



EasyWay

Extensions in DATEX II: How to adapt a standard to your needs

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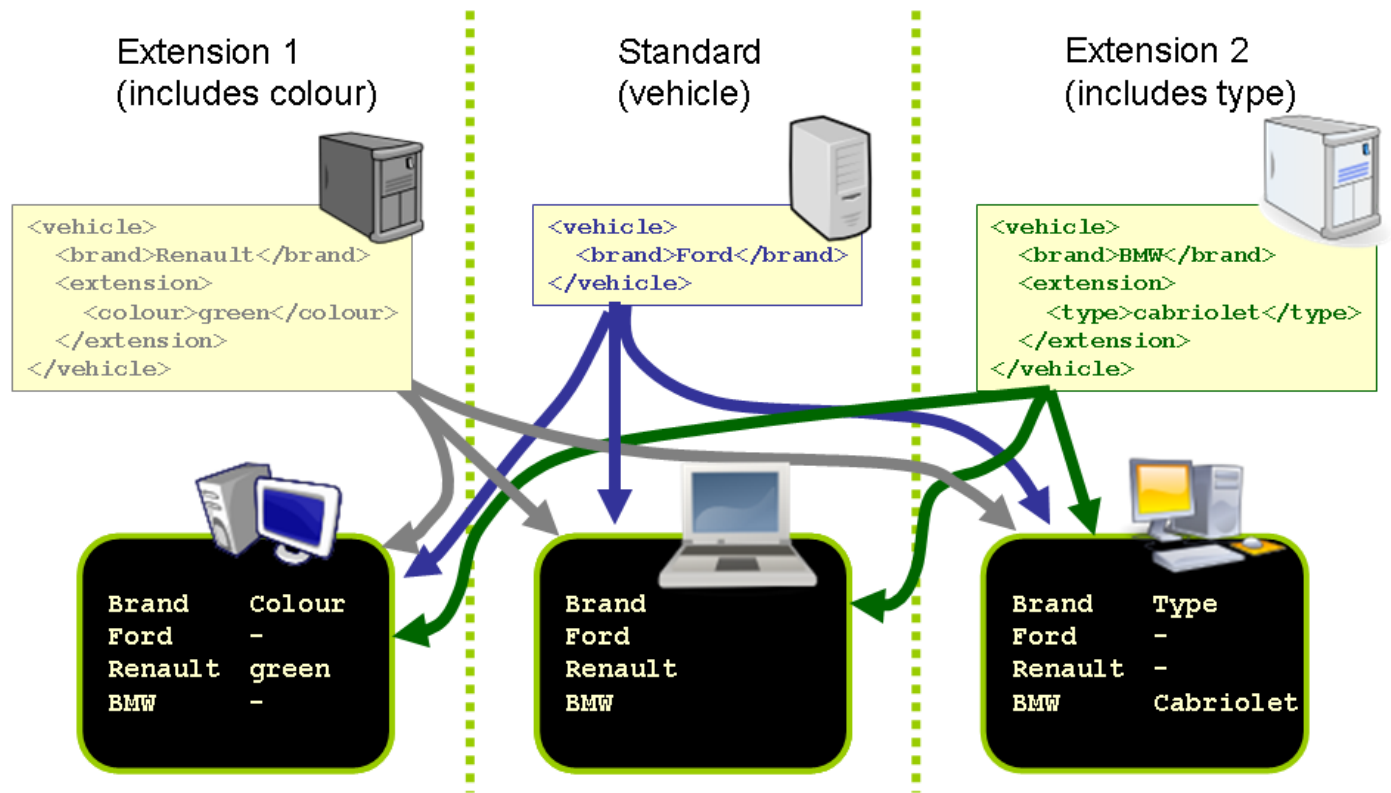
How can DATEX II be extended

- **DATEX II was designed to be extended**
- **Recommended way to extend DATEX II is in the UML model.**

Different kinds of extensions / levels

- **Level A**
 - The "core" model has been harmonized and parts of it have been standardized
- **Level B**
 - Level B extensions added to Level A
 - Full interoperability with Level A
 - A level B extension will not break a Level A Client
 - Level A Client can understand the Level A part of any Level B extended client
 - Two different Level B clients can understand each others level A part
 - A commonly used Level B extension could be a candidate for inclusion in Level A
- **Level C**
 - No interoperability with Level A and Level B
 - Use the same methodology and tools

