Labcorp Aperture Integration

AccuDraw Specification

Version 1.0 (06/10/2026)

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1 Overview

1.1 Scope

This specification is organized to provide technical details and instructions to the User for integration of the Labcorp AccuDraw® web service. The document is organized according to the functions the web service must be able to provide. A function consists of *inputs* and *outputs*. In the case of a web service, the 3rd Party Product wishing to utilize the web service provides the inputs. Labcorp provides the outputs back to the 3rd Party Product.

The Labcorp AccuDraw® service provides the client with on-screen visual cues with specimen collection instructions to help ensure accuracy and precision when collecting specimens within your office.

These service integration specifications provide the technical details necessary for an EMR System to augment our shared interface functionality. Design and development will be considerate of further expansion of the program.

1.2 AccuDraw® Web Service Advantages

Advantages that the AccuDraw® Web Service provides include:

- Real time access to specimen collection and processing details based upon the current Labcorp test dictionary
- Adhering to current collection, handling, and shipping guidance may help to reduce the need for patient re-draws and repeat visits
- Client can use from within their EHR without having to refer to company website or DOS book for collection and processing details

2 Typical Use Case

An integral component of any integration understands the workflow of the User and the data. This section is intended to provide the typical use case for a laboratory order using Medicare billing.

- Client places a Labcorp order using EMR's order entry system
- EMR sends a real time web service request to Labcorp for all order codes on the requisition to render the AccuDraw® service
    - Suggestion – EMR should only render an AccuDraw® request for orders drawn in-house. PSC orders should be excluded since specimen collection will collected at a Labcorp facility.
- Labcorp returns a real time web service response with discrete processing and collection details and URL for container images.
- EMR presents the images and discrete data to the Client.

Additional notes:

- EMR should allow for service downtime and provide contingencies to prevent any negative impact to client's workflow.
- AccuDraw® container Image URLs are provided in the web-service response. EMR will use the URL to download the image to display in their system, or reference the URL in their UI's HTML.
    - Suggestion: When there are multiple quantities for the same container, it is recommended that the EMR presents multiple images for complete visual guidance. The Image URL will only return one container image per type of image regardless of the quantity.

3 AccuDraw® Web Service Specifications

3.1 Inputs

Field	Data type	Length	Req	Description
ClientCode	String	50	Y	Client code identifying the external EMR vendor calling the method. - Value = Vendor Mnemonic assigned from Labcorp
Performing lab code	String	5	Y	The lab code for which the collections instructions are needed. - Lab code from first two characters of the CSID
testCodesCommaDelimited	String	279	Y	A string of comma delimited test codes. These are the test codes from the order. - Labcorp proprietary order codes

3.2 Outputs

3.2.1 Table 1: returnIdealCollectionReturn

Field	Data Type	Length	Req	Description
CollectionInstruction	Complex Type (0 or more elements)	N/A	N	
Messages	Complex Type (one or more elements)	N/A	Y	

3.2.2 Table 2: CollectionInstruction

Field	Max length	Data Type	Req	Description
collectionOrder	3	Integer	Y	Indicates what order the containers should be collected in.
colQty	3	Integer	Y	Indicates the number of containers that should be collected.
colSampleDesc	255	String	N	This field represents a verbose description of the type of sample to be collected.
colSampleType	25	String	N	This field represents the 3 character code that defines a collection sample type i.e 001 for SST; 003 for Lavender etc.
colSampleImageURL	500	String	Y	An absolute URL to the scaled down image (150 pixels height x 120 pixels width) of the collection sample container.
colSampleTypeDesc	255	String	N	Short description of the type of sample that needs to be collected.
colSizeDesc	25	String	N	This field represents a short description of the sample volume size and unit.
colYieldVol	5	Double	Y	Collection yield volume. 3 digits before decimal. 2 after.
colYieldVolUnits	2	String	N	Units for the collection yield volume.
specialInstructions	n/a	Complex Type (0 or more elements of this)	N	then there can be multiple, specialInstructions nodes. Each specialInstructions node contains elements as described in table 3.
shipContainers	n/a	Complex Type (0 or more elements of this)	N	Each shipContainers element describes containers that will be shipped for this collectionInstruction. Details of what each shipContainers node contains is described in table 4.

