TC 445

Standardisation of Digital Information Interchange is the Basis for Open Insurance

Dr. Manuel Reimer

Chair CEN/TC 445

Agenda

TC 445

- European standards committee CEN/TC 445
- National insurance standards for digital information interchange
- Insurance domain data model on the basis of the global United Nations UN/CEFACT Core Components Library
- UN/CEFACT insurance domain data model as the basis for a European interoperability standard supporting “Open Insurance”
- Standardisation of processes and data on the business and technical level
- Standardisation as an important prerequisite for a functioning open insurance market

TC 445

CEN/TC 445

Digital Information Interchange in the Insurance Industry

Echange digitalisé d’information dans l’industrie de l’assurance

Digitaler Informationsaustausch in der Versicherungsbranche

Website: https://www.tc445.info

CEN
European Standardisation Organisation

TC 445

- Association of the National Standards Organisations of 34 European countries
- Standardisation for all industry and service sectors in specific standards committees
- Participation of business stakeholders (including SMEs), consumer organisations, societal organisations, public authorities, trade associations, trade unions, research organisations, etc.
- Officially recognised by the EU as being responsible for developing and defining voluntary standards at European level (EU Regulation 1025/2012)
- European harmonised standards in support of EU legislation and policies

CEN/TC 445
Digital Information Interchange in the Insurance Industry

TC 445

- Standardisation in the field of digital information interchange in the European insurance industry
- Founded: 2016
- Chair: Manuel Reimer (Germany)
- Secretariat: DIN (Germany) – Martin Uhlherr
- Liaisons: BIPAR – European Association of Insurance Intermediaries
  CEN/TC 434 – Electronic Invoicing
  CEN/CLC/JTC 19 – Blockchain and Distributed Ledger Technologies
- Experts from insurer associations, intermediary associations, national insurance standards organisations and other insurance stakeholders

Digital Information Interchange

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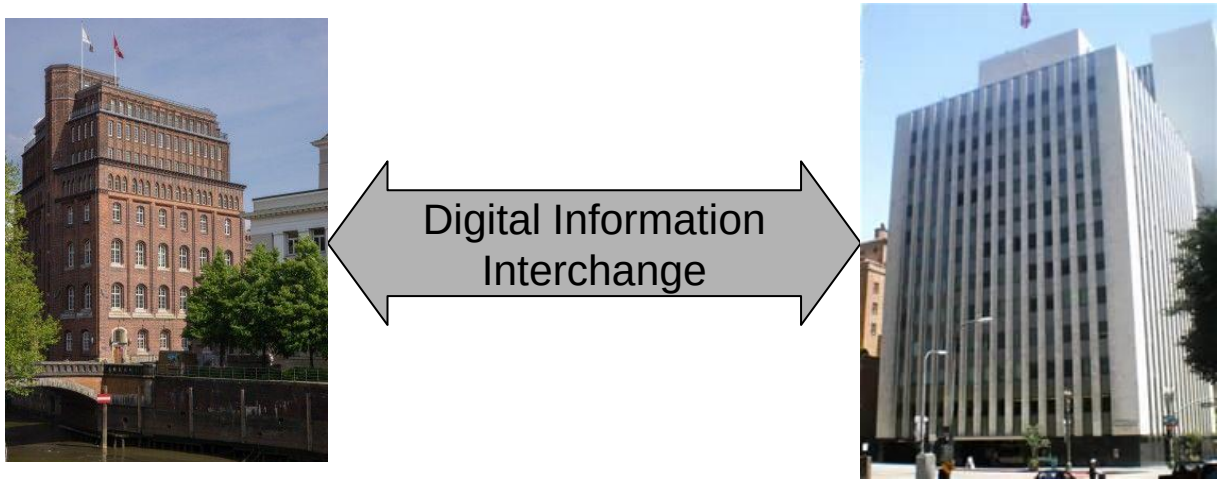
- Digital information interchange focuses on the use of digital communication to enable the external activities and relationships of the business with individuals, groups and other businesses.
- The business layer.



Information Interchange in the Insurance Industry

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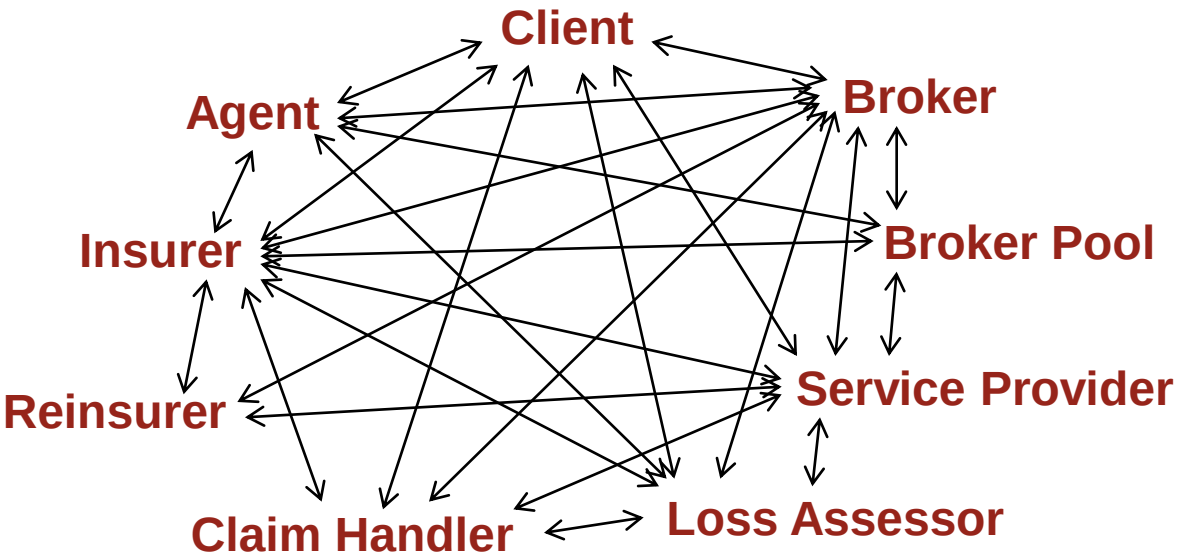
- Communication partners in the insurance industry.



- **Standards for insurance digital information interchange required.**

Standards of CEN/TC 445

TC 445

Transfer of Electronic Documents: EN 17419-1 and TR 17419-2

- This standard defines the transfer of any electronic documents with a set of meta data between partners in the insurance industry (for example between insurer and intermediary).

Electronic Premium Invoice: TS 17901

- This standard defines the mapping of an insurance premium invoice to the European electronic invoice standard EN 16931-1.

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National Insurance Standards for Digital Information Interchange

National Insurance Standards

National standards are vital for digital insurance interchange:

- AT: OMDS, BiPRO
- BE: TELEBIB2
- CH: IGB2B
- DE: BiPRO
- NL: SIVI
- UK: POLARIS, ACORD

Especially in countries with independent intermediaries.

National Insurance Standards

TC 445

- AT: OMDS – Hosted by Austrian Insurer Association
- BE: TELEBIB2 – Hosted by Belgian Insurer Association
- CH: IGB2B – Society with insurers, intermediaries, service providers
- DE,AT: BiPRO – Society with insurers, intermediaries, service providers
- NL: SIVI – Society with insurers
- UK: POLARIS – Society with insurers and intermediaries
- UK: ACORD – London market stakeholders (insurers and brokers)

Global Reinsurance Standard

- Ruschlikon (ACORD-based) – Initiative of reinsurers, insurers, brokers

BiPRO Insurance Process Standards https://bipro.net

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BiPRO Standards for Open Insurance

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BiPRO Standards for Open Insurance

