



Judicial Information Service  
*Ministry of Justice*

# Management of Metadata and XML Schemas for e-Justice

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## Content

- a. Background and Context
- b. Challenges
- c. Approach
- d. How it works
- e. Current Status
- f. Future Plans



# Netherlands Ministry of Security and Justice

The largest Ministry in the Netherlands, covering

- Central Policy and Staff Department
- Custodial Institutions Agency
- Central Fine Collection Agency
- Child Care and Protection Agency
- Fire Brigade
- Immigration and Naturalization Department
- Judicial Agency for Testing, Integrity and Screening
- *Judicial Information Service*
- The Judiciary
- Netherlands Forensic Institute
- Police
- Public Prosecution Service
- Public Order and Safety Inspectorate
- Research and Documentation Centre

A diverse community with a wide range of responsibilities





# History

- Initiative to digitize and exchange criminal justice data to improve consistency and efficiency of criminal justice system
- Metadata management closely linked to document exchange and engineering

## Chinese Gang Is Suspected in Smuggling Into Dover : A Traffic in Humans

By **Tom Buerkle** International Herald Tribune

Wednesday, June 21, 2000

The death of 58 Chinese immigrants aboard a tomato truck at the British port of Dover was just the latest and most gruesome tip of the growing traffic in illegal immigrants by organized crime networks, European authorities said Tuesday.

The British and Dutch police on Tuesday interrogated the driver of the truck, who was detained in Dover on suspicion of manslaughter, and said they believed that one of the Chinese criminal gangs known as "snakeheads" had organized the passage of the immigrants from Fujian Province in southern China, charging an estimated £15,000 (\$22,680) a person.

Meanwhile, the police in the Dutch city of Rotterdam late Tuesday arrested another person in connection with the deaths. Prosecutors declined to name the suspect but earlier had said they were seeking an engineer, Arjen van

der Spek, 24, who had registered the truck only last week.

Two Dover survivors, in a hospital in nearby Canterbury, began telling the police about their ordeal. Speaking through interpreters, they described how the passengers had screamed and banged on the doors of the truck and how their own desperation mounted as their companions began to pass out and die, apparently of suffocation.

"This was clearly a horrific death," said a detective superintendent, Dennis McGookin.

As shocking as the incident was, there appeared to be no shortage of people prepared to run the risks in an effort to enter Europe illegally.