3.2.3 Table 3: SpecialInstructions

Field	Max length	Data Type	Req	Description
specialInstruction	255	String	N	Instruction text
specialInstructionCode	6	String	N	Unique identifier of special instruction
orderCode	25	String	N	6 digit order code that this special instruction applies to.
specialInstructionSeq	3	String	N	Sequence number to order multiple special instruction.
specialInstructionType	25	String	N	Values may be C, P or H C - Collection P - Processing H - Header

3.2.4 Table 4: ShipContainers

Field	Max length	Data Type	Req	Description
colOriginalsNeeded	3	Integer	N	
destLabs	255	String	N	This field contains routing information resolved during Ideal Collection analysis of where the respective sample will be processed, i.e. which lab will end up with the sample. Comma separated list.
PSCVol	4	Double	Y	Indicates total Vol for splittable sample types. Used to calculate how many containers are needed for splittable types. 2 digits before decimal, 2 after.
PSCVolUnits	2	String	N	Units for the Ship PSC Volume
Qty	3	Integer	Y	This field indicates the number of containers of “Like Shipment Type” that should be prepared for shipment. “Like Shipment Type” is defined by the values represented in {sampDesc, sampType, sampTypeDesc, storageCode, storageCodeDesc, storageShortName}.
sampDesc	255	String	N	This field represents a verbose description of the type of sample that needs to be shipped.
sampType	3	String	Y	This field represents the 3 character code that defines a shipment sample type, i.e. 001 for SST; 003 for Lavendar, etc.
sampTypeDesc	255	String	N	This field represents a short description of the type of sample that needs to be shipped.

colSampleImageURL	500	String	N	An absolute URL to the scaled down image (150 pixels height x 120 pixels width) of the collection sample container.
storageCode	255	String	N	This field represents the character code that defines the storage medium for the respective shipSampType.
storageCodeDesc	255	String	N	This field represents a verbose description of the storage medium for the respective shipSampType.
storageShortName	255	String	N	This field represents a short description of the storage medium for the respective shipSampType.
unopenedNeeded	3	Integer	N	This field is a byproduct of the Ideal Collection analysis that indicates how many original unopened samples that are required.
yieldVol	5	Double	Y	Indicates the volume of sample, on average, the indicated colSampType yields. Used to calculate number of containers needed for splittable types. 3 digits before decimal, 2 after.
yieldVolUnits	2	String	N	Units for the Transport yield Volume.

3.2.5 Table 5: Message

Field	Max length	Data Type	Req	Description
code	10	String	Y	Message Code
text	254	String	Y	Message Text
isError	25	Boolean	Y	True or False

3.2.6 Error codes and messages exposed to the external EMR vendor

1. WARN001 Test Codes cannot be found. (Warning is returned when all test codes sent to AccuDraw® are invalid, or are blank.)
2. WARN002 No specimen requirement found for testcode(s).(Warning appears when primary requirements for one or more test codes could not be located. Specific test codes will be listed within the).
3. ERR001 General Error (Some general error occurred).

3.2.7 Sample Input

```
<soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/" xmlns:sch="http://www.labcorp.com/ncp
/emr/schema/">
    <soapenv:Body>
        <sch:returnIdealCollectionRequest>
            <sch:clientCode>Vendor Mnemonic</sch:clientCode>
            <sch:performingLabCode>BN</sch:performingLabCode>
            <sch:testCodesCommaDelimited>001818,004259</sch:testCodesCommaDelimited>
        </sch:returnIdealCollectionRequest>
  </soapenv:Body>
</soapenv:Envelop
              e>
```

