Chubb Enterprise Ontology · 2.0.0-draft · 2026-10-26

Enterprise Claim Ontology

Ontology Specialist Guide – fixed model, conceptual axioms and open items

Audience: ontology engineers and data architects who maintain the enterprise ontology and review department extensions.

Scope: the enterprise ontology generated from the CLM claims ontology (`ontology-build-v2/enterprise/`): 198 classes, 1524 properties, 25 modules, 69 code lists, 23 SHACL files, and the crosswalk of every CLM term.

Companion documents: the SME Consent Pack (same diagrams in business language, with a consent box per concept) and the status workbook `workbook/Chubb_Claim_Enterprise_Ontology_Status.xlsx` (every term's fix status, open items, enterprise claim components, extension guide).

Every diagram in this guide is generated from the built ontology and each relationship drawn is checked against the declared domain and range before rendering (code/review_diagrams.py). Standards evidence is quoted verbatim from the evidence register (alignment/evidence/*.json); sources that are member-only (ACORD, parts of IBM IIW) are marked “inferred – not verified”.

1. Status at a glance

1,949 CLM terms fixed or already correct (of 2,447)	**70** applied – SME to confirm wording or values	**428** applied but still need a fix (open items)	**0** decisions not applied by the build
20 / 20 build checks pass (2 warnings)	**163 / 163** regression tests pass	**76** competency questions ported (14 files)	**59 / 367** coded properties bound to a code list

Answer to "is the complete ontology fixed as per the plan?" Every decision in the alignment workbook is applied and verified in the build: no decision is left unapplied, the OWL 2 DL profile checks pass, HermiT finds the ontology consistent with no unsatisfiable class, and the SHACL shapes are valid SHACL. What is *not* finished is listed in section 9: chiefly the plan's "new code lists" work package (308 coded properties still have no code list and 13 lists are empty skeletons), SME-owned definitions, a set of duplicate relations and modelling gaps found while porting the competency questions, and running the competency questions against instance data.

Build contents

Item	Count
Classes	198
Object properties	755
Datatype properties	769
Ontology modules	25
Concept schemes	69
Concepts	340
Skeleton schemes (values to load)	13
Shape files	23
Node shapes	147
Crosswalk entries	2447
Properties with range to confirm	2

Build validation (code/build_enterprise_ontology.py)

Check	Result	Detail
Every class used in subClassOf / domain / range is declared	PASS	
Every super-property is declared	PASS	
No IRI is both a class and a property (no punning)	PASS	
No property is both object and datatype property (OWL 2 DL)	PASS	
All datatype ranges are in the OWL 2 datatype map	PASS	
All annotation properties used are declared	PASS	
Layering: enterprise (fnd / ins) terms never point down to clm / uw / gl	PASS	
Layering: the foundation (fnd) never references ins / clm / uw / gl	PASS	
Definitions that only repeat the label (SME to define)	WARN	30: clm:addressesInjuryAssessment, clm:auditDate, clm:auditQuestion, clm:demandDate, clm:documentedInClaimNote, clm:hasEvidence, clm:offerDate, clm:supportsLiabilityAssessment, clm:treatedByMedicalTreatment, clm:vendorRe
Definitions generated from the label (source held only lineage – SME to define)	WARN	22: clm:fileNoteTextLastUpdateTimestamp, clm:fileNoteTextWithHtmlTags, clm:hasAuthorityLimitType, clm:hasAuthorityStatus, clm:hasInjuryStatus, clm:hasLiabilityPercent, clm:hasLitigationType, clm:noteAttentionRequiredIndi
Definitions still carrying source-column lineage	PASS	0:
No class falls under two disjoint roots (unsatisfiable)	PASS	
Every enterprise class has a superclass (except the roots)	PASS	
Every class has a skos:definition	PASS	
Every property has a skos:definition	PASS	0 without:
Labels are unique across the enterprise ontology (FIBO convention)	PASS	
SHACL targets and paths are declared in the ontology	PASS	
Every scheme required by a shape exists in the vocabulary	PASS	