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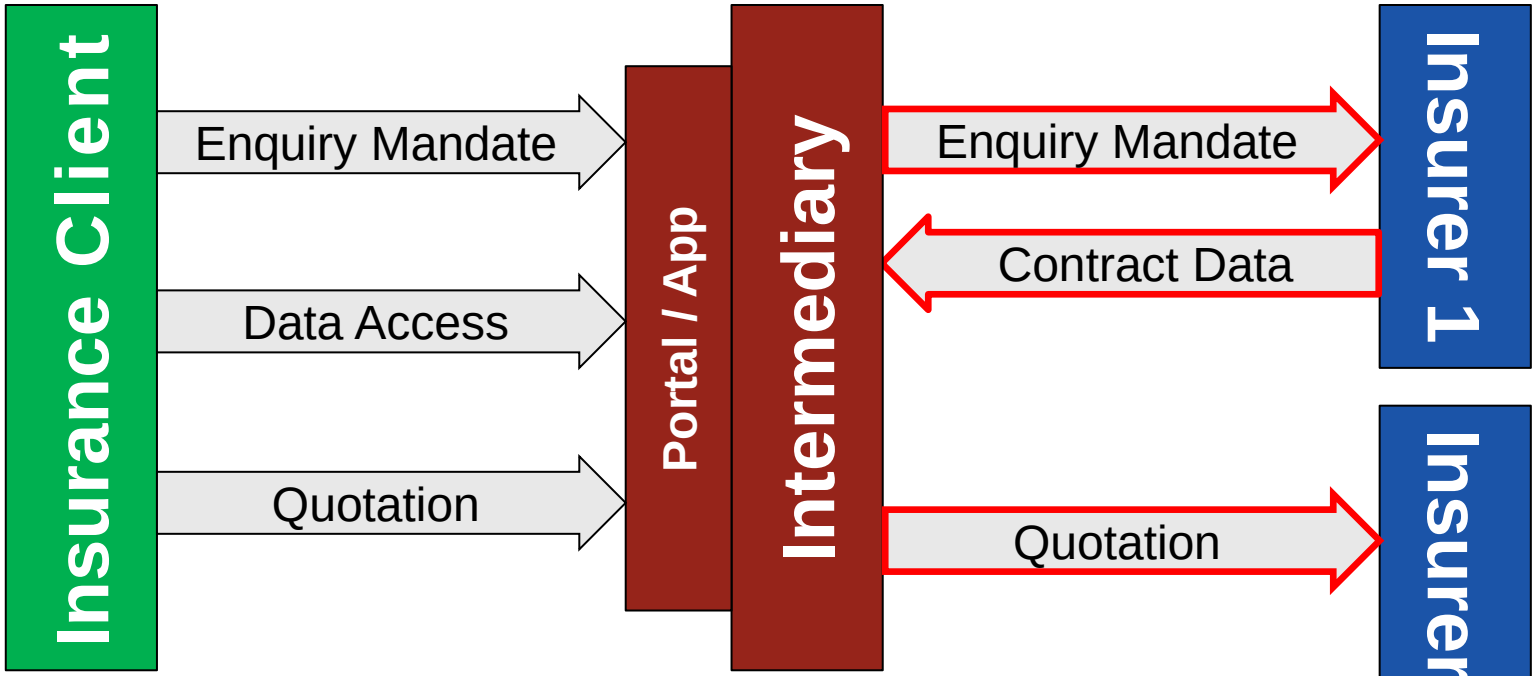

Contract data includes all personal and risk data required for a new quotation

National Standards as the Basis for Open Insurance

TC 445

- BiPRO standards support essential functions for Open Insurance.

➢ Essential functions for Open Insurance in most other national insurance standards.

- BiPRO members implemented more than 800,000 interfaces between intermediaries and insurers.
- BiPRO members invested more than one billion euros.

➢ High investments also in other countries in national insurance standards.

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Insurance Domain Data Model on the Basis of the global United Nations UN/CEFACT Core Components Library

UN/CEFACT
Global Trade Facilitation and E-Business

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- The United Nations Centre for Trade Facilitation and Electronic Business (UN/CEFACT) is a subsidiary, intergovernmental body of the United Nations Economic Commission for Europe (UNECE).
- UN/CEFACT serves globally within the United Nations Economic and Social Council for trade facilitation recommendations and electronic business standards.
- It has global membership and its members are experts from intergovernmental organisations, individual countries' authorities and from the business community.
- https://unece.org/trade/uncefact

UN/CEFACT
Global Trade Facilitation and E-Business

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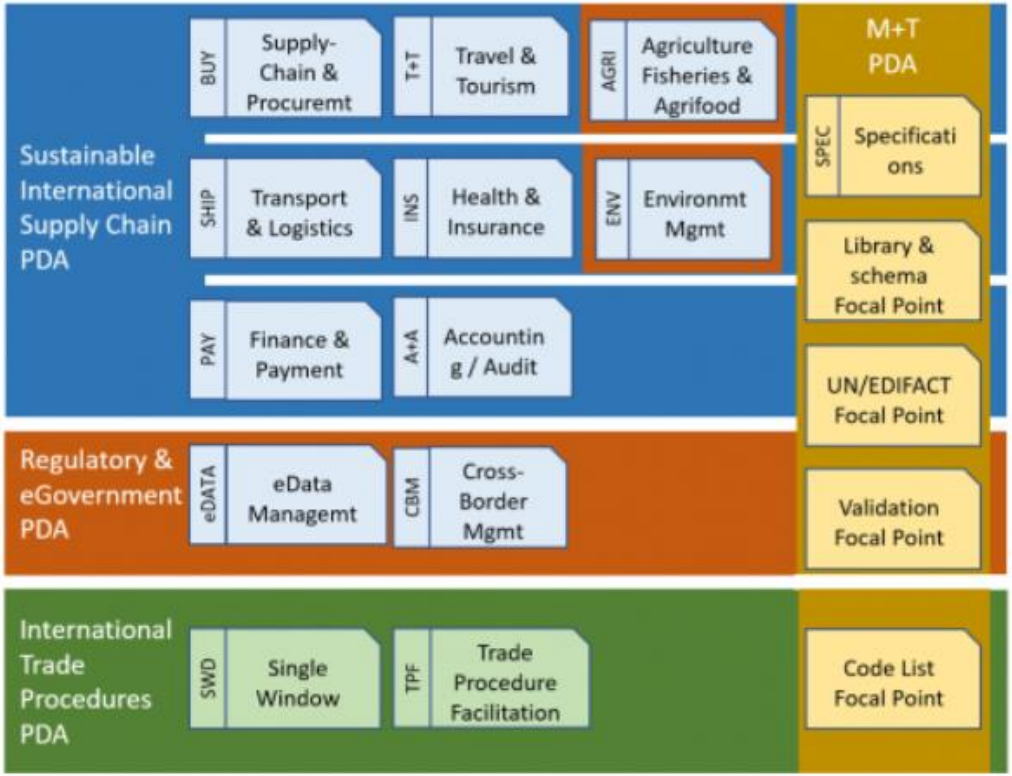
- Cross-Domain
- Data Models
- Business Process Standards
- Technical Standards
- Key Domains:
  - Cross-Industry Invoice
  - Supply Chain (e.g. automotive)
  - Transport Shipment
  - Container Logistics
  - Customs Declaration
  - Environmental Management
  - Agriculture & Fisheries



UN/CEFACT Core Component Library
The Basis for Cross-Domain Data Models and Standards

TC 445

- Core Component:
  Semantic building block as a basis to construct electronic business messages.
  - Examples: Person, Address, Building, Vehicle, InsurancePolicy, Coverage, Claim
- Basic Core Component:
  A singular characteristic of a specific Core Component.
  - Examples: PersonBirthDate, AddressCityName, CoverageType, ClaimStatus
- Association Core Component:
  A complex characteristic of a specific Core Component.
  - Examples: PersonResidenceAddress, VehicleRegistration, ClaimApplicableCoverage

https://unece.org/trade/uncefact/unccl (Original-Excel) https://www.tc445.info/CCL21B.htm (HTML-Version)

Insurance Domain Data Model
on the Basis of the UN/CEFACT Core Components Library (CCL)

TC 445

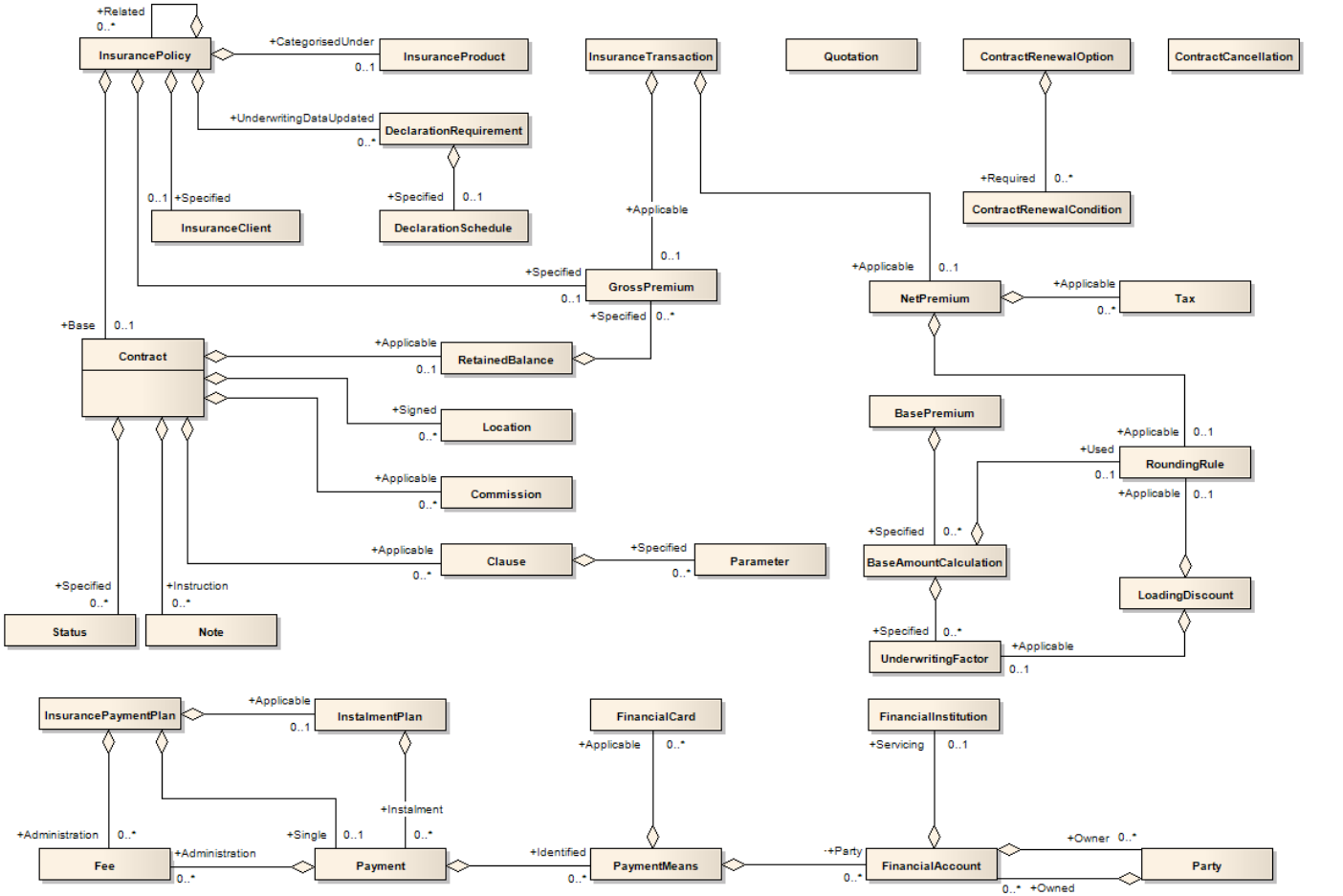
- CEN/WG eEG7 was the predecessor group in CEN before CEN/TC 445.
- CEN Working Group eEG7 developed the Insurance Domain Data Model as a UN/CEFACT standardisation project from 2006 to 2014.
- Re-use of generic core components of UN/CEFACT CCL.
- Insurance-specific core components added to the UN/CEFACT CCL.
- Insurance Domain Data Model includes:
  - P&C private lines (including some commercial data and some life data)
  - Motor insurance (private and commercial)
  - Policy, person, risk, coverage and loss/claim data