An estimated 500,000 people enter the 15-nation European Union illegally

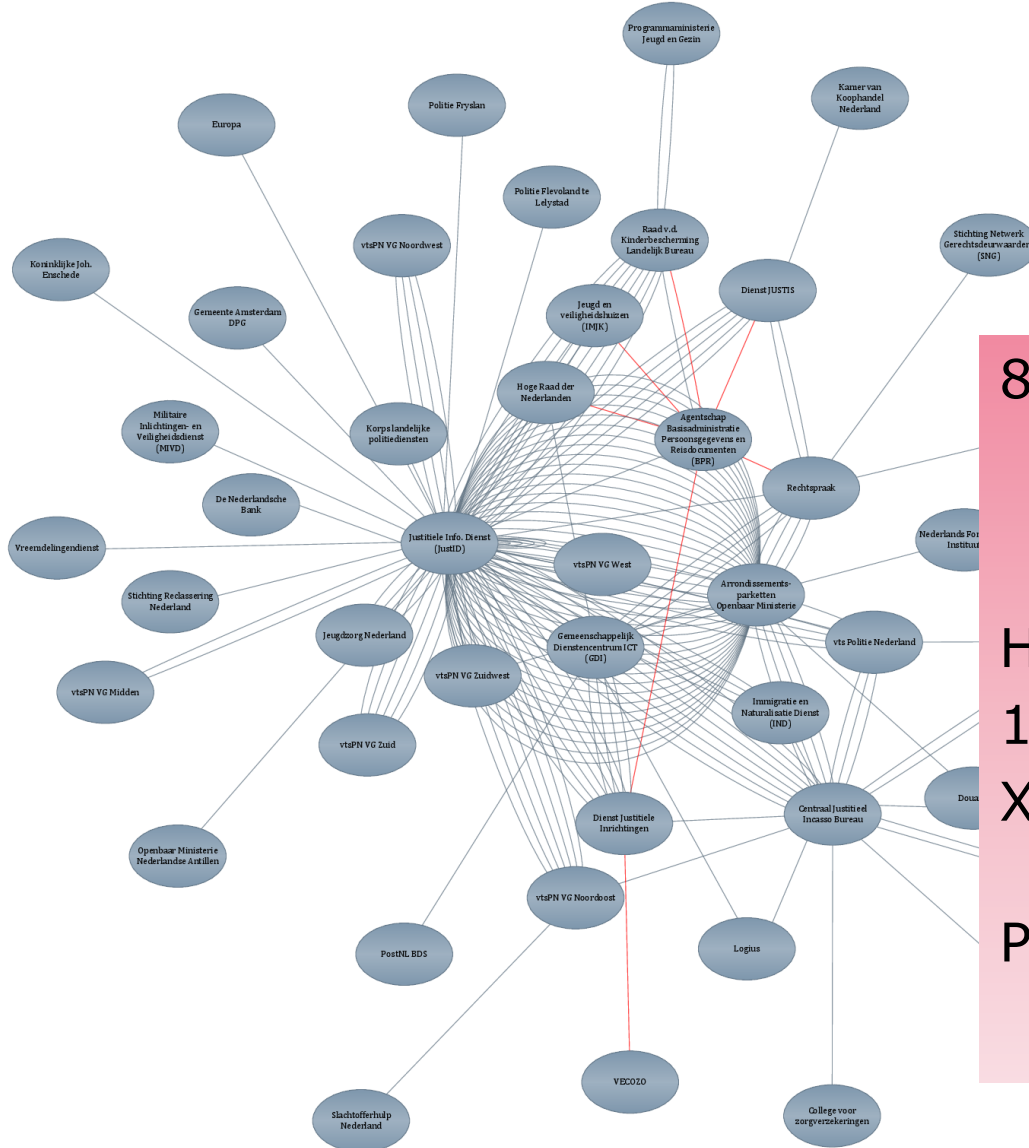
each year, representing 10 percent of a total of 5 million immigrants who enter annually for various reasons, according to a report by the EU police agency.

With growing numbers of immigrants coming from places like the Ukraine, the influx is offsetting a decline in immigrants from the former Soviet Union, a problem shown in a report by the EU police agency.

"This will stay in the news for a long time," said Christian Braet, a spokesman for the EU police agency.

The breadth of the problem was underscored by a report announced Tuesday by the EU police agency that an estimated 500,000 people enter the 15-nation European Union illegally each year, representing 10 percent of a total of 5 million immigrants who enter annually for various reasons, according to a report by the EU police agency.

## EBV Ketenkaart



80 endpoints connecting organizations inside and outside Security and Justice

Hundreds of collaborations

150000 messages per day

XML documents based on e-Justice schemas

Production since 2005



# Business Processes and Services in Production

- Criminal case records exchange
  - Investigation > Prosecution > Trial > Detention > Re-Socialization
- Case management
- Domain registries and alerting systems
  - Criminals, children at risk, lawyers
- National Base registries
  - Citizens, businesses, buildings, locations, vehicles
- Identity Registration and Verification and biometrics
- International exchanges
  - ECRIS, E-CODEX, legal assistance ...
- Electronic Archiving and postal handling
- Exchange of management information (data warehousing)
- ...



# Metadata Challenges

Metadata affects a diverse range of stakeholders

- Information analysts, legal and other domain experts, IT architects, designers and developers, end users

Metadata can have cross-domain and cross-border aspects

- Base registries, social services, care professionals, tax authorities etc.

Metadata underlies a range of artifacts

- Information models, form templates, document schemas, documentation, code tables

Metadata supports a diverse range of applications domains

- Information systems, databases, user interfaces, document exchange, management reporting



## Approach to Metadata

Leverage concepts, methodologies, technologies from e-business standardization:

- UN/CEFACT Core Components Technical Specification (CCTS)
- OASIS Universal Business Language (UBL)

Manage metadata and XML schemas consistently

- XSDs, data dictionaries, documentation always in sync
- CCTS adopted for Netherlands Criminal Justice in 2005

Lessons learned leading to increased sophistication

- Adding a CC abstraction layer
- Support for concept of XSD “profiles”
- UN/CEFACT XML NDR
- Domains

