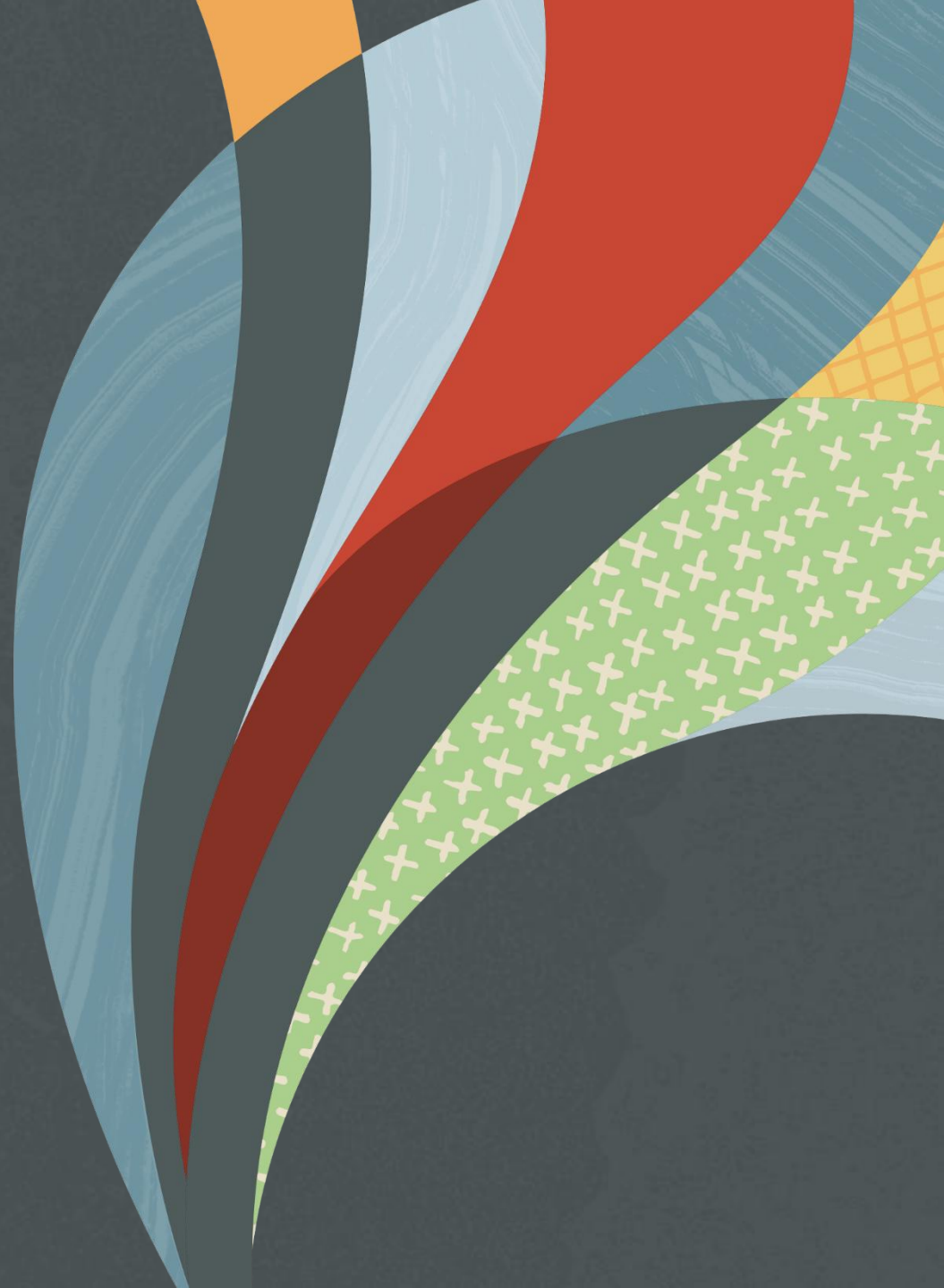




Oracle Analytics access to Metadata

JDBC Access and Publisher REST API



Fundamentals

- Access to the metadata layer
- Not to raw data (not to the database)
- At application level (Oracle Analytics)
- Via interfaces
- For end users outside the institution
- According to EU regulation