http://www.eeg7.org/Repository/SMILe-Core-Component-Library/index.htm

Policy
Contract
Transaction
Premium

eEG7 SMILe Data Model - Core Components for Insurance Policies and Transactions

This diagram illustrates the core components (ACC) and their relationships (ASCC) to model the central concepts of insurance which include insurance policies and insurance transactions (e.g. quotation, renewal, cancellation) as well as core components to capture premium and payment information.

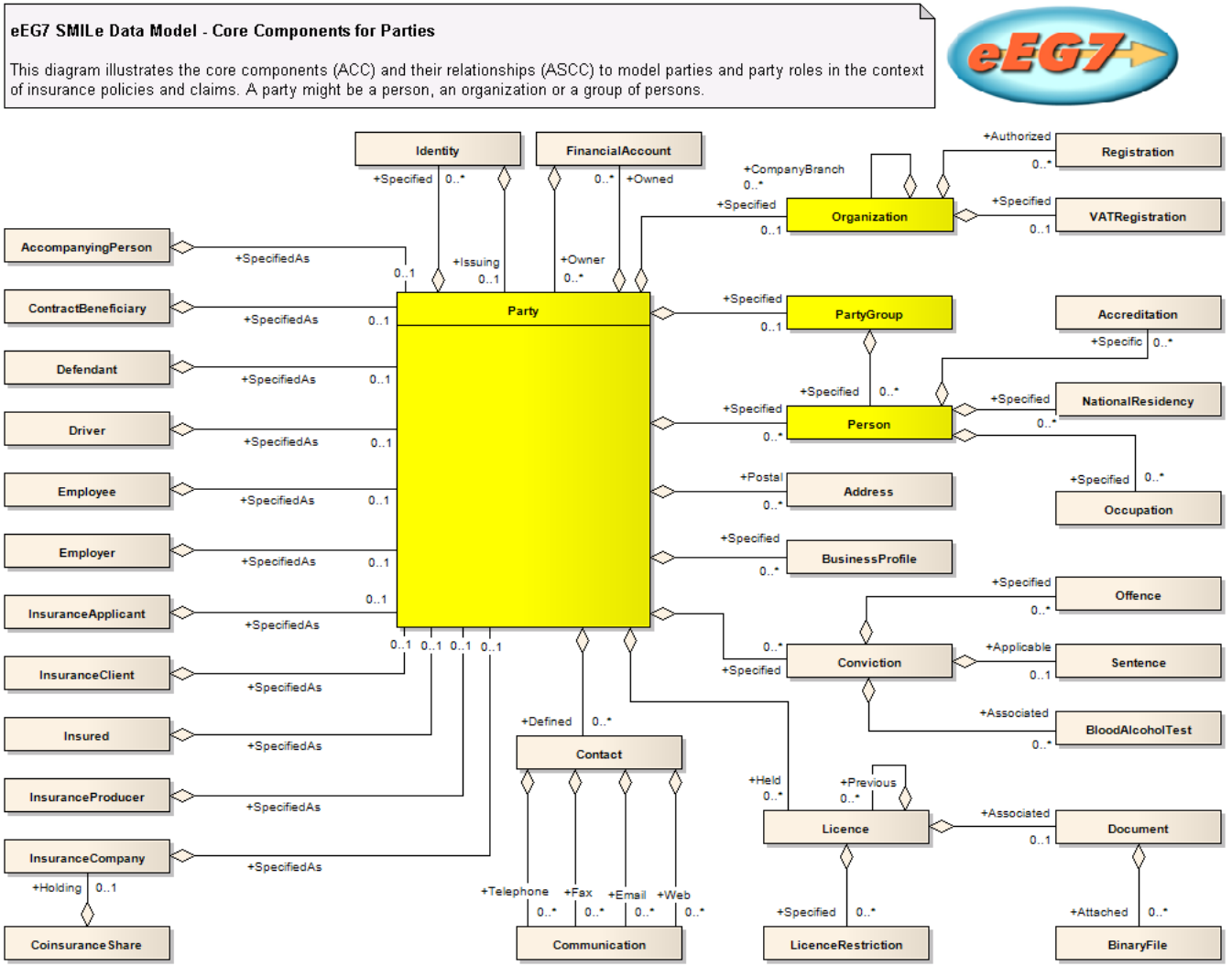


Party

Person

Organisation

Party Group



Property:

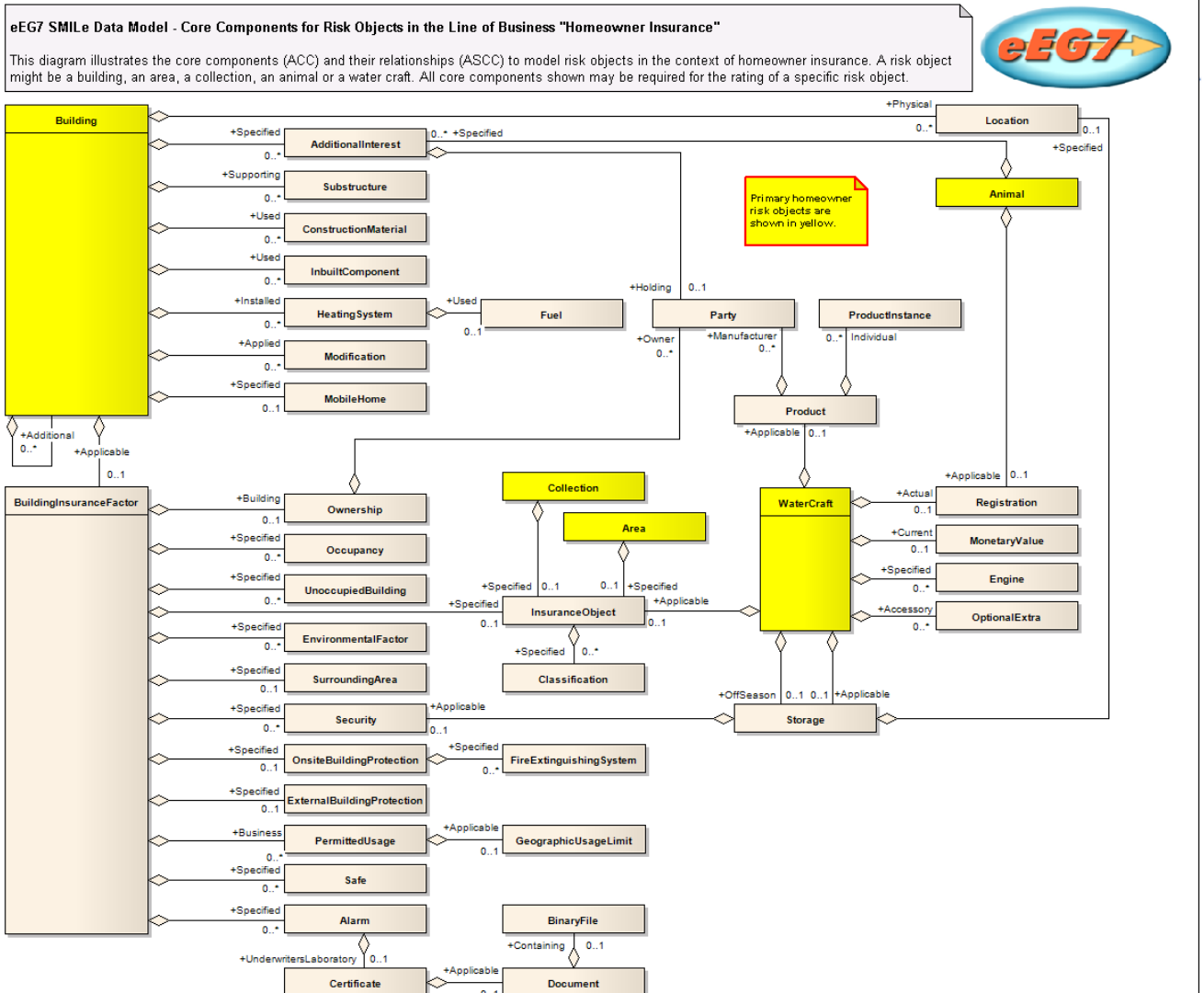
Building

Area

Collection

Water Craft

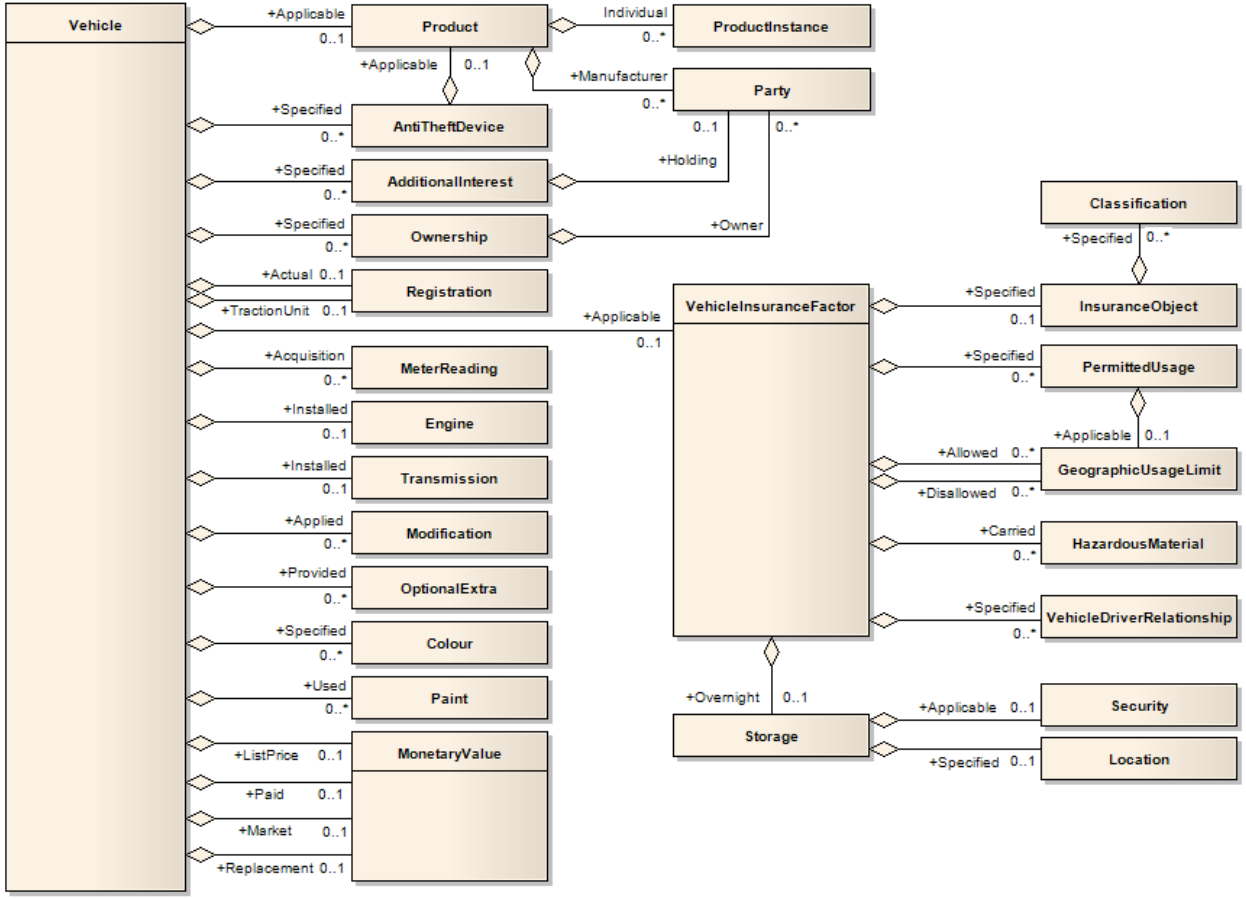
Animal



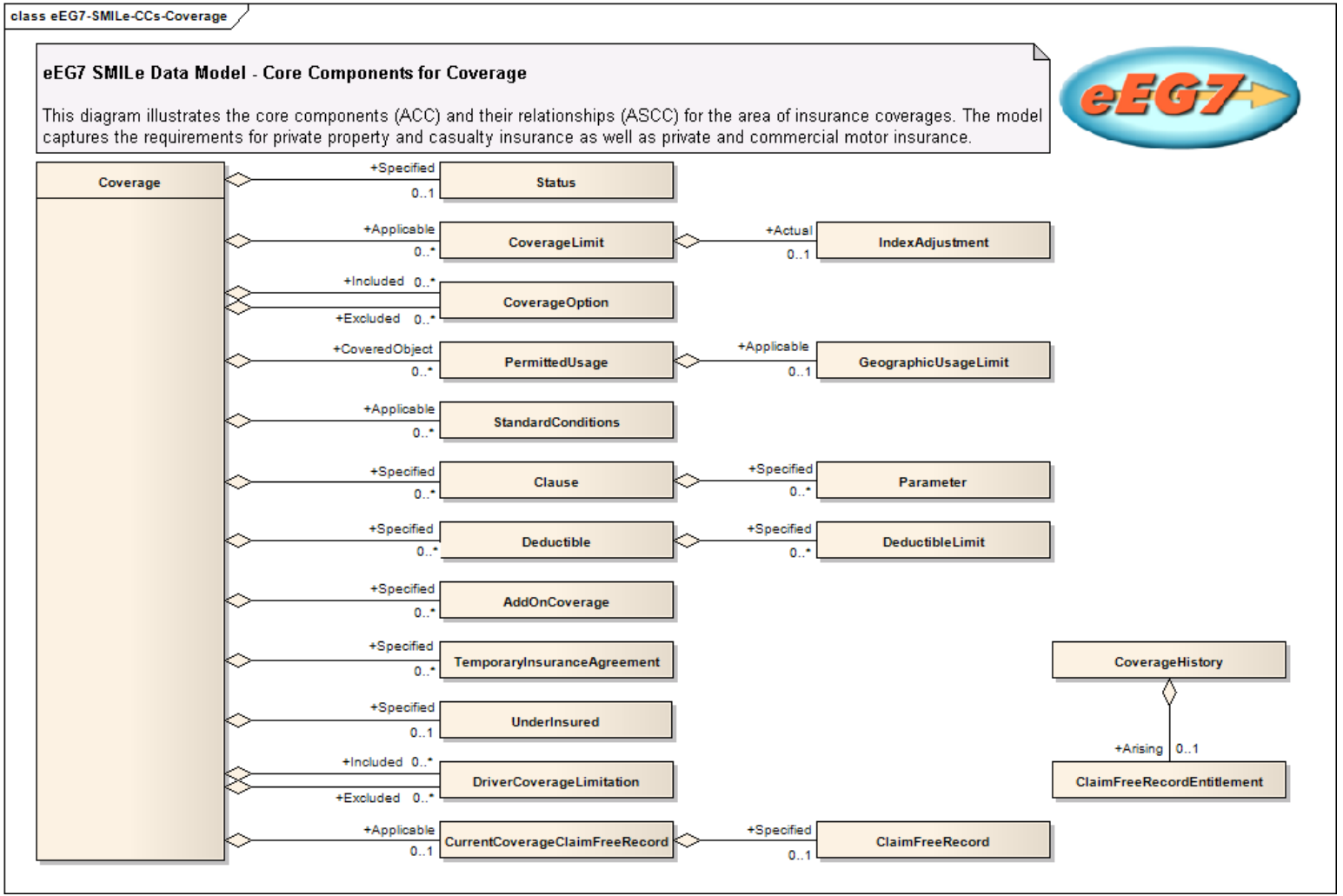
Vehicle

eEG7 SMILe Data Model - Core Components for Risk Objects in the Line of Business "Motor Insurance"