3.2.8 Sample Output

```
<env:Envelope xmlns:env="http://schemas.xmlsoap.org/soap/envelope/">
    <env:Header/>
    <env:Body>
        <ns2:returnIdealCollectionResponse xmlns:ns2="http://www.labcorp.com/ncp/emr/schema/"
xmlns:ns3="http://ww w.labcorp.com/ncp/emr/dto/">
        <ns2:returnIdealCollectionReturn>
        <ns2:messages>
            <ns2:code>MSG001</ns2:code>
            <ns2:text>Success.</ns2:text>
        </ns2:messages>
        <ns2:collectionInstruction>
            <ns2:shipContainers>
                <ns2:collOriginalsNeeded>0</ns2:collOriginalsNeeded>
                <ns2:destLabs>BN</ns2:destLabs>
                <ns2:originalsNeeded>0</ns2:originalsNeeded>
                <ns2:PSCVol>0.75</ns2:PSCVol>
                <ns2:PSCVolUnits>mL</ns2:PSCVolUnits>
                <ns2:qty>1</ns2:qty>
                <ns2:sampDesc>Serum Gel Tube</ns2:sampDesc>
                <ns2:sampType>001</ns2:sampType>
                <ns2:sampTypeDesc>SR GEL</ns2:sampTypeDesc>
                <ns2:colSampleImageURL>https://www.labcorpbeacon.com/accudrawImages/containers/small/001.png</ns2:
colSampleImageURL>
                <ns2:storageCode>1</ns2:storageCode>
                <ns2:storageCodeDesc>Room Temperature</ns2:storageCodeDesc>
                <ns2:storageShortName>RT</ns2:storageShortName>
```

```
                    <ns2:unopenedNeeded>0</ns2:unopenedNeeded>
                    <ns2:yieldVol>2.6</ns2:yieldVol>
                    <ns2:yieldVolUnits>mL</ns2:yieldVolUnits>
                </ns2:shipContainers>
                <ns2:collectionOrder>5</ns2:collectionOrder>
                <ns2:colQty>1</ns2:colQty>
                <ns2:colSampDesc>Serum Gel Tube</ns2:colSampDesc>
                <ns2:colSampType>001</ns2:colSampType>
                <ns2:colSampTypeDesc>SR GEL</ns2:colSampTypeDesc>
                <ns2:colSizeDesc>8.5 mL</ns2:colSizeDesc>
                <ns2:colYieldVol>2.6</ns2:colYieldVol>
                <ns2:colYieldVolUnits>mL</ns2:colYieldVolUnits>
                <ns2:colSampleImageURL>https://www.labcorpbeacon.com/accudrawImages/containers/small/001.png</ns2:
  colSampleImageURL>
          </ns2:collectionInstruction>
          <ns2:collectionInstruction>
              <ns2:shipContainers>
                    <ns2:collOriginalsNeeded>1</ns2:collOriginalsNeeded>
                    <ns2:destLabs>BN</ns2:destLabs>
                    <ns2:originalsNeeded>1</ns2:originalsNeeded>
                    <ns2:PSCVol>0.0</ns2:PSCVol>
                    <ns2:PSCVolUnits>mL</ns2:PSCVolUnits>
                    <ns2:qty>1</ns2:qty>
                    <ns2:sampDesc>Gray Top (Sodium Fluoride)</ns2:sampDesc>
                    <ns2:sampType>006</ns2:sampType>
                    <ns2:sampTypeDesc>GRAY</ns2:sampTypeDesc>
                    <ns2:colSampleImageURL>https://www.labcorpbeacon.com/accudrawImages/containers/small/006.png</ns2:
  colSampleImageURL>
                    <ns2:storageCode>1</ns2:storageCode>
                    <ns2:storageCodeDesc>Room Temperature</ns2:storageCodeDesc>
                    <ns2:storageShortName>RT</ns2:storageShortName>
                    <ns2:unopenedNeeded>0</ns2:unopenedNeeded>
                    <ns2:yieldVol>1.0</ns2:yieldVol>
                    <ns2:yieldVolUnits>mL</ns2:yieldVolUnits>
                </ns2:shipContainers>
                <ns2:collectionOrder>10</ns2:collectionOrder>
                <ns2:colQty>1</ns2:colQty>
                <ns2:colSampDesc>Gray Top (Sodium Fluoride) Fasting</ns2:colSampDesc>
                <ns2:colSampType>700</ns2:colSampType>
                <ns2:colSampTypeDesc>GRAY Fasting</ns2:colSampTypeDesc>
                <ns2:colSizeDesc>4.0 mL</ns2:colSizeDesc>
                <ns2:colYieldVol>1.0</ns2:colYieldVol>
                <ns2:colYieldVolUnits>mL</ns2:colYieldVolUnits>
                <ns2:colSampleImageURL>https://www.labcorpbeacon.com/accudrawImages/containers/small/700.png</ns2:
  colSampleImageURL>
          </ns2:collectionInstruction>
          </ns2:returnIdealCollectionReturn>
          </ns2:returnIdealCollectionResponse>
  </env:Body>
 </env:Envelope>
```

3.2.9 Sample cURL

```
curl --location 'https://emr.services.certification.aperture.labcorp.com/' \
--header 'Content-Type: text/xml;charset=UTF-8' \
--header 'Authorization: Bearer <access_token>' \
--data '<soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
xmlns:sch="http://www.labcorp. com/ncp/emr/schema/">
   <soapenv:Header/>
   <soapenv:Body>
      <sch:returnIdealCollectionRequest>
         <sch:clientCode>Vendor Mnemonic</sch:clientCode>
         <sch:performingLabCode>BN</sch:performingLabCode>
         <sch:testCodesCommaDelimited>001032,005009,008847, 999</sch:testCodesCommaDelimited>
      </sch:returnIdealCollectionRequest>
  </soapenv:Body>
</soapenv:Envelope>
```

3.2.10 List of Valid Performing Lab Codes

Please note the list below is subject to change. Your application should be able to configure the Lab Code per account or client should one of the labs be closed.