JDBC Access to Metadata

Functionality

Direct access to the metadata layer for free query possibilities

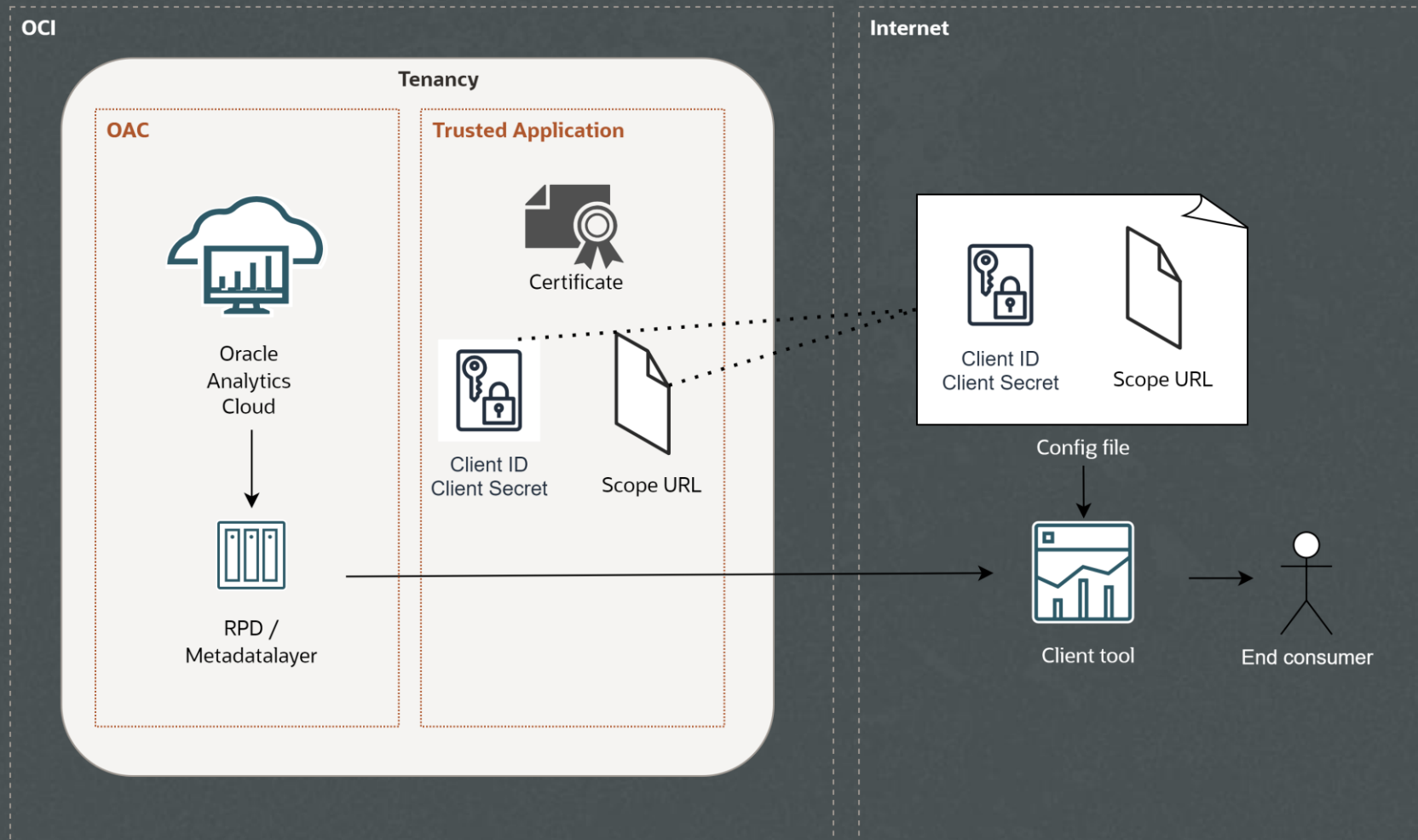
The screenshot shows a database query interface with the following components:

- SQL Tab:** Contains the query: `SELECT * from XSA('...@oracle.com'. 'Donation_Example') FETCH FIRST 40 ROWS ONLY`
- Results Tab:** Shows the execution status: "Rows 40; SELECT * from XSA('...@oracle.com'. 'Donation_Example') FETCH FIRST 40 ROWS ONLY"
- Results as text Tab:** Displays a table with the following data:

PROJECTID	TEACHER_ACCTID	SCHOOL_ID	
P100000	c613d9f2d60fdb26e488e6a258ec325d	f5a61953a1bc349d554e0bcca359eb99	35.1789
P100001	19a38092f4bbdcdb20a2df508d7712d	525e2e3deffda300279366bc0df741c	35.1388
P100003	5b3fbcd26b5c906a6682595bd6045440	57a2826ad350c90461f3604381fd4b45	41.9370
P100005	26f737c809a7d900db2edfc556796d28	64c5221dcdb140242da0695c1b85d5e9	29.8718
P100006	fdb490ff18adf1606fc82aaf8cb8fb3	3f465c77784430c574dabf000038ff16	28.0727
P100015	70a7954e2b102357bfcc60926194d5cf	f6efe0b57e00a85c3739ef29531fb5ec	35.0321
P100019	fed6745aa7c44c5d3ea0525637028137	89f101b7ccb50a128e2d49859df92ad2	35.0101
P100024	4ea38e80ec1ce911ab7ab2aa737a7155	cebbfc78345876407712393df0aae0a6	25.8910
P10003	53fd9b1035e5533b56621134a4c271d7	1842e4f5af07bb57a935a62a1eb934	46.1443
P10004	bcbfba82a9e4f5b2f5fecf9f0e8c6dd6	f66447a03e641f49471d4780e621ba0e	42.4857
P100048	876e08cde0879ad2025181f8c70c3868	667b31bb052e4f91a488ba27b77f7416	27.9660
P100049	27a278ff9492e242ce30a4e25c01b53c	d700c50d57e895a9bf32954db4a40029	36.1838
P100052	d1e4c2e4b1d9b2e9479c6f594e1e0d6f	2977565e7949c92e1d9c95f147b1d1d	36.9977

Architecture

OA Metadata access
via JDBC



Requirements

Company:

- Registration of a consumer certificate as a trusted application
- Provide configuration
 - Consumer certificate
 - Scope URLClient ID / Secret
- Can be done as a standard file

```
Scope:
https://AE4413D9C94CD68FC07378B-analytics.oci.cloudonline.ml:443urn:opc:resource:consumer::allI

Client ID 3b64a4d85fda4bc20f0b499
Client Secret d97f-4127-bfba-f3bc2a100054
```

Data consumer:

- JDBC driver
- Configuration file (see left for contents)
- A JDBC-capable data client
 - Dbeaver
 - sQuirrel
 - RazorSQL
 - ...

```
gradlew.bat  gradlew  bicrestepugin.bat  new 1  new 2  new 3  bijdbc.properties
1 idcsEndpointUrl=https://idcs-12c29fce7ea4ddbc60d7.identity.c9dev1.oc9gadev.com
2 idcsClientId=a4d85fda4bc20f0b499
3 idcsClientScope=https://13D9C94CD68FC07378B-analytics.oci.cloudonline.ml:443urn:opc:resource:consumer::all
4 certificateFile=D:\\bijdbc\\bijdbcclient.cert
5 privateKeyFile=D:\\squirrel\\oAuth\\bijdbcclient.pem
6 bufferSize=1048576
7 user=@oracle.com
```