Every SKOS concept has a skos:prefLabel	PASS	
Crosswalk covers every source class and property	PASS	
OWL reasoner (HermiT): consistency and unsatisfiable classes	PASS	HermiT: consistent; 208 classes; unsatisfiable: 0 []
SHACL shapes graph is valid SHACL	PASS	Shapes graph conforms to SHACL-SHACL (pyshacl meta_shacl)

2. What was fixed in this build

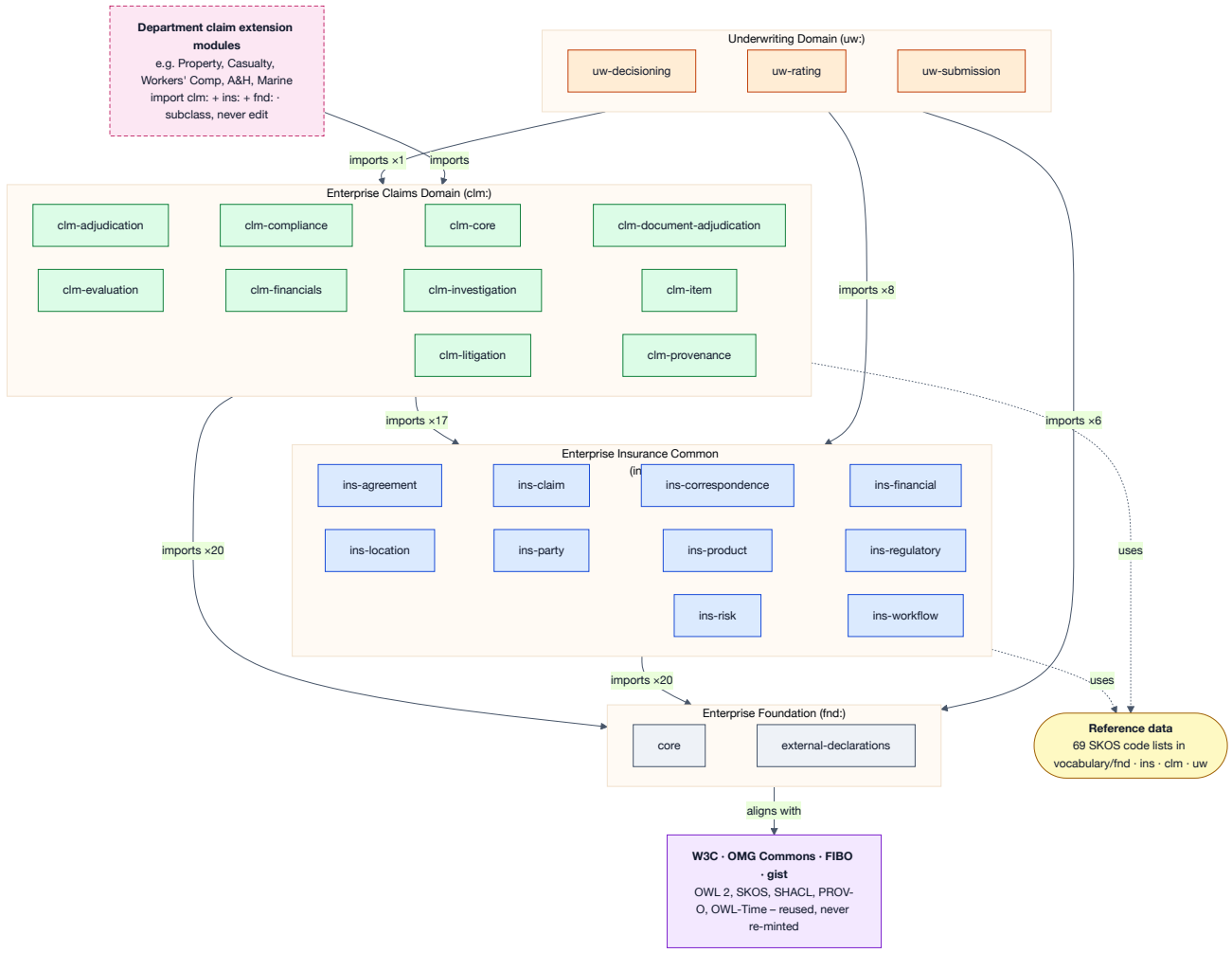
Area	Problem found	Fix applied
Naming rule	clm:gathersEvidence was renamed clm:hasClaimInvestigation by the 'follow the renamed range class' rule; the decision itself said clm:hasEvidence.	The rule no longer rewrites a name that comes from a 'class becomes this relation' decision. Result: clm:hasEvidence.
Naming rule	ins:hasPriorPolicy was renamed ins:hasPolicy and merged with the claim → policy link, giving a union domain (Claim ∪ Policy) and the definition 'predecessor in the renewal chain'.	Same rule fix for the branch where the property is itself the replacing relation. Result: ins:hasPriorPolicy (Policy → Policy) and ins:hasPolicy (Claim → Policy) are separate again.
Code-list binding	Coded properties whose code list has exactly their name (e.g. ins:hasLimitType ↔ vocabulary/ins/limit-type/) were only checked as 'any skos:Concept'.	The SHACL generator binds them to the list by exact name, following merged / renamed lists (clm:hasEvidenceType → vocabulary/ins/document-type/). 59 of 367 coded properties are now bound to a code list (29 before this build).
Competency questions	Only 4 of 14 competency-question files had been ported to the enterprise model.	All 14 files (76 questions) are ported to competency-v2/, each with a rewrite kind and note.
Regression suite	Competency queries were only checked for syntax and declared terms; PREFIX lines were reported as undeclared terms.	New test: every query respects domain / range, reads money through fnd:amount and code labels only from coded properties. 163 tests pass.
Build safety	The build wrote to the alignment workbook even while it was open in LibreOffice, and used a scratch path from an old session.	Workbook sheets are skipped while the workbook is open (or with --no-workbook); scratch files go to the system temp folder.