Level B



Examples extensions

- **Level B**

- **OpenLR extension**
 - Added one more referencing system
- **Linestring (GML)**

- **Level C**

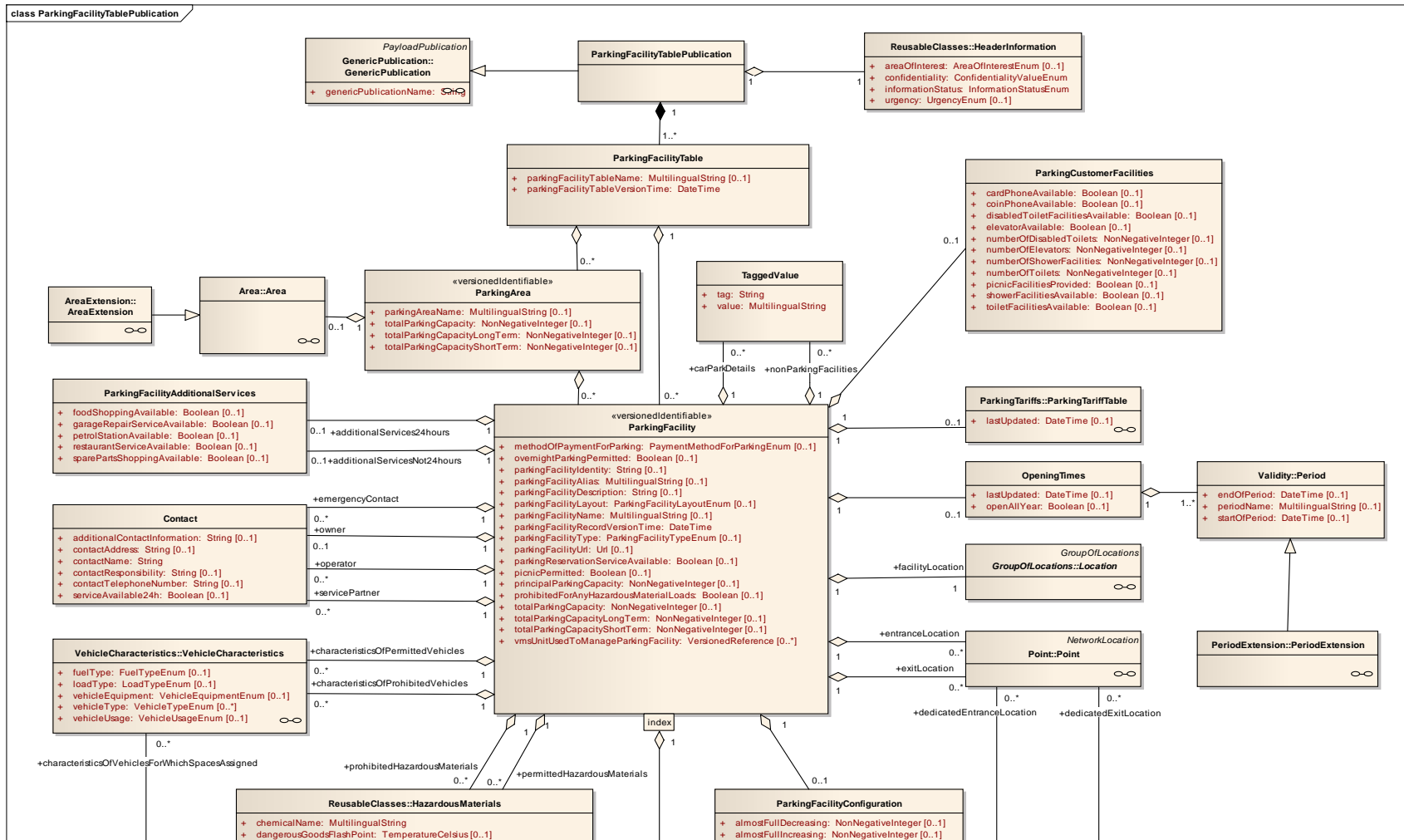
- **Receiving Interface for Road reporters App**
 - Just reusing the framework and tools