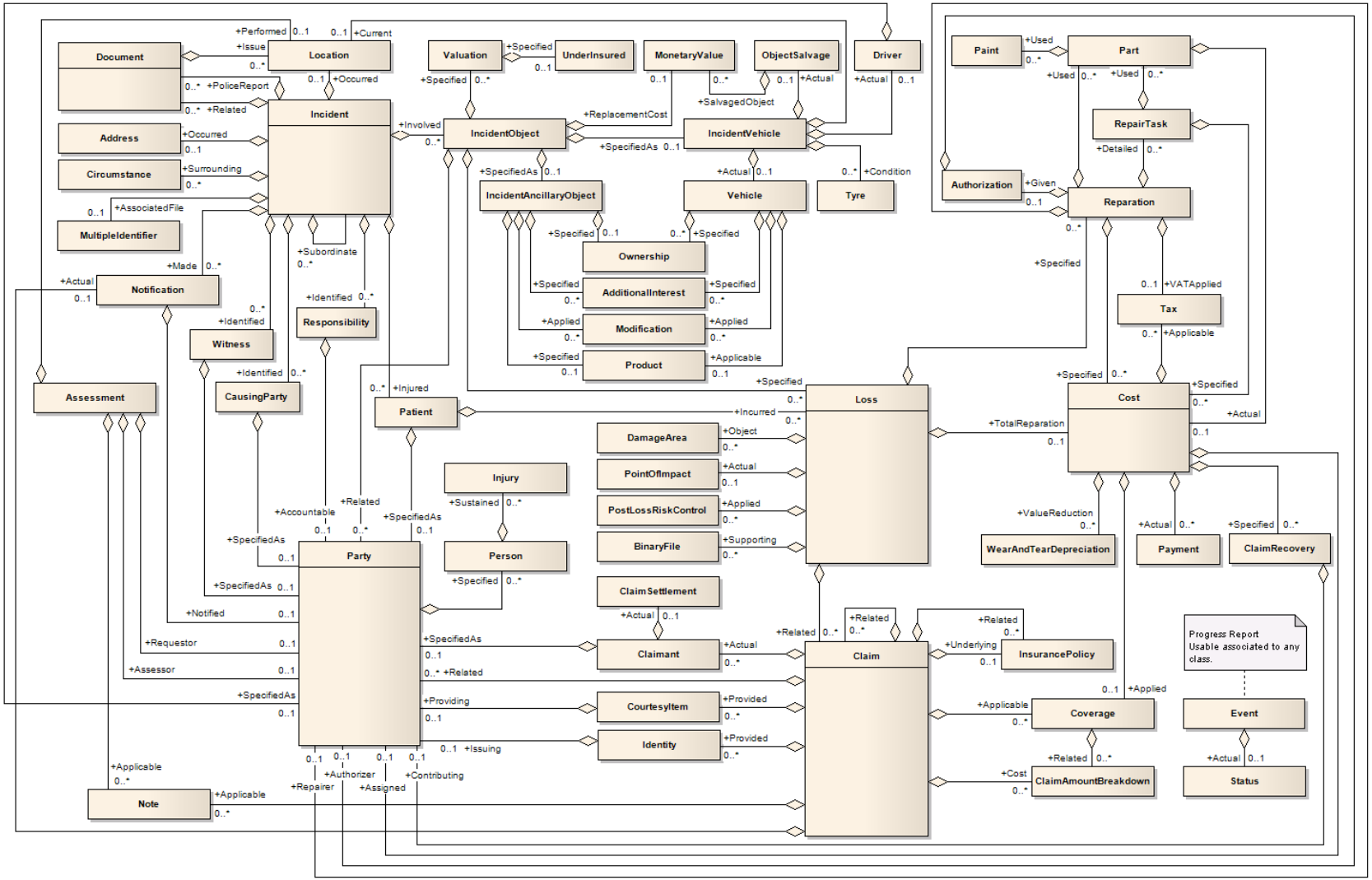
This diagram illustrates the core components (ACC) and their relationships (ASCC) to model risk objects in the context of motor insurance. A risk object is a vehicle which might be a car, a truck, a trailer, a bus, a motor cycle or a mobile home. All core components shown may be required for the rating of a specific risk object.



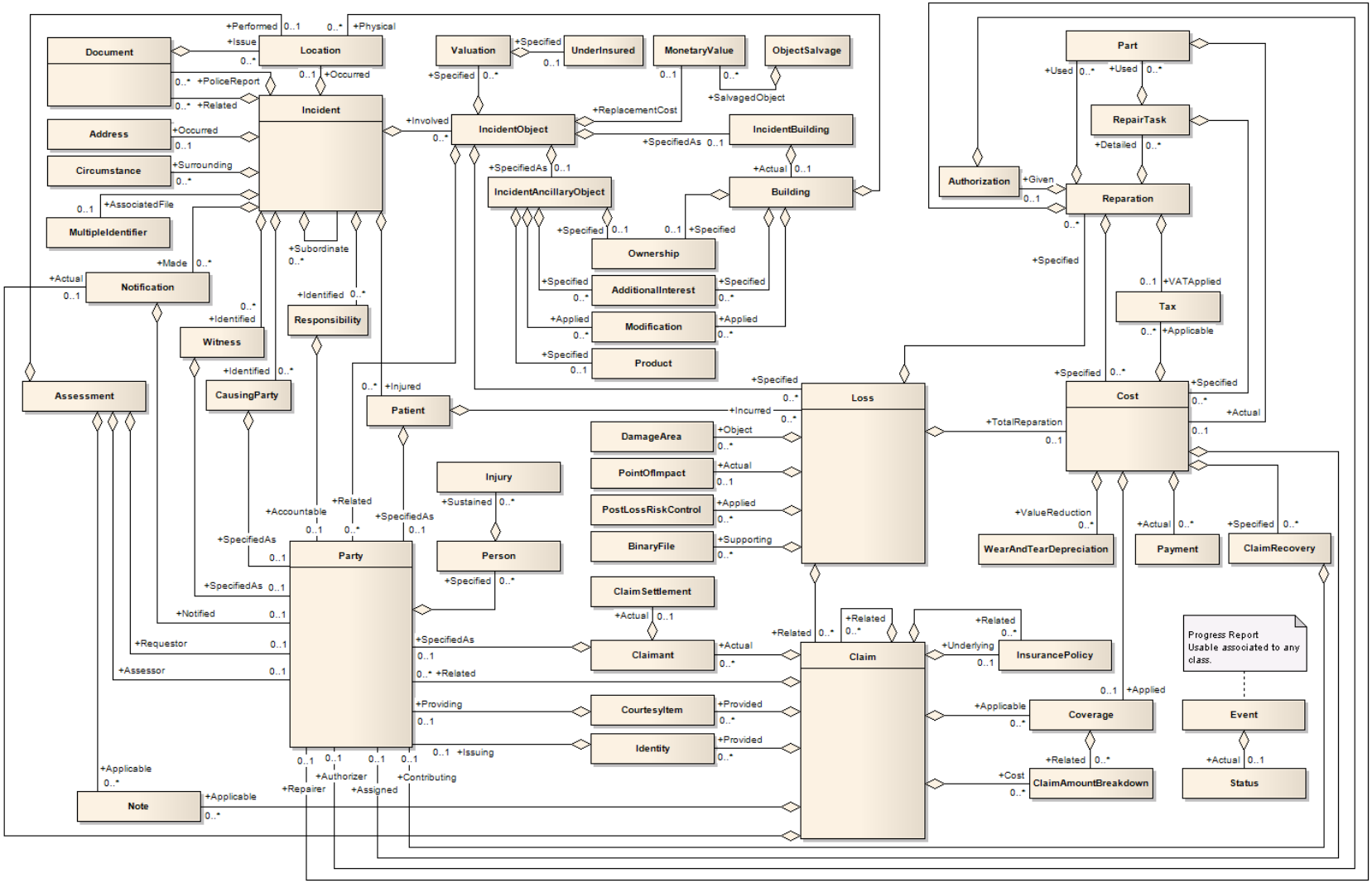
Coverage


class eEG7-SMILe-CCs-Coverage
eEG7 SMILe Data Model - Core Components for Coverage
This diagram illustrates the core components (ACC) and their relationships (ASCC) for the area of insurance coverages. The model captures the requirements for private property and casualty insurance as well as private and commercial motor insurance.
eEG7
Coverage
+Specified 0..1
Status
+Applicable 0..*
CoverageLimit
+Actual 0..1
IndexAdjustment
+Included 0..*
+Excluded 0..*
CoverageOption
+CoveredObject 0..*
PermittedUsage
+Applicable 0..1
GeographicUsageLimit
+Applicable 0..*
StandardConditions
+Specified 0..*
Clause
+Specified 0..*
Parameter
+Specified 0..*
Deductible
+Specified 0..*
DeductibleLimit
+Specified 0..*
AddOnCoverage
+Specified 0..*
TemporaryInsuranceAgreement
+Specified 0..1
UnderInsured
+Included 0..*
+Excluded 0..*
DriverCoverageLimitation
+Applicable 0..1
CurrentCoverageClaimFreeRecord
+Specified 0..1
ClaimFreeRecord
CoverageHistory
+Arising 0..1
ClaimFreeRecordEntitlement

Motor Incident Loss Claim



Property Incident Loss Claim



Insurance Domain Data Model

The Basis for CEN/TC 445 – And the Basis for Open Insurance ?