Fix status of every CLM term (crosswalk)

Kind	Fixed	No change needed	Applied – SME to confirm content	Open – needs fix	Total
Class	227	25	27	20	**299**
ObjectProperty	280	17	17	22	**336**
DatatypeProperty	1119	93	26	386	**1624**
ConceptScheme	17	0	0	0	**17**
Concept	171	0	0	0	**171**

“Fixed” = the workbook decision is applied and the target is declared (or the retired term is gone and kept in the crosswalk). “Applied – SME to confirm” = applied, but the target's definition or code values are placeholders. “Open – needs fix” = applied, but the target is part of an open item in section 9. Per-term detail: workbook sheet ‘Fix Status’.

3. Architecture and layering



D00 – Target layering, drawn from the owl:imports of the 25 generated modules. Imports only point up (department → clm → ins → fnd); the build test 'modules reference only lower layers' enforces it.

Layer	Modules	Goes to the enterprise claim release?
Enterprise Foundation (fnd:)	`core, external-declarations`	Yes – imported unchanged by every department
Enterprise Insurance Common (ins:)	`ins-agreement, ins-claim, ins-correspondence, ins-financial, ins-location, ins-party, ins-product, ins-regulatory, ins-risk, ins-workflow`	Yes – claim kernel, parties, policy / coverage, money, documents
Enterprise Claims Domain (clm:)	`clm-adjudication, clm-compliance, clm-core, clm-document-adjudication, clm-evaluation, clm-financials, clm-investigation, clm-item, clm-litigation, clm-provenance`	Yes – the shared adjudication framework every claim department extends
Underwriting (uw:)	`uw-decisioning, uw-rating, uw-submission`	No – enterprise-shared, released with underwriting (1 term used by claims comes with it)

Classes by release: 114 enterprise core (fnd + ins), 61 enterprise claims domain (clm), 22 underwriting only. Full list with extension guidance: workbook sheet 'Enterprise Claim Components'.