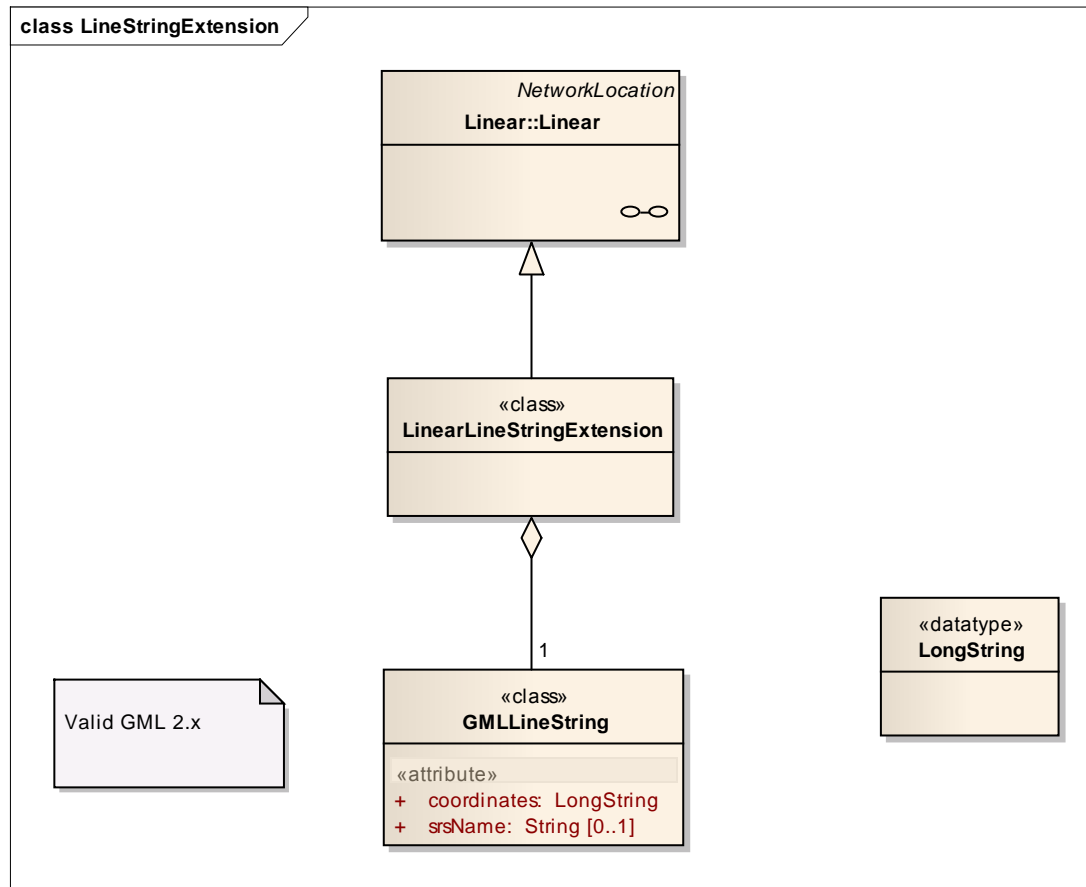
Level B rules (UML)

- **What we can do**
 - “Add” attributes to new or existing classes
 - “Add” associations to new or existing classes
 - Create new classes, enumerations and data types
 - Reuse existing classes, enumerations and data types
- **Limitation**
 - Not allowed to change **ANYTHING** to existing classes, attributes and enumerations