Simplified notion of “context”, limited to business process

Custom tooling: the Metadata Workbench



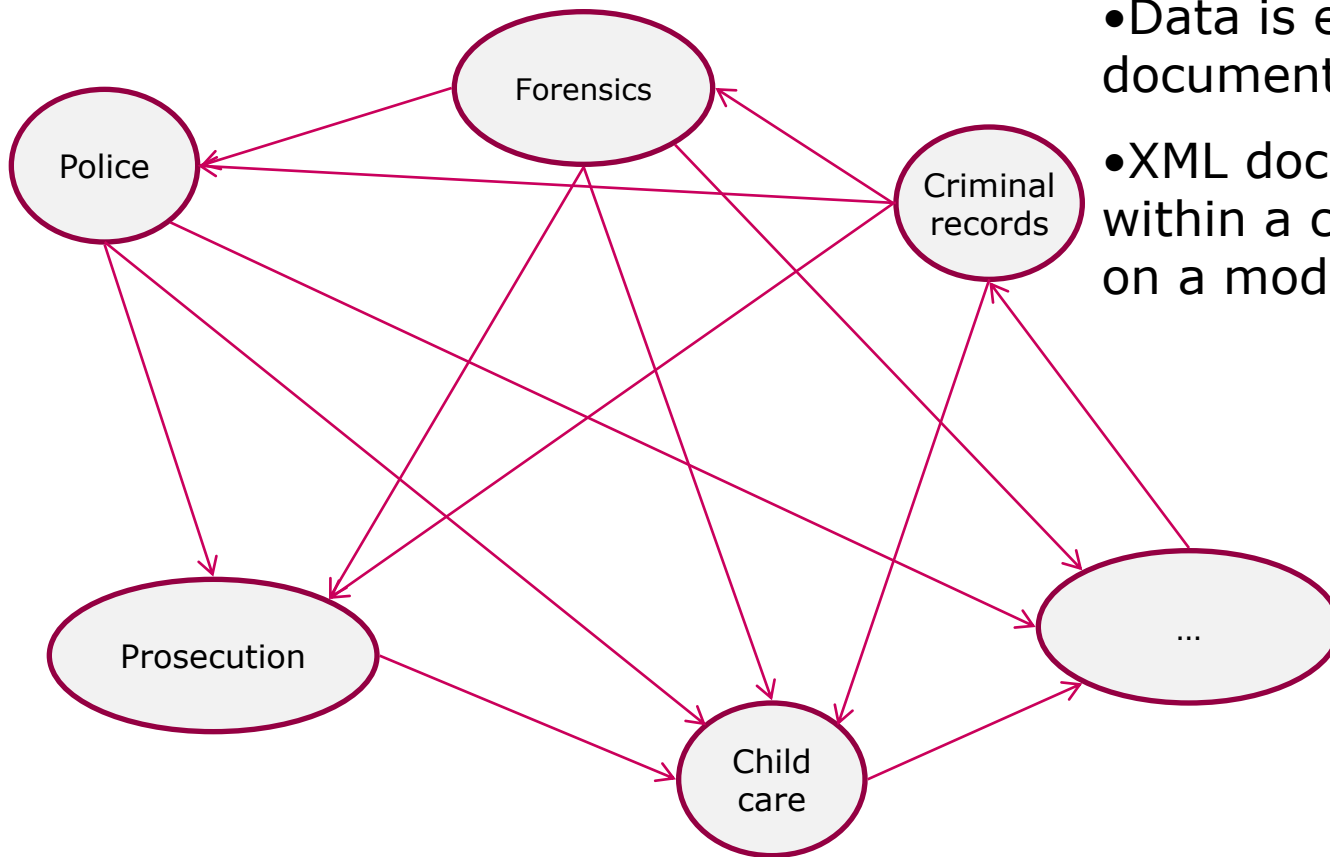


# Data exchange e-Justice – initial approach

- Data is exchanged in XML documents
- XML documents are designed within a context, mostly based on a model