TC 445

- Insurance Domain Data Model includes:
  - P&C private lines (including some commercial data and some life data)
  - Motor insurance (private and commercial)
  - Policy, person, risk, coverage and loss/claim data
- P&C commercial lines not completed / life, pension, health lines missing.
- The Insurance Domain Data Model is the basis for standards developed by CEN/TC 445.
- Includes many of the data elements for use cases under discussion for Open Insurance.

TC 445

UN/CEFACT Insurance Domain Data Model as the Basis for a European Interoperability Standard supporting “Open Insurance”

Insurance Domain Data Model
The Basis for a European Interoperability

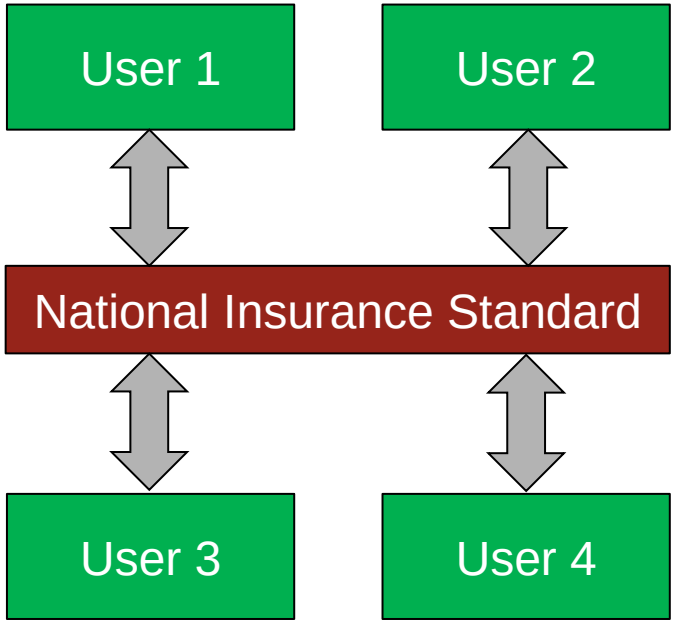
TC 445

- CEN Working Group eEG7 developed the Insurance Domain Data Model as a UN/CEFACT standardisation project from 2006 to 2014.
- Participants of national insurance standards organisations in CEN Working Group eEG7:
  - BE: TELEBIB2
  - DE: BiPRO
  - NL: SIVI
  - UK: POLARIS
  - UK: ACORD – London market
  - US: ACORD – US market
  - CA: CSIO – Canadian insurance standards
- Requirements of all these national insurance standards already incorporated.
- Mapping through converter to and from national standards possible.

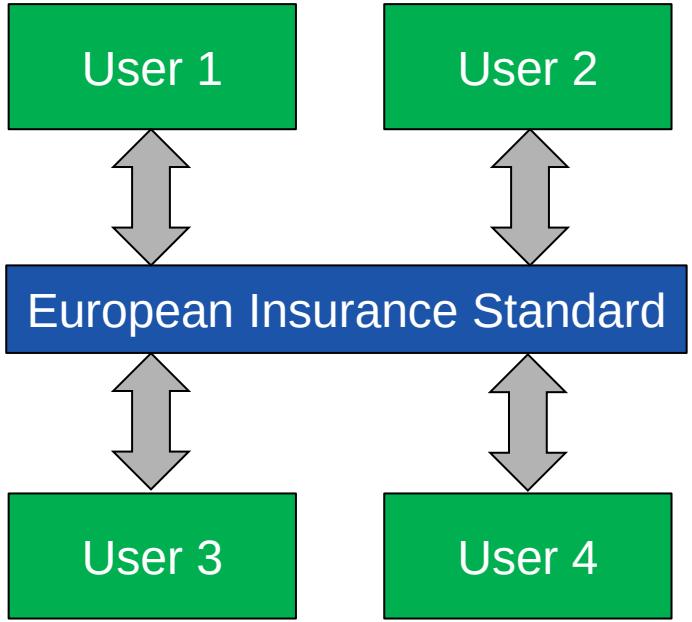
Open Insurance Use Cases
Only national communication required

