

DATEX II

DATEX II v3.0 What's new in version 3?

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So, what *is* new in v3? - Headlines

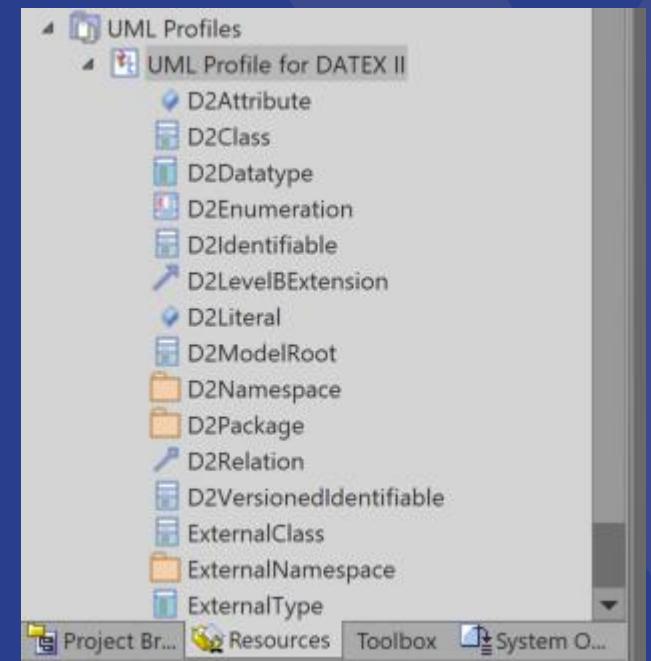
- Technology Update (UML2, XMI2.1)
→ easy to handle (v2 had a well-deserved, horrible reputation)
- Modular Approach (package structure, namespaces...)
→ you can do parking without having to bother about travel times...
- A new, second transfer syntax (the first after 15 years!)
→ JSON Schema in addition to XML Schema Definition – experimental(!)
- Many non-backward compatible model improvements
→ collected over the years in the issue tracker

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The v3 UML2 profile

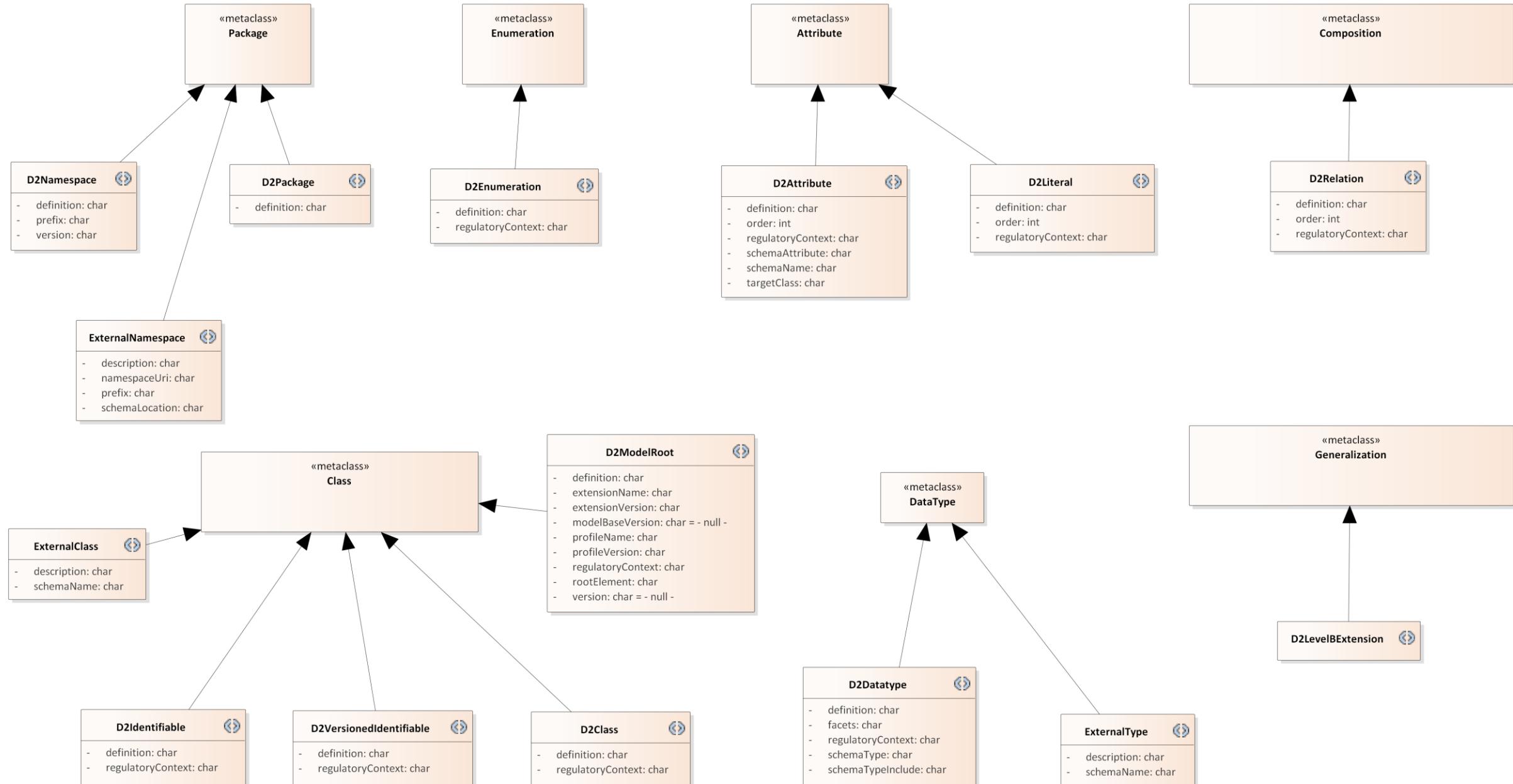
- ALL metamodel properties (fka “tagged values”) are now captured in stereotypes (e.g. “D2Class”, “D2Attribute”...)
- Modellers can ‘pull’ the stereotyped classes they need into their UML model/diagram – e.g. to create extensions – directly from the profile
- The UML metaclasses used were adapted to UML2, leading to some simplifications