4. Conceptual axioms

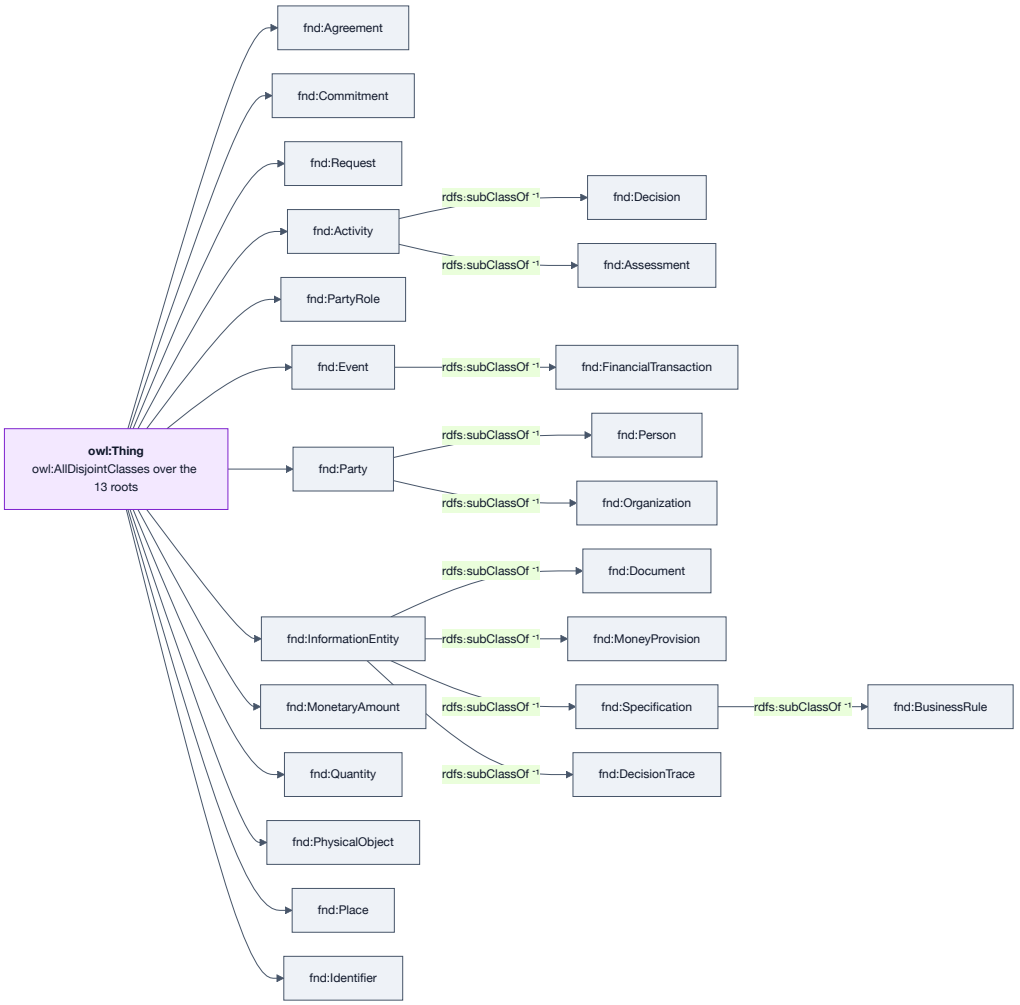
Enterprise Foundation Enterprise Insurance Common Enterprise Claims domain Underwriting Code list W3C / OMG standard

Department extension (example) Missing link (open item)

Class diagrams: --> object property (label = property IRI), ..> coded property to its SKOS scheme, <|-- rdfs:subClassOf, «stereotype» = the foundation root the class falls under, red .. = missing link (open item).

- A01 – Thirteen disjoint foundation roots
- A02 – A claim is a request, not an activity
- A03 – Parties play roles in context
- A04 – Agreements create commitments; coverage terms qualify them
- A05 – Money: amounts carry a currency; money movements are dated events
- A06 – Decisions determine an outcome from rules and inputs
- A07 – Assessments evaluate; valuations put a price on the evaluation
- A08 – Code lists are SKOS concept schemes bound by SHACL
- A09 – Generic properties are specialised by sub-properties
- A10 – Dates: OWL range rdfs:Literal, SHACL checks xsd:date
- A11 – Provenance: decisions and AI outputs keep their sources

A01 – Thirteen disjoint foundation roots



A01 – Thirteen disjoint foundation roots (specialist rendering; IRIs as in the ontology)