Security and Governance

- Connection via centrally managed consumer user account
- Account is authorized in OAC as usual
 - Functional access
 - Data objects
 - Data content



Publisher REST API Access

Functionality

Sales Fact Report 2

Return

Validate

Data Model

Properties

▲ Data Sets

Sales Fact Full

▲ Event Triggers

▲ List of Values

▲ Parameters

▲ Bursting

Diagram

Structure

Data

Code

+ ▼

✎

✕

Global Level Functions

Drop here for aggregate function

G_1

s_0

#

⚙

s_1

A

⚙

s_2

A

⚙

s_3

#E ▼

⚙

s_4

#E ▼

⚙

s_5

#E ▼

⚙

Drop here for aggregate function

Edit Data Set - Sales Fact Full

* Name

Sales Fact Full

* Data Source

Oracle BI EE (Default) ▼ ↻

* Type of SQL

Standard SQL ▼

* SQL Query

Query Builder

```
SELECT
  0 s_0,
  "Sales History"."Channels"."Channel Description" s_1,
  "Sales History"."Product"."Product Category" s_2,
  "Sales History"."Times"."Calendar Year" s_3,
  "Sales History"."Sales"."Amount Sold" s_4,
  "Sales History"."Sales"."Quantity Sold" s_5
FROM "Sales History"
ORDER BY 3 ASC NULLS LAST, 2 ASC NULLS LAST, 4 ASC NULLS LAST
FETCH FIRST 500001 ROWS ONLY
```