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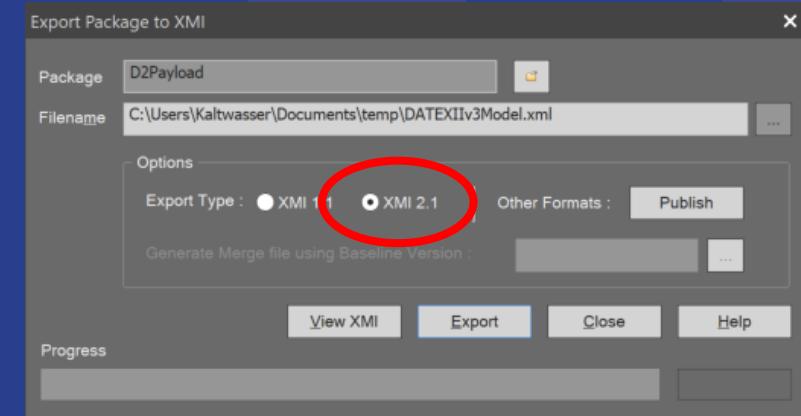
class UML Profile for DATEX II

Name: UML Profile for DATEX II
Package: «profile» UML Profile for DATEX II
Version: 3.0
Author: DATEX TG



Modifications (I)