Axiom DisjointClasses(fnd:Agreement fnd:Commitment fnd:Request fnd:Party fnd:PartyRole fnd:Event fnd:Activity fnd:InformationEntity fnd:MonetaryAmount fnd:Quantity fnd:PhysicalObject fnd:Place fnd:Identifier)

```
Declared in the ontology
Class: fnd:Agreement  (root)
Class: fnd:Commitment  (root)
Class: fnd:Request  (root)
Class: fnd:Party  (root)
Class: fnd:PartyRole  (root)
Class: fnd:Event  (root)
Class: fnd:Activity  (root)
Class: fnd:InformationEntity  (root)
Class: fnd:MonetaryAmount  (root)
Class: fnd:Quantity  (root)
Class: fnd:PhysicalObject  (root)
Class: fnd:Place  (root)
Class: fnd:Identifier  (root)
Class: fnd:Decision  SubClassOf: fnd:Activity
Class: fnd:Assessment  SubClassOf: fnd:Activity
Class: fnd:FinancialTransaction  SubClassOf: fnd:Event
Class: fnd:Person  SubClassOf: fnd:Party
Class: fnd:Organization  SubClassOf: fnd:Party
Class: fnd:Document  SubClassOf: fnd:InformationEntity
Class: fnd:MoneyProvision  SubClassOf: fnd:InformationEntity
Class: fnd:Specification  SubClassOf: fnd:InformationEntity
Class: fnd:BusinessRule  SubClassOf: fnd:Specification
Class: fnd:DecisionTrace  SubClassOf: fnd:InformationEntity
```

Rationale. One clear top level is what lets every department add its own terms without contradicting another department: a Property claim, a Casualty claim and an A&H claim all sit under the same 'request'. The thirteen roots follow FIBO, OMG Commons and gist; the 'never two at once' rule is the W3C OWL 2 disjointness axiom, which the reasoner (HermiT) checks – it found no term breaking it.

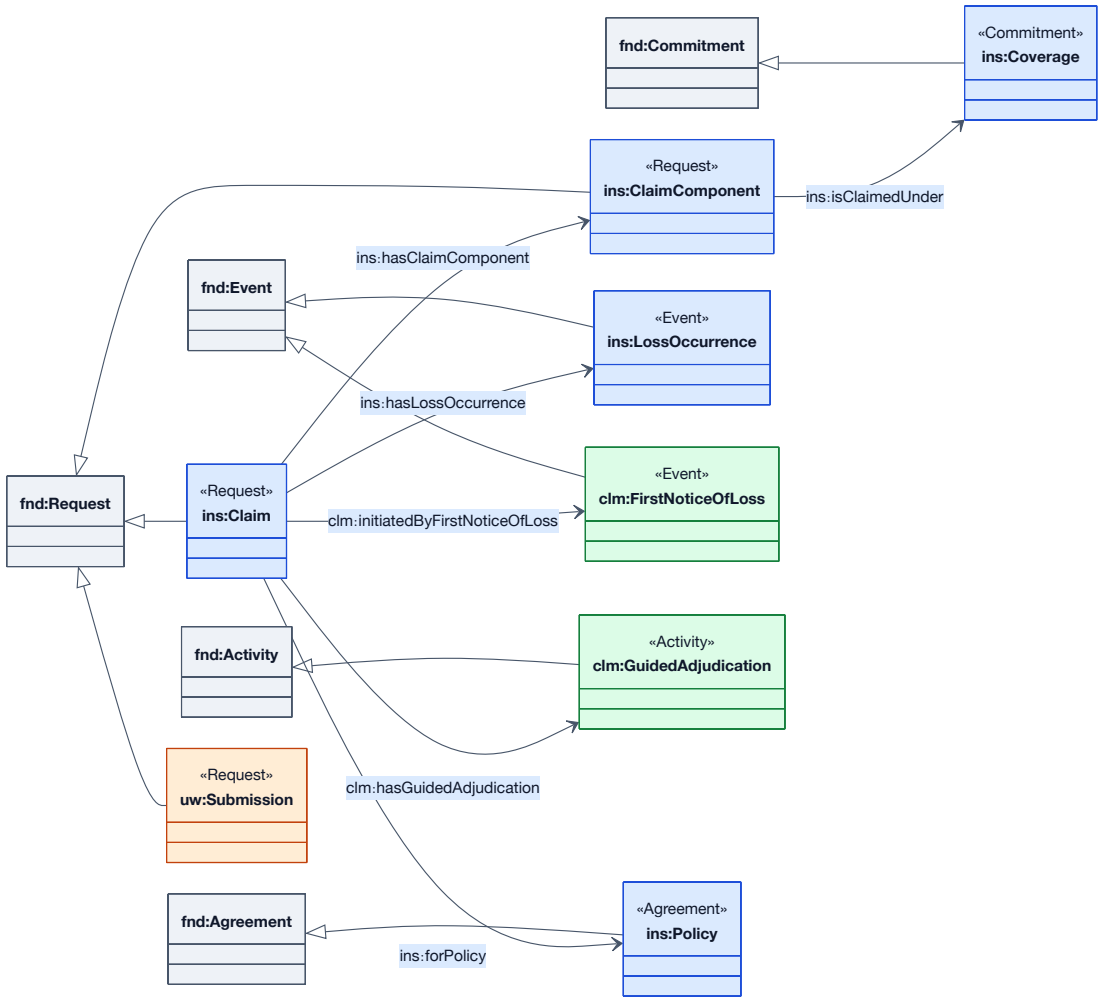
Change from CLM. The CLM ontology had nine roots, some overlapping (a claim was an activity and a request at once). Now each term has exactly one root.