TC 445

National standard existing



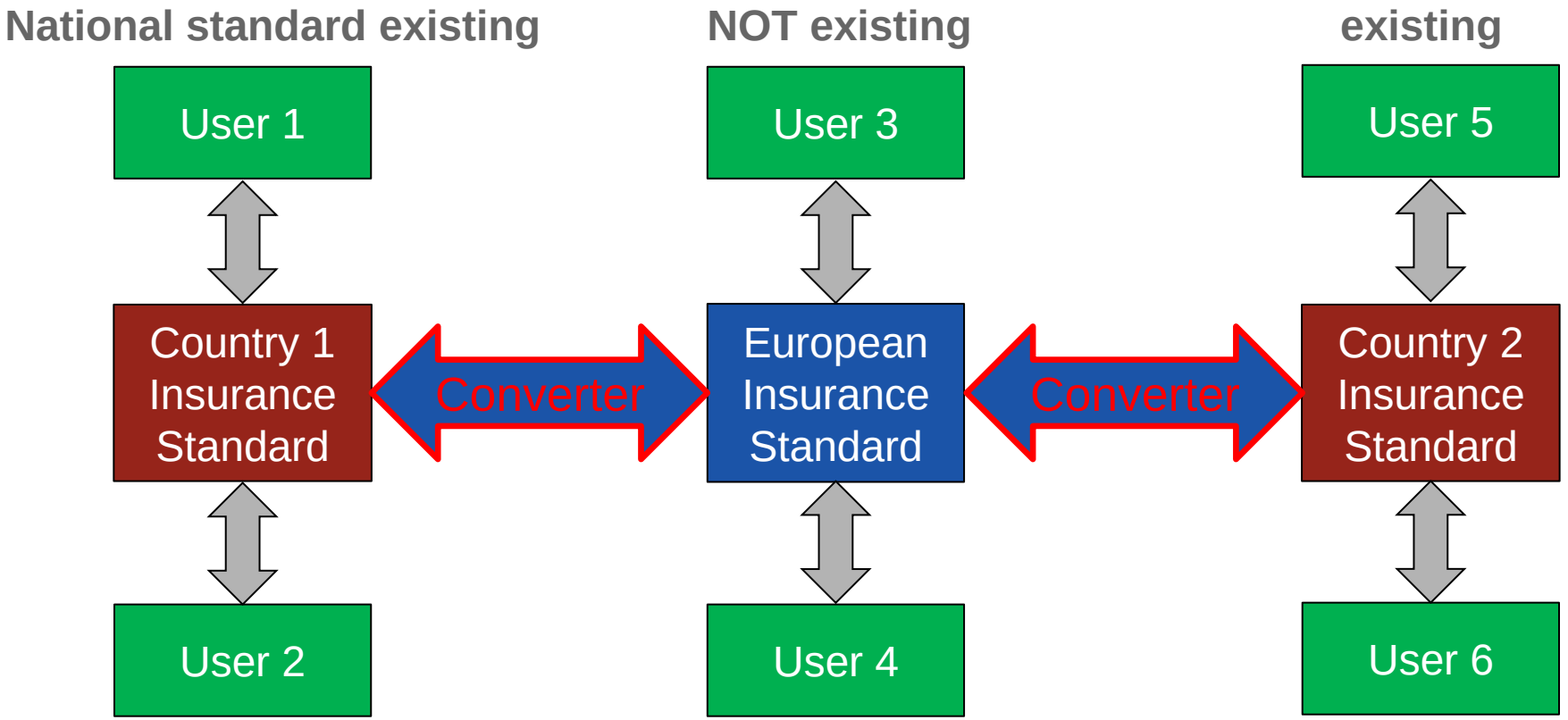
National standard NOT existing



Open Insurance Use Cases

National and European communication required

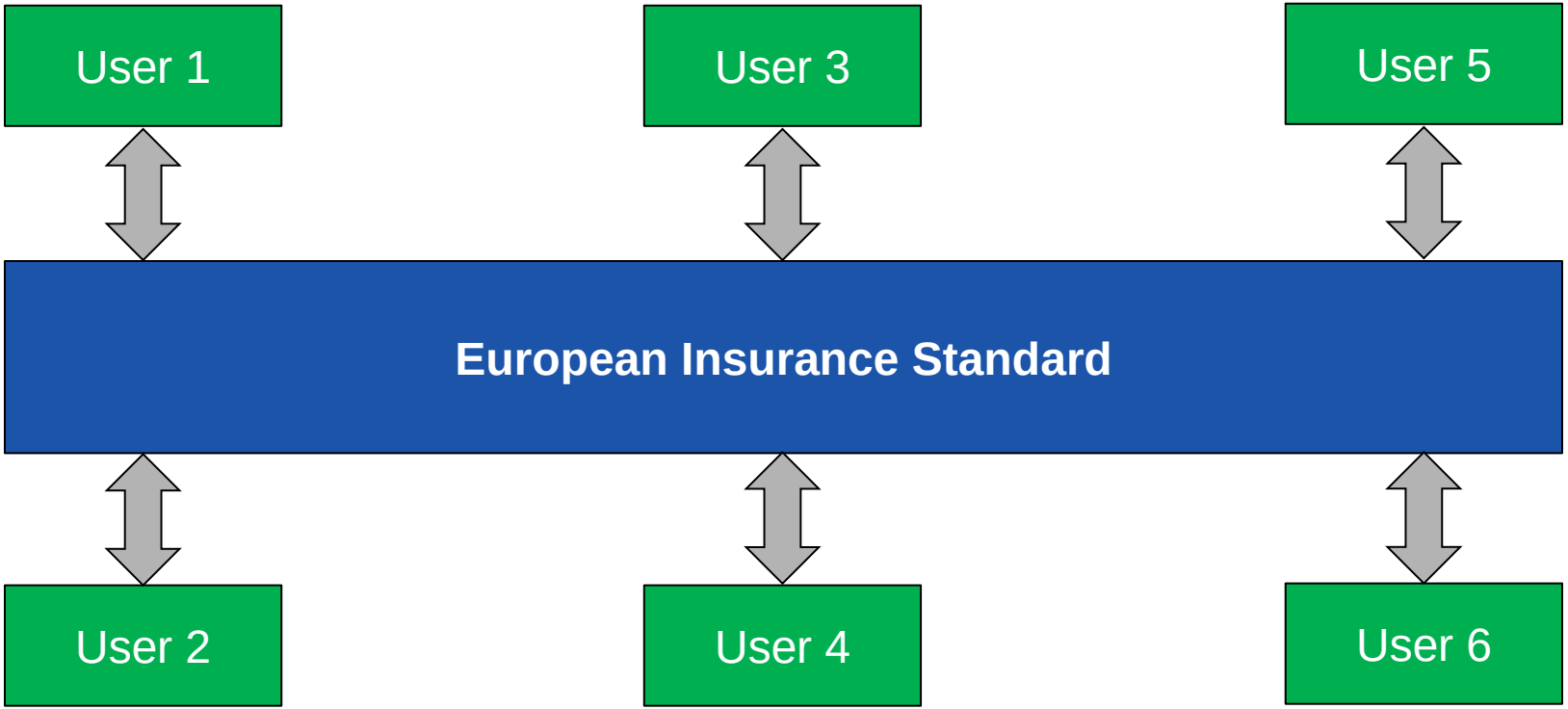
TC 445



Open Insurance Use Cases

National standards for a specific use case NOT existing

TC 445



Converter for European Interoperability Standard
to and from the national standards

TC 445

- Core Component: Semantic concepts very similar in all national standards.
- Basic Core Component: Many characteristics of Core Components similar with some country-specific characteristics.
- Main mapping challenge: Code value lists for many Basic Core Components:
  - Examples: insurance lines of business, coverage types, code lists for risk types.
  - Effort needed for a concrete mapping between code value lists.
  - Support by UN/CEFACT Code Data Types: Code + Code List + Code List Agency.

European Interoperability Standard
supporting “Open Insurance”

TC 445

- Insurance Domain Data Model based on UN/CEFACT Core Components Library as a basis for European data standardisation.
- Standardisation of process specifications on demand depending on use case requirements supporting Open Insurance.
- Mapping through converter to and from national standards possible.

European standard with a data model and a process specification defines the business level or semantic level

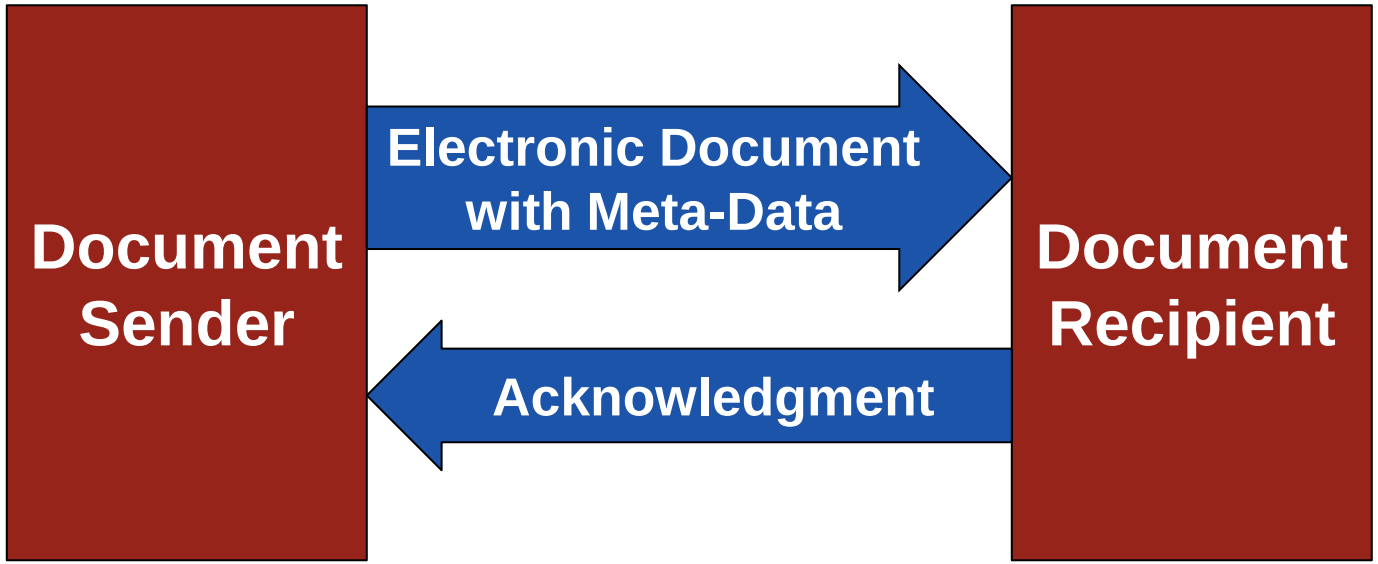
TC 445

Standardisation of processes and data on the business and technical level

CEN/TC 445 European Standard EN 17419-1

Transfer of Electronic Documents in the Insurance Industry

TC 445



Scope of the European Standard EN 17419-1
Transfer of Electronic Documents in the Insurance Industry

TC 445

The standard defines the transfer of electronic documents between stakeholders in the insurance industry (for example between insurer and intermediary).

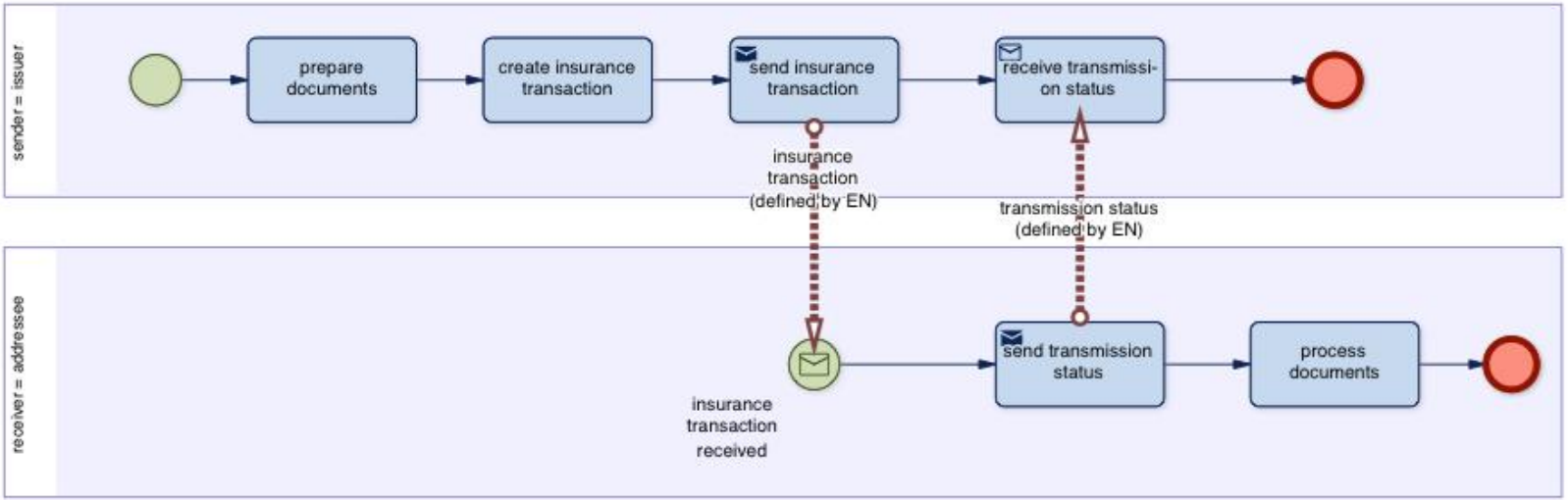
The standard specifies:

- the semantic process for the transfer of documents (for example insurance policy, claim notification, correspondence) that may be transferred as an attached file and
- a limited number of meta data describing the document (for example type of document, identification of insurer, intermediary and client, policy number, claim number).