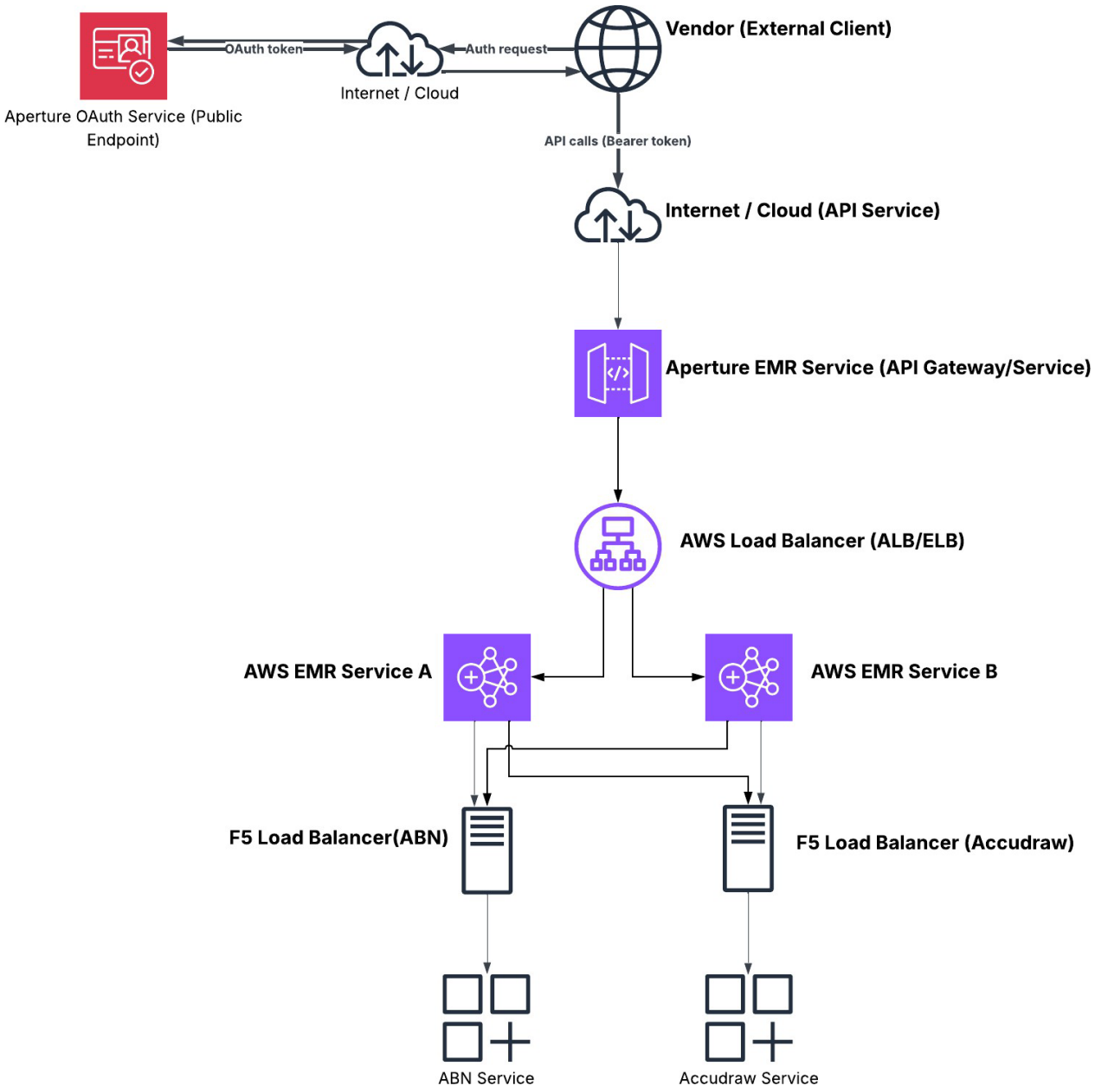
Primary Lab Code	Primary Lab Name
DV	Denver
MB	Birmingham
RN	Raritan
TA	Tampa/Hollywood
SV	Salt Lake
DA	Dallas
AV	VA/Herndon
BN	Burlington
CB	Chicago
CB	Columbus OH
BN	Charleston
MB	Atlanta
CB	Detroit
HD	Houston
KC	Kansas City
CB	Louisville
IZ	Oklahoma City
PD	Phoenix
NV	Reno
HD	San Antonio
SO	San Diego/San Leandro
SE	Seattle
RN	New England
RN	Scranton
MB	Knoxville
PO	QA
KC	Iowa
_D	DSI
GNOPS	GNOPS
BRMTL	Prescott

