

# DATEX II

## Exchange 2020

### EP Profiles and Exchange2020 demonstrator

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WEBINAR SERIES

Please ask your questions in the Q&A

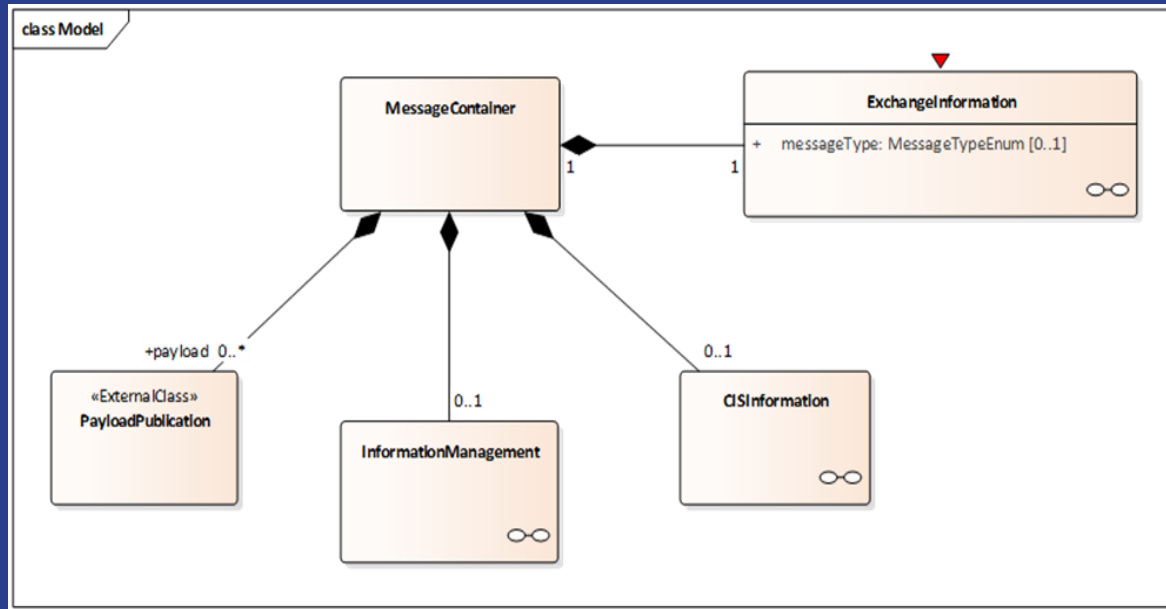
# Overview

- Basic Exchange Data Model profiled for Exchange Pattern
  - BEDM UML recap ( Day 2 webinar session recall)
  - Webtool usage to create EP profiled xsd
    - Snapshot Pull
    - Stateful Push
    - Simple CIS
  - Exchange 2020 Demo (profiled version)
    - Snapshot Pull
    - Stateful Push
    - Simple CIS

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# Basic Exchange Data Model



Depending on the **Exchange Pattern**, data are needed to manage and enable different **exchange features**.