Example ParkingFacilityExtension



Example GML Linestring

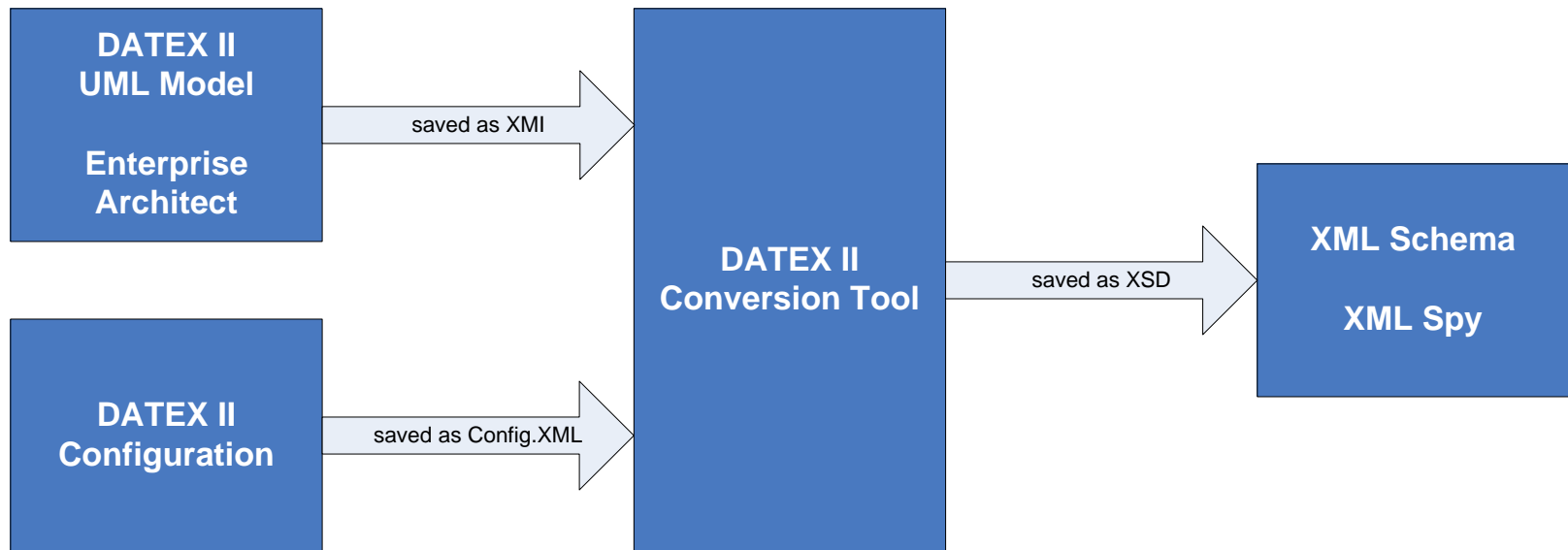


Tool support

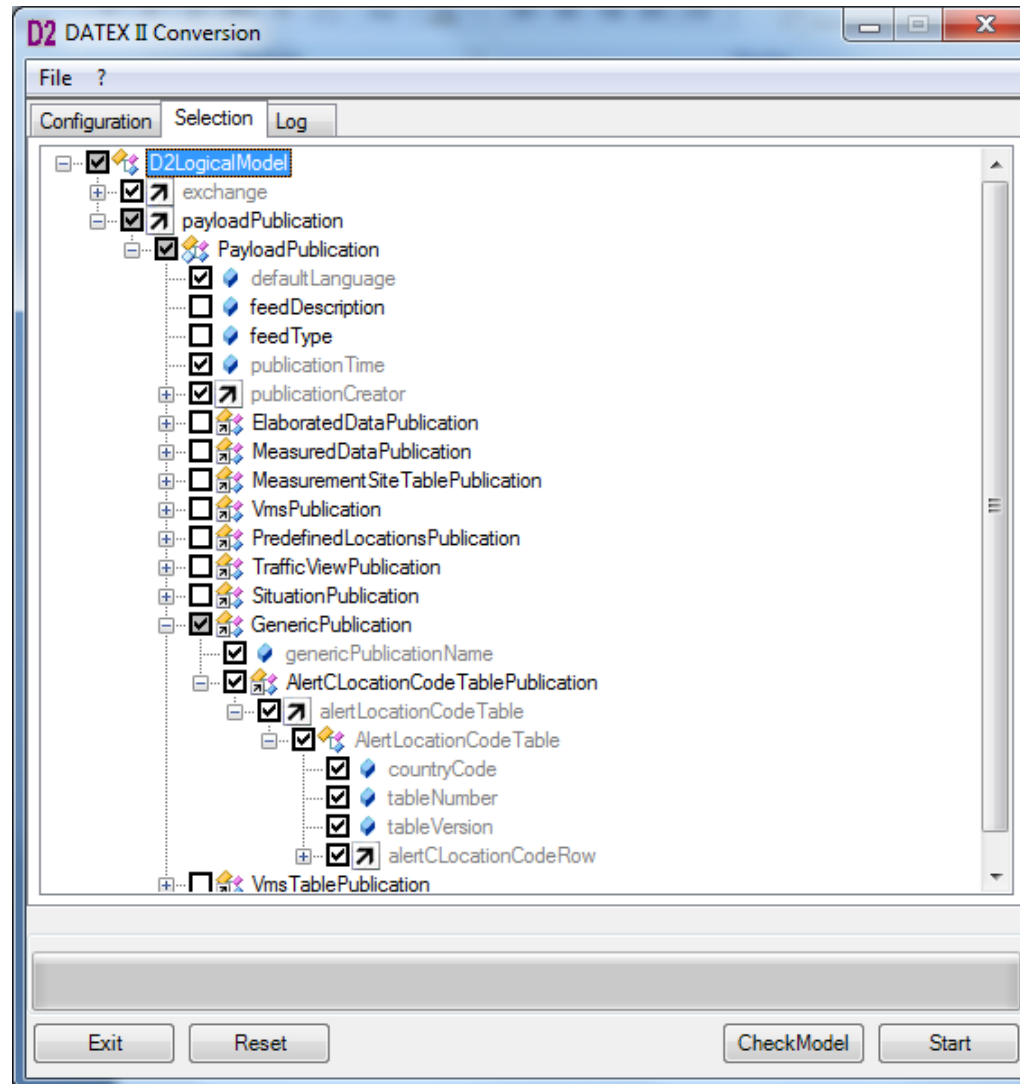
- **Enterprise Architect – the UML tool**
- **Import / export XMI**
- **Schema generation tool**
 - UML ->XMI -> XSD
 - Selection feature
 - Generate Data Dictionary



