


RDM2API

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Project Details

Domain	International Supply Chain Orchestration Domain
Project Identifier	P1079
Bureau Decision #	#1907014; #1912058; #2003088; #2006001, #2009042; #2101080, #2101085, #2102092
Project Proposal Status	
Project Page	RDM2API
Supporting VC	Marek Laskowski
Project Lead	Steven Capell
HoD Support	N/A
Status	In development
Version	2.0
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Project purpose

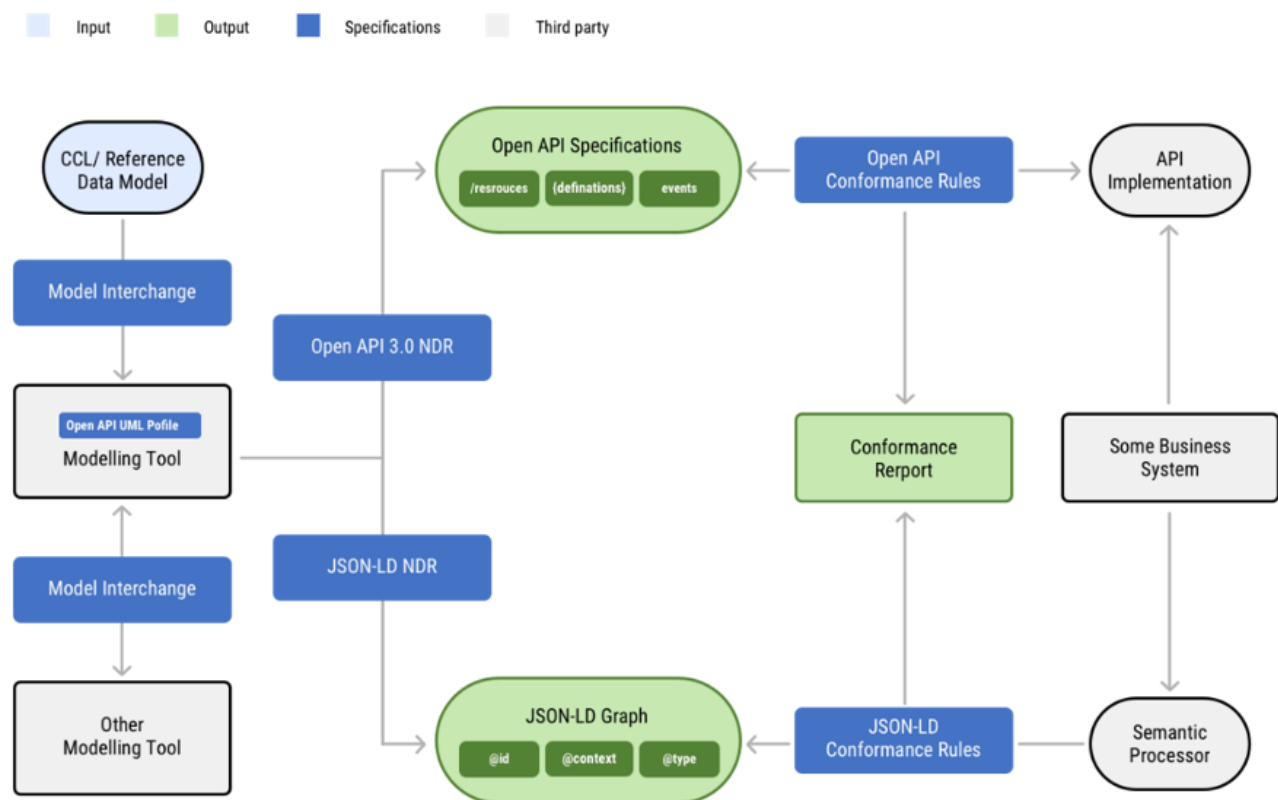
To define a standard methodology that can be used to produce high quality OpenAPI specifications and JSON-LD dictionaries from existing UN/CEFACT semantic library content, particularly the Reference Data Models (RDM). The methodology will be complete and proven successful when users can:

- **Re-use our semantics:** UN/CEFACT library content (RDM) can be imported into any conformant modelling tool or semantic tool.
- **Model consistently:** API Resource / Event models and JSON-LD dictionaries can be created in any conformant modelling tool and easily mapped to the imported RDM definitions.
- **Publish specifications:** API reference specifications (Including Open API3.0 and JSON-LD) can be generated from the modelling tool and published to open platforms such as Github.
- **Test conformance of their implementations.** Actual API implementations can be tested against the reference specifications and a conformance report generated.

We will know this work is successful when the world wide community of web developers are actively using UN/CEFACT semantic standards in their Trade & Transport system Web APIs.

Project scope

The dark blue boxes on the architecture diagram below highlight the specific work items in this work package.



RDM2 API Methodology

A UN/CEFACT **business expert** would use conformant modelling tools as follows.

- Import reference libraries such as UN/CEFACT RDM.
- Define web resources and their state lifecycles using simple UML class and state-chart diagrams.
- Link relevant semantic definitions from the imported RDMs to the web resources.
- Generate Open API 3.0 reference specifications and publish them to any platform that is readily accessible to web developers.
- Generate JSON-LD dictionaries for use by any semantic processor

A **web developer** that is charged with implementing web APIs that comply with UN/CEFACT standards would use the published specifications as follows.

- Import the Open API 3.0 reference specification into their preferred web development tool.
- Implement an API in accordance with the specification, including any non-breaking extensions.

Run the open source test harness against their implementation and publish the conformance report.

Project Deliverables

The project deliverables are:

- Deliverable 1
 - **Guideline on Model interchange.** A simple and standard JSON structure/schema for the interchange of API models between conformant modelling tools. A DSL (domain specific language) approach is preferred here because it will be simpler and more stable than XMI (interchange standard for UML tools) and will allow non-UML based tools to participate equally in the market.
- Deliverable 2
 - **Guideline on Open API UML Profile.** A simple UML profile that defines a consistent approach to modelling web resources in UML. A UML class diagram profile for web resources, verbs, paths, and associated definitions. A UML state chart profile for web resource state lifecycles and events.
- Deliverable 3