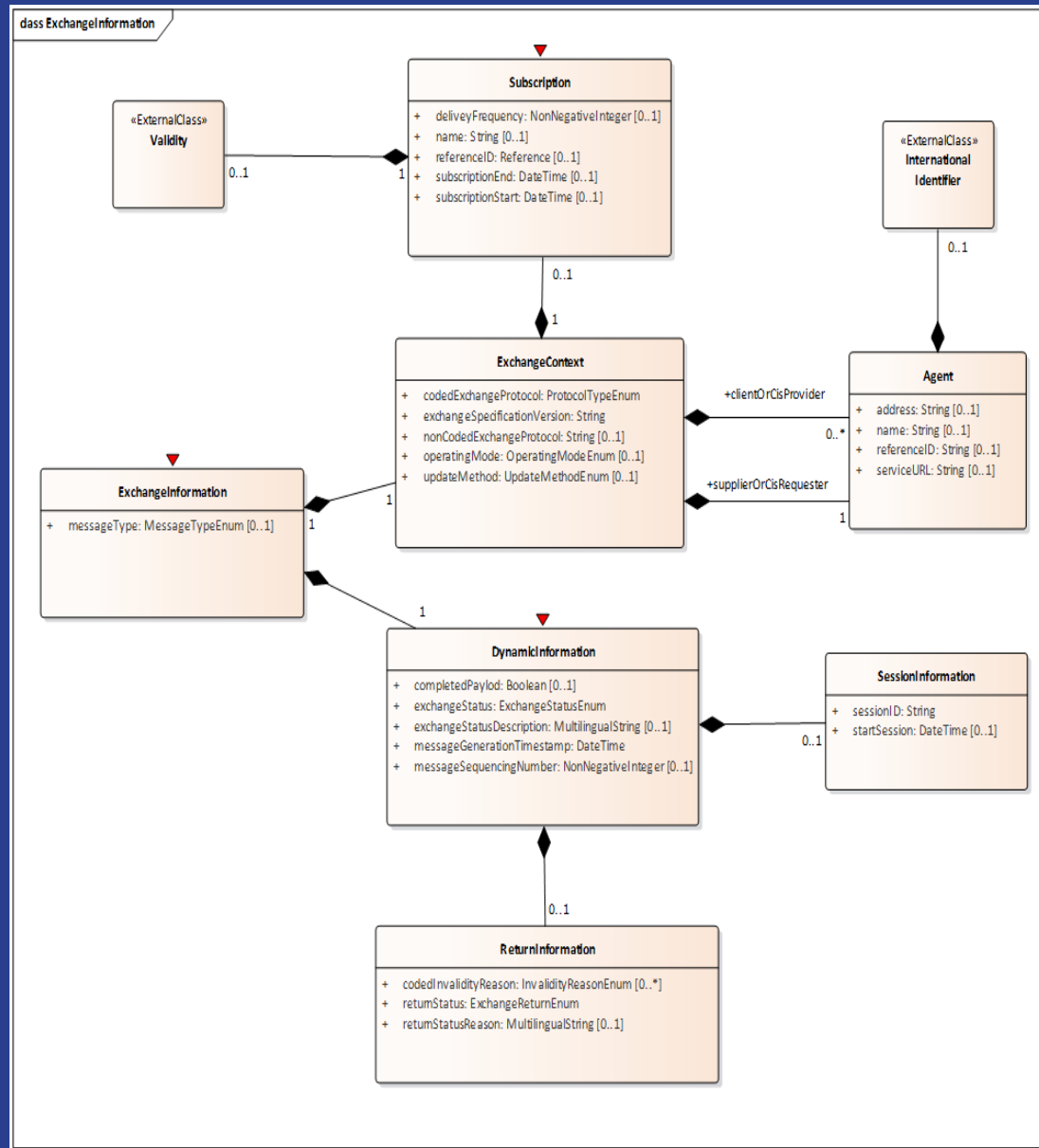
As DATEX II payload is based on Road Traffic Data a **MessageContainer structure** had been defined to wrap Payload to allow implement exchange features

This BEDM model had been designed using same DATEX II Modelling Methodology which may derive XSD, ASN.1, JSON schema encoding for exchange Data