4 Security

Using OAuth 2.0 to Access Labcorp Aperture APIs

Version: **0.6.0** Last Updated: **2024-08-22**

Labcorp Aperture APIs utilizes the OAuth 2.0 protocol for authentication and authorization. Labcorp Aperture currently supports the Client Credentials Flow.



4.1 - Obtain OAuth 2.0 Credentials from Labcorp

Before your application can access Labcorp Aperture APIs you will need to be set up within the Labcorp internal systems. Upon creation of your account, you will be issued a **Client ID** and **Client Secret** that will be known to your application and Labcorp.

4.2 - Exchange Credentials for an Access Token

Prior to sending a request to a Labcorp Aperture API you will have to get an access token from the Labcorp OAuth token endpoint. This endpoint is where the client id and secret are exchanged for an access_token.

Token endpoints:

Environment	Token Endpoint
Production	https://auth.aperture.labcorp.com/oauth2/token
Certification	https://auth-certification.dev.aperture.labcorp.com/oauth2/token
Sandbox	https://auth-stage.dev.aperture.labcorp.com/oauth2/token

4.3 - Token Request

The token endpoint only supports HTTPS and the HTTP Verb POST.

The `content-type` header must be `application/x-www-form-urlencoded`.

The token endpoint supports `client_secret_post`. For more information see the OpenID Connect specification Client Authentication.

The following form data must be provided:

Key	Description
`grant_type`	Must be `client_credentials`
`client_id`	Client ID
`client_secret`	Client Secret

4.3.1 - cURL Example

see: [CURL]](https://curl.se/docs/manpage.html)

We will use sample credentials of:

- Client ID: T6nvlXSLs0Og28P
- Client Secret: e5aU8OXju9O6ab1

```
curl --request POST \
  --url 'https://auth.aperture.labcorp.com/oauth2/token' \
  --header 'content-type: application/x-www-form-urlencoded' \
  --data grant_type=client_credentials \
  --data client_id=T6nvlXSLs0Og28P \
  --data client_secret=e5aU8OXju9O6ab1
```

4.4 - Sample Response

```
HTTP/1.1 200 OK
  Content-Type: application/json

  {
    "access_token":
    "efJz9sdf343dddd7f",
    "token_type": "Bearer",
    "expires_in": 3600
  }
```

Note that Access Tokens will expire. If an expired Access Token is used in an API request, the request will be denied.

4.5 - Make API Requests with Access Token

After an application obtains an access token, it will then send the token in subsequent API requests in an HTTP Authorization request header.

The Aperture API is deployed to multiple environments. Make sure that your application sends requests to the appropriate URL for the target environment.

5 WSDL and Endpoint URLs

5.1 Test (Certification) - WSDL Retrieval and Endpoint URLs

The Test (Certification) WSDL file for the Labcorp AccuDraw webservice can be retrieved at the link below.

WSDL will need to be filled in with Aperture Access Token instructions.

Environment	WSDL URL	Service Endpoint URL
Test (Certification)	https://emr.services.certification.aperture.labcorp.com/wsdl	https://emr.services.certification.aperture.labcorp.com

5.2 Production - WSDL Retrieval and Endpoint URLs

The Production WSDL file for the Labcorp AccuDraw webservice can be retrieved at the link below.

WSDL will need to be filled in with Aperture Access Token instructions.

Environment	WSDL URL	Service Endpoint URL
Production	https://emr.services.aperture.labcorp.com/wsdl	https://emr.services.aperture.labcorp.com

5.3 cURL Example

```
curl --location 'https://emr.services.certification.aperture.labcorp.com/wsdl' \
--header 'Authorization: Bearer <access_token>'
```

6 Audit Logging

Each service method invoked has appropriate audit logging detailing what service method is called along with the client code and other key attributes.