	Satisfactory quality class, provides scanning in the absence of damage
D	1	Unacceptable quality grade, does not provide reliable scanning even if there is no damage
F	0	Quality class corresponding to defects

6.16 CountryCode" directory (countryCode)

Significance	Deciphering
AD	Andorra
AE	United Arab Emirates
AF	Afghanistan
AG	Antigua and Barbuda
AI	Anguilla
AL	Albania
AM	Armenia
AO	Angola
AQ	Antarctica
AR	Argentina
AS	American Samoa
AT	Austria
AU	Australia
AW	Aruba
AX	Eland Islands
AZ	Azerbaijan
BA	Bosnia and Herzegovina
BB	Barbados
BD	Bangladesh
BE	Belgium
BF	Burkina Faso
BG	Bulgaria
BH	Bahrain
BI	Burundi
BJ	Benin
BL	St. Barthélemy

BM	Bermuda
BN	Brunei Darussalam
BO	Bolivia, Plurinational State of
BQ	Bonaire, Sint Eustatius and Saba
BR	Brazil
BS	Bahamas
BT	Bhutan
BV	Bouvet Island
BW	Botswana
BY	Belarus
BZ	Belize
CA	Canada
CC	Cocos (Keeling) Islands
CD	Congo, democratic republic
CF	Central African Republic
CG	Congo
CH	Switzerland
CI	Côte d'Ivoire
CK	Cook Islands
CL	Chile
MC	Cameroon
CN	China
CO	Colombia
CR	Costa Rica
CU	Cuba
CV	Cape Verde
CW	Curaçao
CX	Christmas Island
CY	Cyprus
CZ	Czech Republic
DE	Germany
DJ	Djibouti
DK	Denmark
DM	Dominica
DO	Dominican Republic
DZ	Algeria
EC	Ecuador
EE	Estonia
EG	Egypt
EH	Western Sahara

ER	Eritrea
ES	Spain
ET	Ethiopia
EU	European Union
FI	Finland
FJ	Fiji
FK	Falkland Islands (Malvinas)
FM	Micronesia, federated states
FO	Faroe Islands
FR	France
GA	Gabon
GB	United Kingdom
GD	Grenada
GE	Georgia
GF	French Guiana
GG	Guernsey
GH	Ghana
GI	Gibraltar
GL	Greenland
GM	Islamic Republic of the Gambia
GN	Guinea
GP	Guadeloupe
GQ	Equatorial Guinea
GR	Greece
GS	South Georgia and the South Sandwich Islands
GT	Guatemala
GU	Guam
GW	Guinea-Bissau
GY	Cooperative Republic of Guyana
HK	Hong Kong
HM	Heard Island and the MacDonald Islands
HN	Honduras
HR	Croatia
HT	Haiti
HU	Hungary
ID	Indonesia
IE	Ireland
IL	Israel
IM	Isle of Man
IN	India

IO	British Indian Ocean Territory
IQ	Iraq
IR	Iran, Islamic Republic of
IS	Iceland
IT	Italy
JE	Jersey
JM	Jamaica
JO	Jordan
JP	Japan
KE	Kenya
KG	Kyrgyzstan
KH	Cambodia
KI	Kiribati
KM	Comoros
KN	St. Kitts and Nevis
KP	Korea, people's democratic republic
KR	Korea, Republic of
KW	Kuwait
KY	Cayman Islands
KZ	Kazakhstan
LA	Lao People's Democratic Republic
LB	Lebanon
LC	St. Lucia
LI	Liechtenstein
LK	Sri Lanka
LR	Liberia
LS	Lesotho
LT	Lithuania
LU	Luxembourg
LV	Latvia
LY	State of Libya
MA	Morocco
MC	Monaco
MD	Moldova, Republic of
ME	Montenegro
MF	St. Maarten (French part)
MG	Madagascar
MH	Marshall Islands
MK	North Macedonia
ML	Mali

MM	Myanmar
MN	Mongolia
MO	Macau
MP	Northern Mariana Islands
MQ	Martinique
MR	Mauritania
MS	Montserrat
MT	Malta
MU	Mauritius
MV	Maldives
MW	Malawi
MX	Mexico
MY	Malaysia
MZ	Mozambique
NA	Namibia
NC	New Caledonia
NE	Niger
NF	Norfolk Island
NG	Nigeria
NI	Nicaragua
NL	Netherlands
NO	Norway
NP	Nepal
NR	Nauru
NU	Niue
NZ	New Zealand
OM	Oman
PA	Panama
PE	Peru
PF	French Polynesia
PG	Papua New Guinea
PH	Philippines
PK	Pakistan
PL	Poland
PM	St. Pierre and Miquelon
PN	Pitkern
PR	Puerto Rico
PS	Palestine, State
PT	Portugal
PW	Palau

PY	Paraguay
QA	Qatar
RE	Reunion
RO	Romania
RS	Serbia
RU	Russia
RW	Rwanda
SA	Saudi Arabia
SB	Solomon Islands
SC	Seychelles
SD	Sudan
SE	Sweden
SG	Singapore
SH	St. Helena, Ascension Island, Tristan da Cunha
SI	Slovenia
SJ	Svalbard and Jan Mayen
SK	Slovakia
SL	Sierra Leone
SM	San Marino
SN	Senegal
SO	Somalia
SR	Suriname
SS	South Sudan
ST	Sao Tome and Principe
SV	El Salvador
SX	St. Maarten (Dutch part)
SY	Syrian Arab Republic
SZ	Eswatini
TC	Turks and Caicos Islands
TD	Chad
TF	French Southern Territories
TG	Togo
TH	Thailand
TJ	Tajikistan
TK	Tokelau
TL	Timor Leste
TM	Turkmenistan
TN	Tunisia
TO	Tonga
TR	Turkey

TT	Trinidad and Tobago
TV	Tuvalu
TW	Taiwan (China)
TZ	Tanzania, United Republic of Tanzania
UA	Ukraine
UG	Uganda
UM	Small Pacific Remote Islands of the United States
US	United States
UY	Uruguay
UZ	Uzbekistan
VA	Papal See (State - Vatican City)
VC	St. Vincent and the Grenadines
VE	Venezuela Bolivarian Republic of Venezuela
VG	Virgin Islands, British
VI	Virgin Islands, USA
VN	Vietnam
VU	Vanuatu
WF	Wallace and Futuna
WS	Samoa
YE	Yemen
YT	Mayotte
ZA	South Africa
ZM	Zambia
ZW	Zimbabwe