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# Exchange Information



Static Information

Dynamic Information

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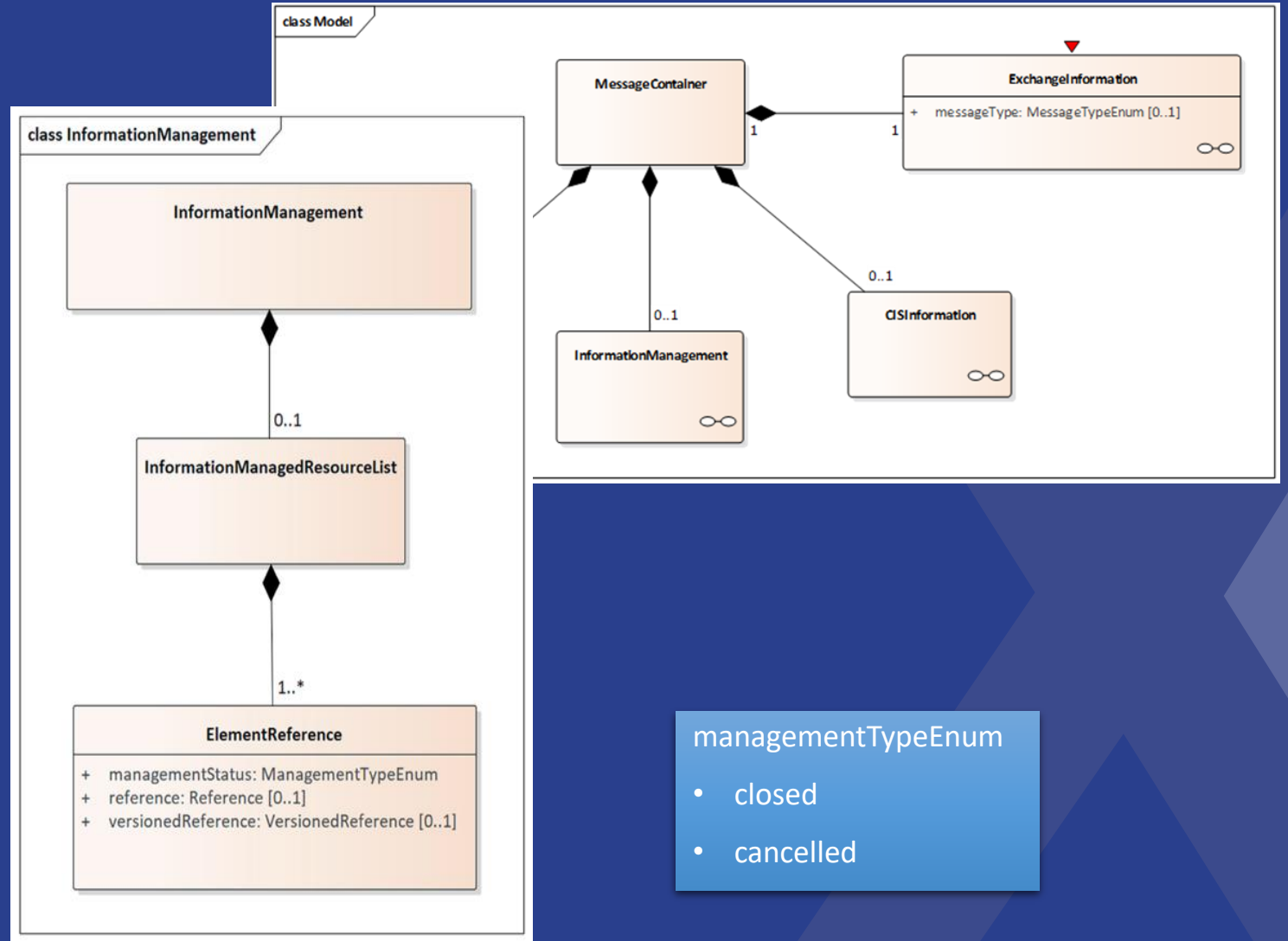
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# Information Management