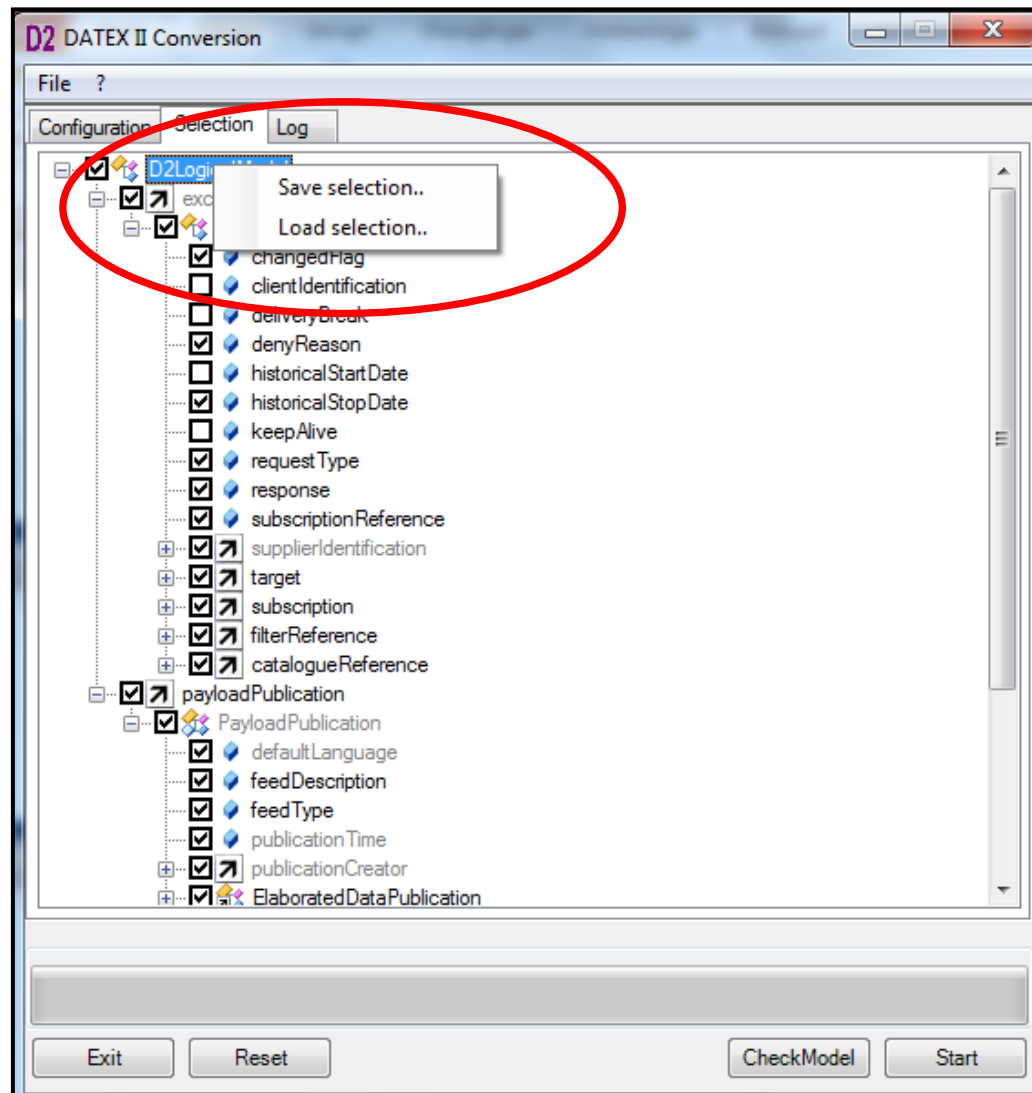
Process to generate a Schema



Selection

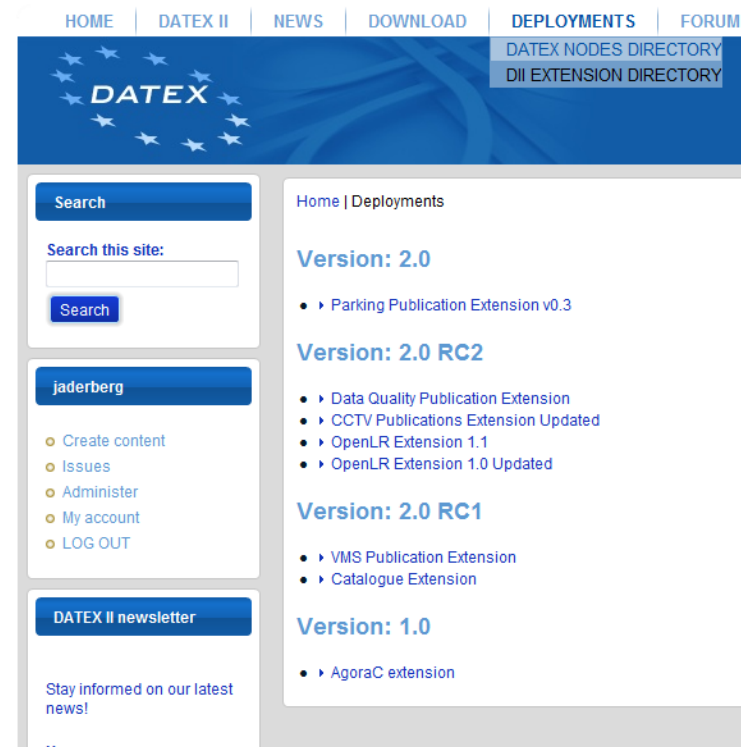


Selection



Sharing extensions

- Extensions can easily be imported / exported into the UML model.
- XMI
- Repository at www.datex2.eu
 - Examples
 - OpenLR, CCTV, parking



The screenshot shows the DATEX II website interface. At the top, there is a navigation menu with links for HOME, DATEX II, NEWS, DOWNLOAD, DEPLOYMENTS, and FORUM. Below the navigation is a blue header with the DATEX II logo and two sub-headers: DATEX NODES DIRECTORY and DII EXTENSION DIRECTORY. The main content area is divided into several sections:

- Search:** A search bar with the text "Search this site:" and a "Search" button.
- jaderberg:** A user profile section with a "jaderberg" header and a list of options: Create content, Issues, Administer, My account, and LOG OUT.
- DATEX II newsletter:** A section with the text "Stay informed on our latest news!" and a "Sign up" button.
- Home | Deployments:** A section listing various extensions and their versions:
 - Version: 2.0**
 - Parking Publication Extension v0.3
 - Version: 2.0 RC2**
 - Data Quality Publication Extension
 - CCTV Publications Extension Updated
 - OpenLR Extension 1.1
 - OpenLR Extension 1.0 Updated
 - Version: 2.0 RC1**
 - VMS Publication Extension
 - Catalogue Extension
 - Version: 1.0**
 - AgoraC extension



DATEX II profile

- **A selected part of the DATEX II model**
- **Can include Level B extensions**
- **Tailored to fit a certain need**
- **Sub schema can be generated**
- **Data Dictionary can be generated**



Future versions

- **Near future (minor revision)**

- Extension guideline
- Enhanced selection features
 - Bug fixes
 - Limit multiplicity
 - Deselect enumeration literals

- **Long term**

- Document the selection
- Investigate possibility to update UML model based on selection



DATEX II How to adapt the standard

- **DATEX II , does include a lot**
 - Creating a DATEX II profile may be needed
- **But, may need to be extended to fit your needs**
 - Create an extension so it fit's your needs
 - Share the extension!