Generate Explain Plan

OK

Cancel

Functionality

Sales Fact Report 2 : Untitled

Data Source

DATA_DS

G_1

s_0

A s_1

A s_2

s_3

s_4

s_5

Table Column Header

Select

Font

Alignment

Grouping

Select

Tahoma

8pt

Alignment

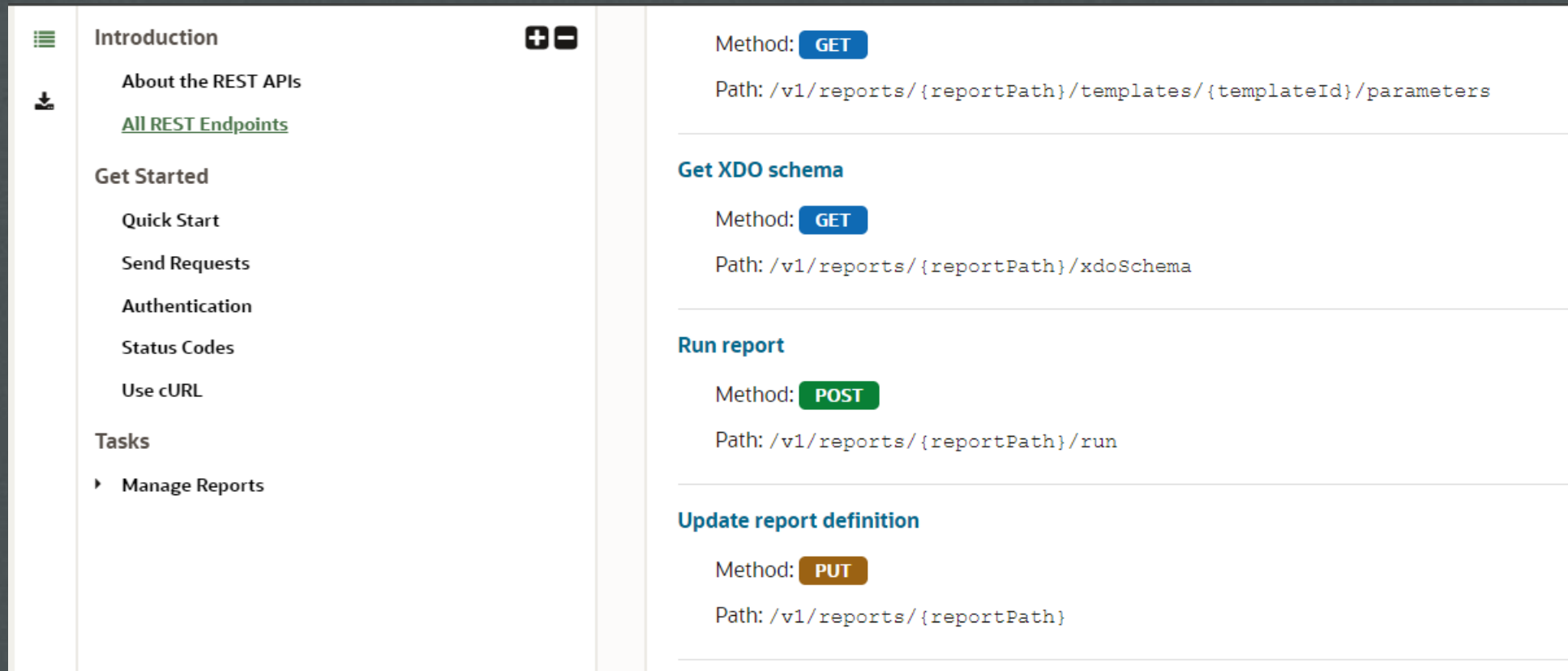
No Grouping

Delete

Subtotals

s_1	s_2	s_3	s_4	s_5
Direct Sales	Electronics	1998	1304499.44	7758
Direct Sales	Electronics	1999	1794720.61	15007
Direct Sales	Electronics	2000	2925514.53	22613
Direct Sales	Electronics	2001	2216783.49	21500
Internet	Electronics	1998	156216.85	282
		9996	8397734.92	67160

Functionality



The screenshot displays the Oracle BIPAP REST API documentation. The left sidebar contains a navigation menu with the following items:

- Introduction
 - About the REST APIs
 - [All REST Endpoints](#)
- Get Started
 - Quick Start
 - Send Requests
 - Authentication
 - Status Codes
 - Use cURL
- Tasks
 - Manage Reports

The main content area lists three API endpoints:

- Get XDO schema**
 - Method: **GET**
 - Path: `/v1/reports/{reportPath}/templates/{templateId}/parameters`
- Run report**
 - Method: **POST**
 - Path: `/v1/reports/{reportPath}/run`
- Update report definition**
 - Method: **PUT**
 - Path: `/v1/reports/{reportPath}`