Used for Simple and Stateful Push

Single element update operating mode

which may be combined with Snapshot Synchronisation

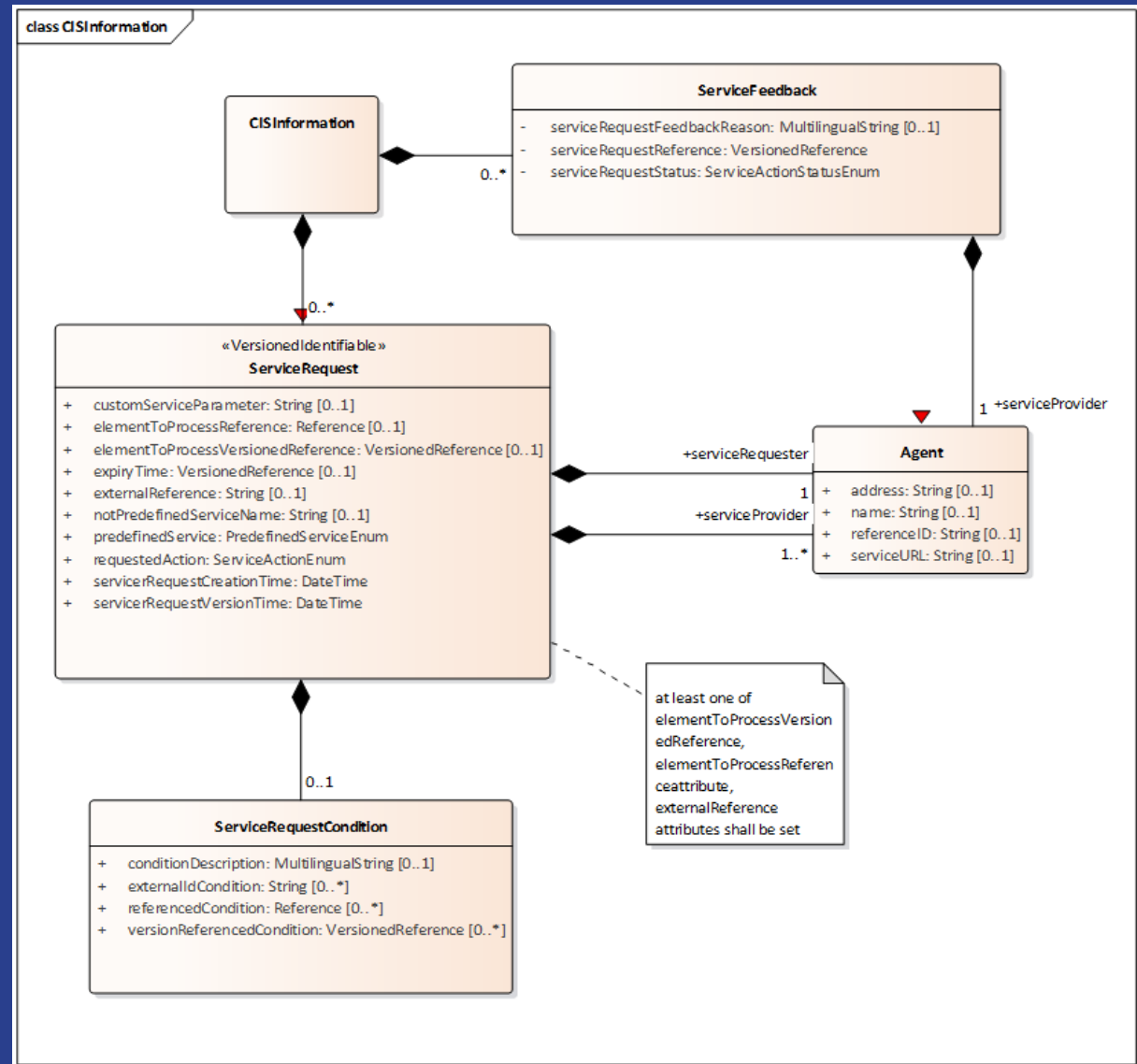


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# CIS Information Data Model

- Service Request and Service Feedback information



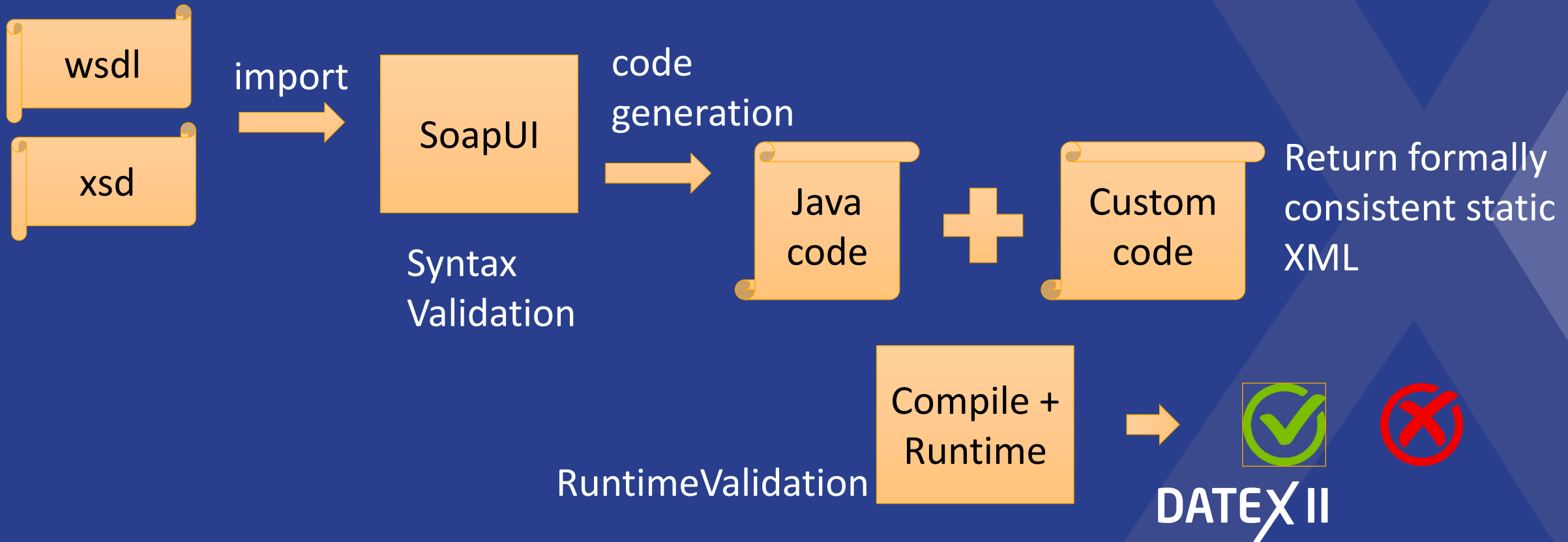
# Exchange Data Model profiling and webtool

- Basic Exchange Data Model allows exchange information enabling several DATEX II FEP+EP features and implementing requirements
- **Profiling** eases the FEP+EP understanding of which information is needed / used in the different FEP+EP
  - Skipping redundant information for a specific EP
  - Reduced complexity
- Profiled xsd from BEDM available in documentation
- Let's show this on webtool <http://webtool.datex2.eu>