Process Model specified in EN 17419-1

Transfer of Electronic Documents in the Insurance Industry

TC 445



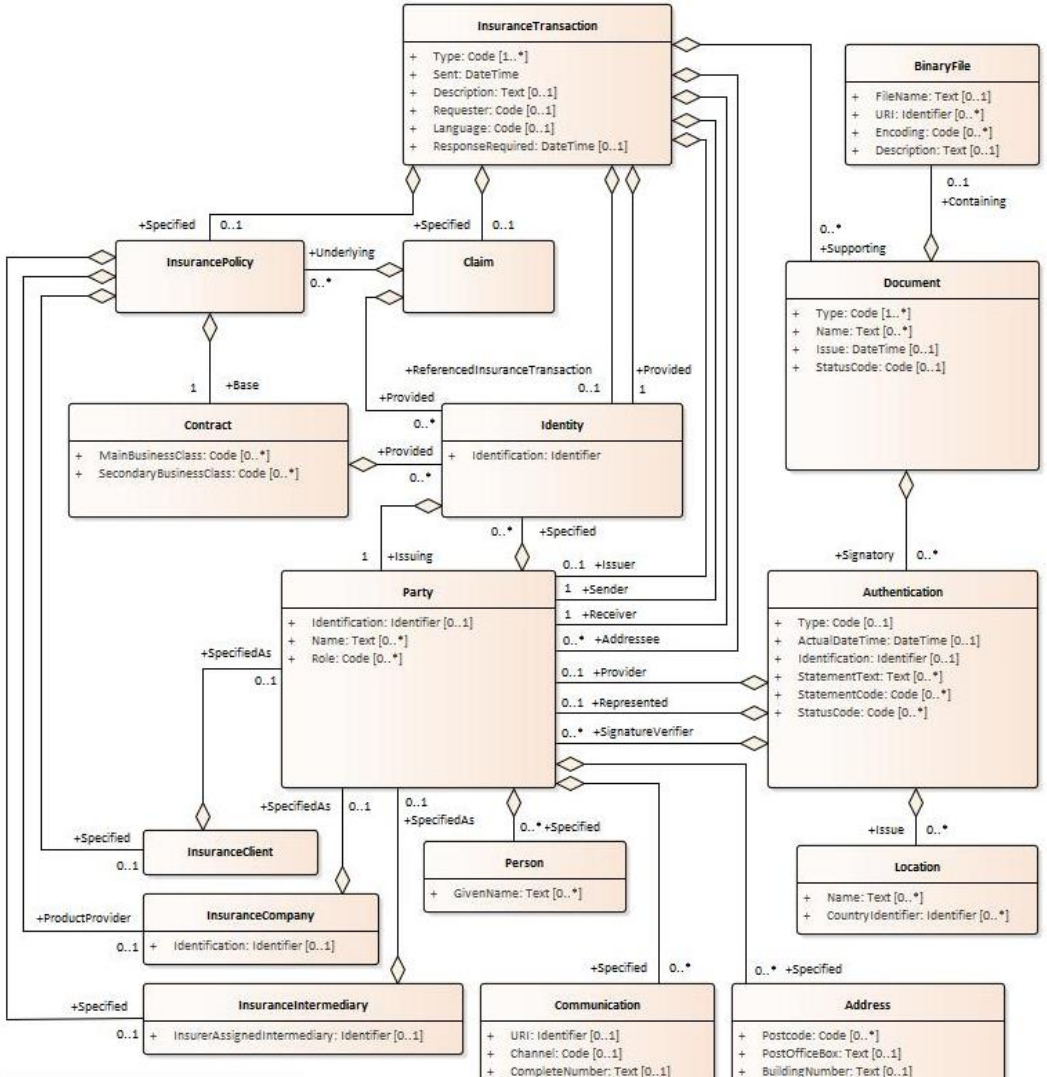
One of the scenarios specified in EN 17419-1 where:

- Sender of the transfer is the issuer of the document.
- Receiver of the transfer is the addressee of the document.

Data model specified in EN 17419-1

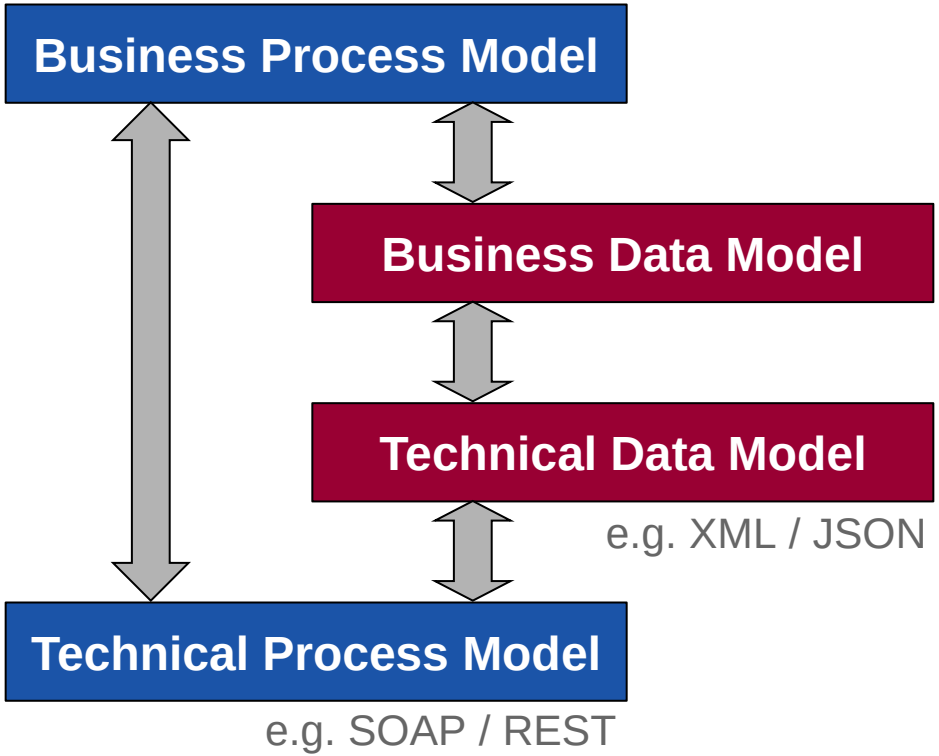
Transfer of Electronic Documents in the Insurance Industry

Data model is based on the Insurance Domain Data Model and the UN/CEFACT Core Component Library



Levels of Process and Data Standardisation

TC 445



Business Level
=
Semantics

Technical Level
=
Syntax
=
Implementation

Standards for Transfer of Electronic Documents

TC 445

Business Level: CEN/EN 17419-1 - Part 1: Process and Data Model

- Implementation-independent specification of process and data model

Technical Level: CEN/TR 17419-2 - Part 2: Implementation of EN 17419-1 in Open API 3.0 specification

- Technical Report as implementation guide for the transfer of electronic documents implemented in micro service technology with REST/JSON
- Based on Open API 3.0 specification of the OpenAPI Initiative, an open-source collaboration project of the Linux Foundation

CEN/TR 17419-2
Implementation of EN 17419-1 in Open API 3.0 Specification

Open API is the state-of-the-art specification for micro service technology enabled for automatic code generation for API services.

```yaml
openapi: 3.0.3
info:
  description: |
    This specification describes a sample REST interface of the processes specified in the European st

    The European standard (EN 17419-1:2020) itself defines the processes and the structure (data model

    This API description implements the EN17419-1 as a synchronous transmission process (post).
    The technical aknowledgement therefore is provided in the transmitInsuranceTransaction response.

    Last edited on 25th, November 2020
  version: '1.1.7'
  contact:
    name: CEN TC445
    url: http://tc445.info
    email: info@tc445.info
  title: TOED - Transfer Of Electronic Documents - Technical Report EN17419-2
servers:
  - description: 'localhost:8080'
    url: http://localhost:8080/cen-tc445/TOED/V1
paths:
  /transmitInsuranceTransaction:
    post:
      tags:
        - Insurance Transaction
      summary: |
        Transmits an Insurance Transaction object with all relevant content (meta data and link to bin
      operationId: transmitInsuranceTransaction
      responses:
        '200':
          description: |
            successful operation. The details of the transmission are returned in the transmission sta
          content:
            application/json:
              schema:
                $ref: '#/components/schemas/Event'
              examples:
                eventSuccessfullExample:
                  $ref: '#/components/examples/eventSuccessfullExample'
        '400':
          description: Invalid Insurance Transaction
          content:
```

Standardisation on the Business and Technical Level

TC 445

Argument to avoid standardisation on the technical level:

- Data communication technology is rapidly evolving and technological progress should not be slowed down.

➢ If implementation in a different or new technology is needed, an additional technical standard for the same business standard could be developed and published.

Efficient and cost-effective communication with “plug-and-play” requires technical standards, since only the technical interfaces enable and guarantee digital interoperability.

TC 445

Standardisation
as an important Prerequisite
for a functioning Digital Insurance Market

Standardisation is import for “Open Insurance”

TC 445

- Only well accepted open standards ensure a “level playing field” for all market participants, especially for SMEs, and protect consumers from lock-in effects.
- Standardisation of processes and data must take place on the business and technical level to guarantee “plug-and-play” usability.
- European interoperability standard to be developed by the European standardisation committee CEN/TC 445 and based on established national standards.
- European interoperability standard based on the Insurance Domain Data Model on the basis of the UN/CEFACT Core Components Library.

TC 445

More information

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Chair CEN/TC 445

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