<https://docs.oracle.com/middleware/12213/bip/BIPAP/rest-endpoints.html>

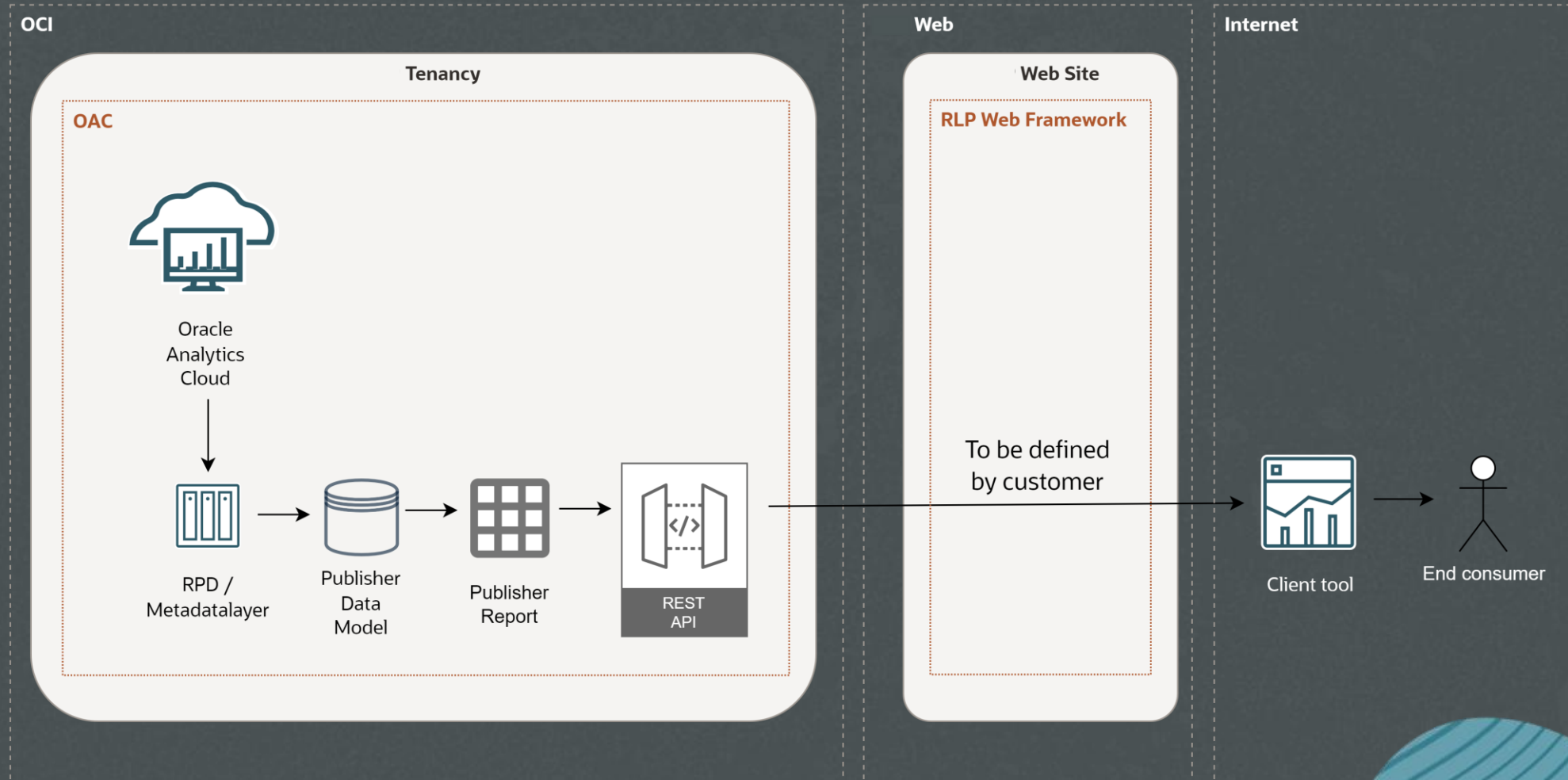
Functionality

RESP API Endpunkt for Publisher Objects

- Publisher provides REST APIs
- Can be used by any REST-enabled client
- Based on Publisher objects
- Indirect access to the metadata layer through the objects

Architecture

OA Metadata access
via Publisher and
REST



Requirements

Company:

- Creation of Publisher objects
- Publication of the REST endpoints via the web platform or framework of your choice

Data consumer:

- REST-capable Client

Security and Governance

- Connection via centrally managed consumer user account
- Account is authorized in OAC as usual
 - Functional access
 - Data objects
 - Data content
- Additional security step, as report objects are also equipped with access control



Comparison

JDBC vs REST

JDBC

Advantages

- No need for object creation or maintenance
- Direct access to the metadata layer

Disadvantages

- End user must populate their client with the configuration file
- A data dictionary must be provided
- End consumer must write queries

REST

Advantages

- No configuration or queries for the end consumer

Disadvantages

- Curator must create and maintain objects
- Architecture must be made available
- No direct access to the metadata layer
- Problem of "stale" definitions



ORACLE

Thank you