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# WSDL testing Java





# Exchange Pattern Profiling

- WSDL are specialised for EP as not all methods apply to all FEP+EP
- XSD profiled to fit the EP best with Exchange Data which is needed / used for the specific EP
- WSDL EP +profiled XSD → EP Web Service Implementantion for test

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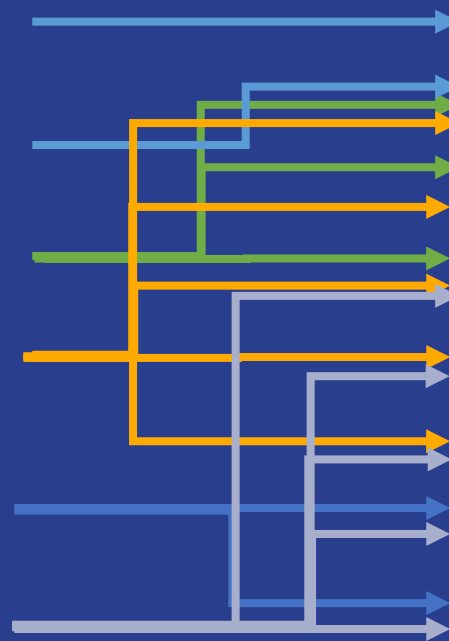
# profiled Exchange 2020 demonstrator

## Select EP+FEP implementation

- Snapshot Pull
- Snapshot Push
- Simple Push
- Stateful Push
- Simple CIS
- Stateful CIS

## Select method: XML input → XML output

- pullSnapshotData
- putSnapshotData
- putData
- keepAlive
- openSession
- closeSession
- putServiceRequest
- putServiceFeedback



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# Interface and XML validation and processing

DATEX II <sub>V3.1</sub> Exchange 2020

Altre azioni

DATEX II <sub>V3.1</sub> Exchange 2020

WSDL Operation

|                 |   |
|-----------------|---|
| Simple Push     | ▼ |
| putSnapshotData | ▼ |
| keepAlive       | ▼ |
| putSnapshotData | ▼ |
| putData         | ▼ |

formatted output

Input

```
<con:exchangeInformation modelBaseVersion="3">
  <ex:exchangeContext>
    <ex:codedExchangeProtocol>snapshotPush</ex:codedExchangeProtocol>
  </ex:exchangeContext>
  <ex:exchangeSpecificationVersion>Exchange2020</ex:exchangeSpecificationVersion>
  <ex:supplierOrCisRequester>
    <ex:address>MySupplierAddress</ex:address>
    <ex:internationalIdentifier xmlns:com="http://datex2.eu/schema/3/common">
      <com:country>IT</com:country>
      <com:nationalIdentifier>IT400</com:nationalIdentifier>
    </ex:internationalIdentifier>
  </ex:supplierOrCisRequester>
</ex:exchangeContext>
<ex:dynamicInformation>
  <ex:exchangeStatus>online</ex:exchangeStatus>
</ex:dynamicInformation>
<ex:messageGenerationTimestamp>1980-03-23T10:22:15</ex:messageGenerationTimestamp>
</con:exchangeInformation>
```

Output

```
<?xml version="1.0" encoding="UTF-8" standalone="yes"?>
<spcon:exchangeInformation modelBaseVersion="3"
  xsi:schemaLocation="http://datex2.eu/schema/3/messageContainer
  DATEXII_3_MessageContainer.xsd" xmlns:ns6="http://datex2.eu/schema/3/vms"
  xmlns:ns5="http://datex2.eu/schema/3/roadTrafficData"
  xmlns:ns8="http://datex2.eu/schema/3/situation" xmlns:ns7="http://datex2.eu/
  /schema/3/locationReferencing" xmlns:spim="http://datex2.eu/schema
  /3/informationManagement" xmlns:spex="http://datex2.eu/schema
  /3/exchangeInformation" xmlns:spcon="http://datex2.eu/schema
  /3/messageContainer" xmlns:ns4="http://datex2.eu/schema/3/common"
  xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
  <spex:exchangeContext>
    <spex:codedExchangeProtocol/>
    <spex:exchangeSpecificationVersion>
      Exchange2020
    </spex:exchangeSpecificationVersion>
    <spex:supplierOrCisRequester>
      <spex:internationalIdentifier>
        <ns4:country>

```

- Validation with profiled xsd and consistency check for profile mandatory data , e.g. session management in Stateful

- Further Consistency check and minimal state management to be implemented in the future when convenient for dissemination purposes.

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## Giving the floor to Fabrizio Paoletti

DATEX II Act. 5

<https://datex2.eu/activity-5>

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