*example contexts:*

- *case transfer*
- *prisoners transfer*
- *invoicing*

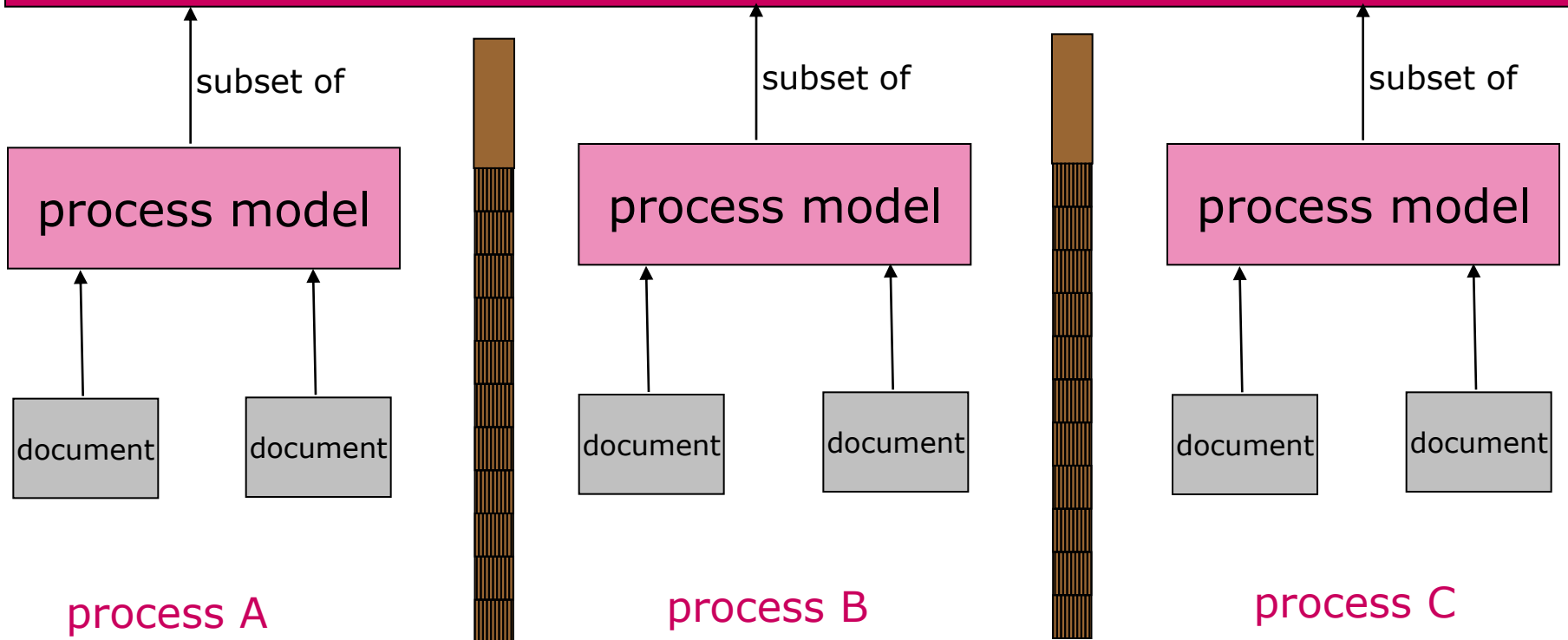




# Data exchange e-Justice

- Processes were designed separately  
> risk: data modelled in different ways

## Generic model





# Metadata Workbench

- We developed the Metadata Workbench:
  - A CCTS implementation
  - Generic and context-specific models
  - Document specification
- Characteristics:
  - Consistent definitions, syntax and NDR across all levels
  - Impact analysis
  - Fast XML Schema export



