Creating IDM Product files

Download all the IDM schema files from the Github at <https://github.com/Direct-Energy-Partners/interoperability-data-model/tree/main> into a single folder on your computer.

Download the appropriate version of Oxygen JSON Editor for your operating system from <https://www.oxygenxml.com/json_editor/download.html> .

Install it, and check that it runs OK.

You should have access to the IDM Standard, which describes in §7 and §8 the meanings of the various parameters, and how they should be interpreted.

Create a new JSON file in the folder where the schemas are stored. It will contain:

{  
 "key": "val"  
}

Edit this file by replacing that with:

{  
 "$schema": "common-schema.json",  
}

Place your cursor after the comma, and hit Return. If everything is working correctly, you will be presented with a list of other parameter names from the schema. Start by double-clicking on ‘IDMversion’ to add that line automatically.

Type a comma and Return at the end of that line, and double-click on ‘license’ (you will have to scroll down to that) to add that line.

Typing a comma and Return at the end of each added line will give you a list of the parameters you haven’t yet added.

Repeat the process to add ‘fileVersion’, ‘fileDate’, ’changeRecord’, and give each of these suitable values.

The possible parameters are listed in alphabetical order, but it is suggested that (whilst any order is equally valid), it would be helpful to adhere to the following order of main parameters:

$schema

IDMversion

license

fileVersion

fileDate

changeRecord

productCategory

manufacturer

productName

productIdentifier

productSeries

datasheetHyperlink

description

distributors

systemsIntegrators

embargoedCountries

notRecoomendedForNewDesigns

typeSpecificParameters

mechanical

environmental

listingAuthorities

productWarrantyYrs

files

images

listPriceUSD

Note that when you come to “distributors”, this is defined as an array (in square brackets), with each distributor in curly brackets. A single distributor would therefore be:

"distributors": [  
 {  
 "coName": "Dist1Co",  
 "webHomePageURL": "dist1co.com"  
 }  
 ]

…and if the product has two distributors, it will look like this:

"distributors": [  
 {  
 "coName": "Dist1Co",  
 "webHomePageURL": "dist1co.com"  
 },  
 {  
 "coName": "Dist2Co",  
 "webHomePageURL": "dist2co.com"  
 }  
 ]

In the same way, embargoedCountries may be a simple two-character string, or an array:

"embargoedCountries": "NK",

"embargoedCountries": ["NK","RU"],

(There is an argument for making every parameter an array, so that if there is more than one possible answer, it’s easy to deal with. This has not been done)

Numeric parameters (voltage, current, power, resistance, weight, dimensions, time) allow you either to enter a string of the value and units together (eg “135mV”) or to enter numeric values and units separately, eg:

"maxPowerIn": {  
 "value": 2.5,  
 "units": "kW"  
 }

Abbreviations for units are case-sensitive, and when the cursor is at the appropriate point, permissible values are shown in the line at the bottom of the screen. Text values have to be consistent with a Regular Expression in the schema (also shown at the bottom of the screen).

Exceptionally, voltage (max, nominal, min) and size (length, width, depth, diameter, height) can be entered as numbers, with the units provided just once:

"mechanical": {  
 "size": {  
 "length": 440,  
 "width": 220,  
 "units": "mm",  
 }  
 }

(Note that although these alternative formats are acceptable according to the schema, they are not prompted for by the Oxygen JSON Editor.)

Keep an eye out for the messages at the bottom of the screen, which will often give you options for possible values for a parameter. It will also warn when required parameters are missing.

Finally, when everything is as it should be, as defined by the schema, the message will become:

The keyword "selectionTool" is ignored by the validation engine. It is either not part of the JSON Schema Draft 7 Specification or is used in conjunction with "$ref".

When you are happy with the results, save the file to the same folder as the schema files.

If you have any queries, I’ll be happy to respond.

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