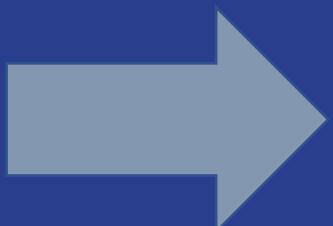
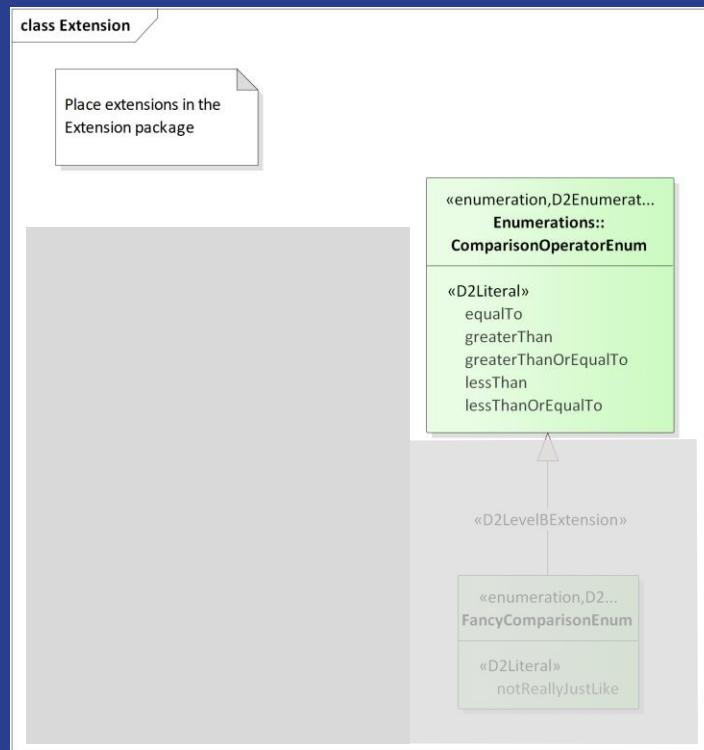
- The interaction between EA and tool is now using XMI 2.1
(you will drink a lot less coffee)
- You can refer to external elements:
Namespaces, Classes, DataTypes
- Attribute names are scoped by their class;
classes, datatypes, enumerations and packages by their namespace



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Modifications (II)

- Enumerations are *really* easy to extend now:



```
1  <?xml version="1.0" encoding="UTF-8"?>
2  <payload:payloadModelBaseVersion="3" xmlns:com="http://levelC/schema/3/common".
3  xmlns:ext="http://levelC/schema/3/extension" xmlns="http://levelC/schema/3/d2Payload".
4  xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance".
5  xsi:schemaLocation="http://levelC/schema/3/d2Payload-LevelC_3_D2Payload.xsd".
6  xsi:type="com:GenericPublication" lang="de">
7  |  <com:publicationTime>2017-07-26T16:00:00+01:00</com:publicationTime>
8  |  <com:publicationCreator>
9  |  |  <com:country>DE</com:country>
10 |  |  <com:nationalIdentifier>XYZ</com:nationalIdentifier>
11 |  |  </com:publicationCreator>
12 |  |  <com:genericPublicationName>TestforUser-Forum</com:genericPublicationName>
13 |  |  <com:genericPublicationExtension>
14 |  |  |  <com:myPublication>
15 |  |  |  |  <ext:foo_extendedValue="notReallyJustLike">_extended</ext:foo>
16 |  |  |  |  </com:myPublication>
17 |  |  |  </com:genericPublicationExtension>
18 |  |  </payload>
19 |  </payload>
```



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DATEX II's history of interoperability concepts

- Basic concept: Levels A/B/C – B extensions compatible
- Version 1 (early, 2006):
 - B forced modellers to reuse the existing publications – extensions were limited; discussions circled around “B or C”
- Version 2 (recent, 2009):
 - Introducing “GenericPublication” → everything is Level B – discussion circles around “A or B”
- Version 3 (future, 2018+):
 - Modules and tools allow diverse interoperability options on various levels

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Levels of interoperability

Description	Standards	Documentation	Tools	Recommended
C1: Minimum	16157-1	Methodology, Developer	-	No
C2: Min & Tools	16157-1	Methodology, Tool, Developer	UML Profile & Tool	Conditional
C3: Min, Tools & Common	16157-1 16157-2/7/2&7	Methodology, Tool, Model, Profiling, Developer	UML Profile, Model & Tool	Conditional
B1: Generic	16157-1 16157-2/7/2&7	Methodology, Tool, Model, Profiling, Developer, Extensions	UML Profile, Model & Tool	Yes
B2: Publication	16157-1 16157-2/7/2&7 16157-3/4/5/6	Methodology, Tool, Model, Profiling, Developer, Extensions	UML Profile, Model & Tool	Yes
A1: Profile	16157-1 16157-2/7/2&7 16157-3/4/5/6	Tool, Model, Profiling, Developer	Model, Tool	Yes
A2: "Full"	16157-1 16157-2&7 16157-3to6	Model, Developer	Model, Schema	No

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