*example: 'Case':*

## Core Components

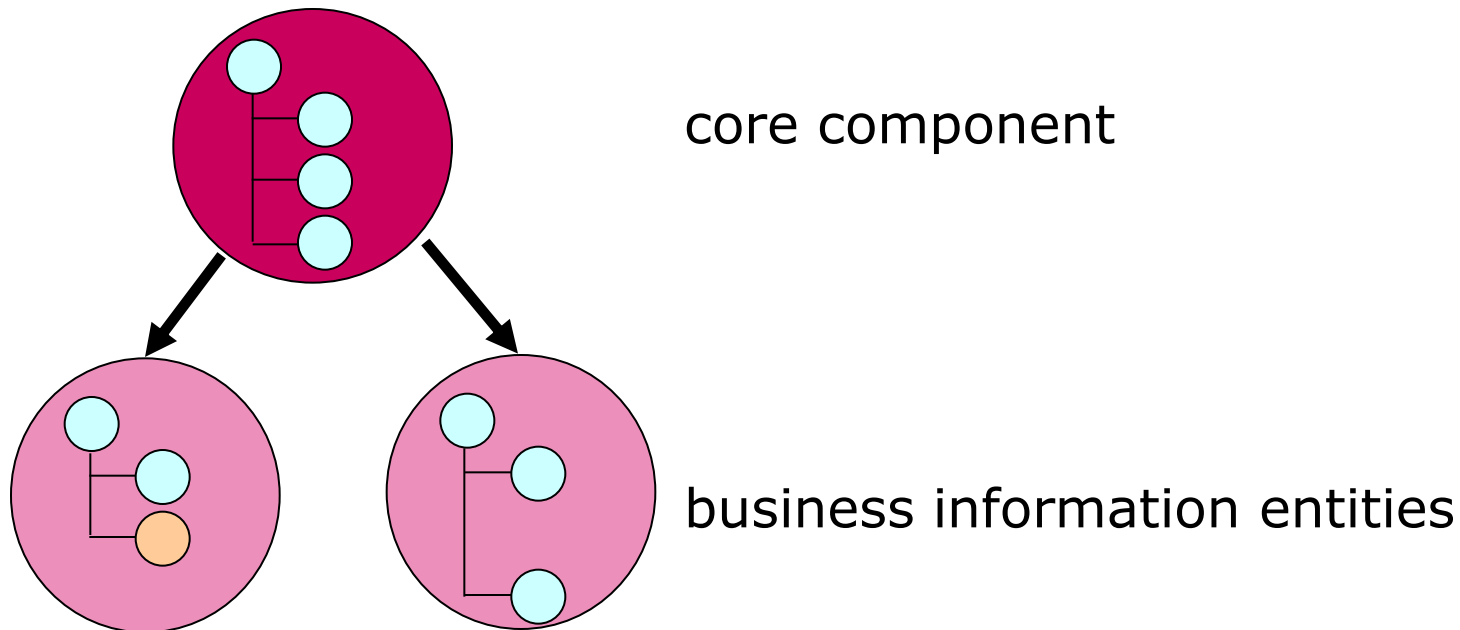
- Core components library (generic model)
- Syntax and technology neutral
- Components contain all attributes
- Maintained by user council
- We introduced domains

Lib	Property Term
▶ folder jus	Request
▶ folder jus	Identification
document jus	Type Of Case
▶ folder jus	Filing
▶ folder jus	Court
▶ folder jus	Jurisdiction
▶ folder jus	Claim
▶ folder jus	Offence
▶ folder jus	Decision
▶ folder jus	Order
▶ folder jus	Involved Party
▶ folder jus	Case
document jus	Type Of Procedure
document jus	Description
document jus	Name
document jus	Type Of Proceedings



# Business Information Entities

- Context-specific model: a subset of the generic model
- Customized for business context
- Customize components by restriction



# Example



## 'Case'

Lib	Property Term
▶ jus	Request
▶ jus	Identification
▢ jus	Type Of Case
▶ jus	Filing
▶ jus	Court
▶ jus	Jurisdiction
▶ jus	Claim
▶ jus	Offence
▶ jus	Decision
▶ jus	Order
▶ jus	Involved Party
▶ jus	Case
▢ jus	Type Of Procedure
▢ jus	Description
▢ jus	Name
▢ jus	Type Of Proceedings

Lib	Property Term
▶ jus	Identification
▶ jus	(Refers To)Identification
▶ jus	(Issuing Authority)Identification
▶ jus	(Validating Authority)Identification
▶ jus	(Validating Authority Referenced)Case
▶ jus	Order
▶ jus	Request
▶ jus	Involved Party
▢ jus	Type Of Proceedings
▶ jus	Offence

European  
Order for  
Payment

Lib	Property Term
▶ jus	Identification
▢ jus	Description
▢ jus	Name
▶ jus	Decision
▶ jus	Involved Party

Financial  
Penalties

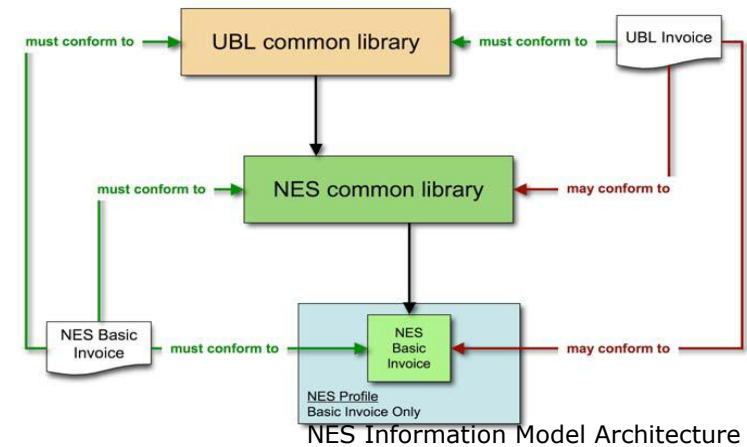
Core Components

Business Information Entities



# Document specification

- Data is sent in XML messages
- To validate we use XML Schemas
- Schemas are specified by:
  - adding Business Information Entities
  - setting restrictions



Northern European Subset

## Business Documents

Context	Name
▼ invoice	Cross Industry Invoice (cii4)
invoice	Cross Industry Invoice (cii4_1)

## Business Document Properties

Library	Property Term	Representation	Ca...
▼ ccl	CI_ Exchanged Document Cor	CI_ Exchanged Document Cor	0..1
ccl	(Specified) Transaction	Identifier	0..1
▼ ccl	(Business Process) Specific	(CI_ Document Context) Par	0..*
ccl	Identification	Identifier	0..1
▼ ccl	Specified	(CI_ Document) Version	0..1
ccl	Identification	Identifier	0..1
ccl	Name	Text	0..1

Business Document Property

Property **Identification**

Cardinality Min 0 Max 1

Niltable

Edit



# Deliverables

Documentation (HTML / PDF)

XML Schemas

RDF (experimental)

User: Pim Keizer (p.keizer@justid.nl) Process: OM Afdoening (omaf)

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Core Components Business Information Entities Codelists Qualified Datatypes Business Documents Export

### Libraries

Pr...	Name
omaf	OM Afdoening
gba	GBA
ivk	IVK
srk	Master SRK 2.2

### ACC's

Pr...	Object Class Term
gba	AANummer Verwijzing
gba	Administratieve Verantwoor
gba	Adres
gba	Adreshouding
gba	Akte
gba	Blokking
gba	Document
gba	Document Indicatie
gba	Emigratie
gba	Enkelvoudige BIS Bevraging
gba	Familierechtelijke Betrekking
gba	Geboorte
gba	Geldigheid
gba	Geslacht
gba	Gezagsverhouding
gba	Huwelijk Geregistreerd Part
gba	Identificatienummers
gba	Immigratie

### ACC Properties

Lib	Property Term	Representation	Cardinality
gba	Registergemeente	Code	1..1
gba	Aktenummer	Identifier	1..1

### Aggregate Core Component Property

Property Term: Aktenummer

Representation Term: Identifier (Basic Core Component)

Cardinality: Min 1 Max 1  unbounded

Version:

Definition: Een aanduiding van de akte die is opgenomen in de registers van de burgerlijke stand in Nederland. De eerste drie posities van het aktenummer dienen conform Tabel 39, Tabel Akteaanduiding te zijn. De laatste 4 posities bevatten

Origin of Definition:

Population:

Quality:

Comments:

Analyst Notes:

Deprecated: false

Edit





## E-Codex

- e-Justice communication via Online Data Exchange
- Business documents designed using the Metadata Workbench
  - Building block **e-Document** (standards and semantics)
- Adopted Joinup Core Concepts  
*Person, Location ...*
- Member-states create a mapping of the concepts to their own datamodel.

ec	European Core
ACC's	
Pr...	Object Class Term
ec	Address
ec	Agent
ec	Geometry
ec	Identifier
ec	Jurisdiction
ec	Legal Entity
ec	Licence
ec	Location
ec	Person



## Future plans

- Add function of collaboration management
  - Manage business processes, transactions and their collaborations linked to the metadata.
- Integration with linked data
- Connect to external repositories like the core concepts of Joinup.
- Open source / cloud deployment of the tooling ?



# Contact

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