Open items touching this diagram

- **OI-08** Classes with no attributes or relationships of their own: `fnd:Identifier`

Evidence id	Standard · section	What the standard says (verbatim)
W3C-OWL2-SYN-9.1.3	OWL 2 Structural Specification 9.1.3 Disjoint Classes	“A disjoint classes axiom DisjointClasses(CE1 ... CEn) states that all of the class expressions CEi, 1 ≤ i ≤ n, are pairwise disjoint …” verified
FIBO-GUIDE-GenusDifferentia	FIBO Definitions	“ISO 704 suggests a "genus / differentia" structure for definitions ... Definitions must not be circular, i.e., the class, property, or individual name must not be used in the definition itself.” verified
GIST-About	gist About gist	“gist is Semantic Arts' minimalist upper ontology for the enterprise.” verified
OOPS-P11	OOPS! pitfall catalogue P11. Missing domain or range in properties	“Object and/or datatype properties without domain or range (or none of them) are included in the ontology.” verified

A02 – A claim is a request, not an activity



A02 – A claim is a request, not an activity (specialist rendering; IRIs as in the ontology)

```
Axiom  ins:Claim ⊑ fnd:Request; ins:ClaimComponent ⊑ fnd:Request; ins:LossOccurrence ⊑ fnd:Event; clm:FirstNoticeOfLoss ⊑ fnd:Event;
clm:GuidedAdjudication ⊑ fnd:Activity; fnd:Request ⊓ fnd:Activity ⊑ ⊥
```

```
Declared in the ontology
Class: fnd:Request  (root)
Class: fnd:Event  (root)
Class: fnd:Activity  (root)
Class: fnd:Agreement  (root)
Class: fnd:Commitment  (root)
Class: ins:Claim  SubClassOf: fnd:Request
Class: ins:ClaimComponent  SubClassOf: fnd:Request
Class: uw:Submission  SubClassOf: fnd:Request
Class: ins:LossOccurrence  SubClassOf: fnd:Event
Class: clm:FirstNoticeOfLoss  SubClassOf: fnd:Event
Class: clm:GuidedAdjudication  SubClassOf: fnd:Activity
Class: ins:Policy  SubClassOf: fnd:Agreement
Class: ins:Coverage  SubClassOf: fnd:Commitment
ObjectProperty: ins:hasClaimComponent  Domain: ins:Claim or ins:ClaimComponent  Range: ins:ClaimComponent
ObjectProperty: ins:hasLossOccurrence  Domain: ins:Claim  Range: ins:LossOccurrence
ObjectProperty: clm:initiatedByFirstNoticeOfLoss  Domain: ins:Claim  Range: clm:FirstNoticeOfLoss
ObjectProperty: clm:hasGuidedAdjudication  Domain: ins:Claim  Range: clm:GuidedAdjudication
ObjectProperty: ins:forPolicy  Domain: ins:Claim or ins:Communication or ins:PolicyCancellation  Range: ins:Policy
ObjectProperty: ins:isClaimedUnder  Domain: ins:ClaimComponent  Range: ins:Coverage
```

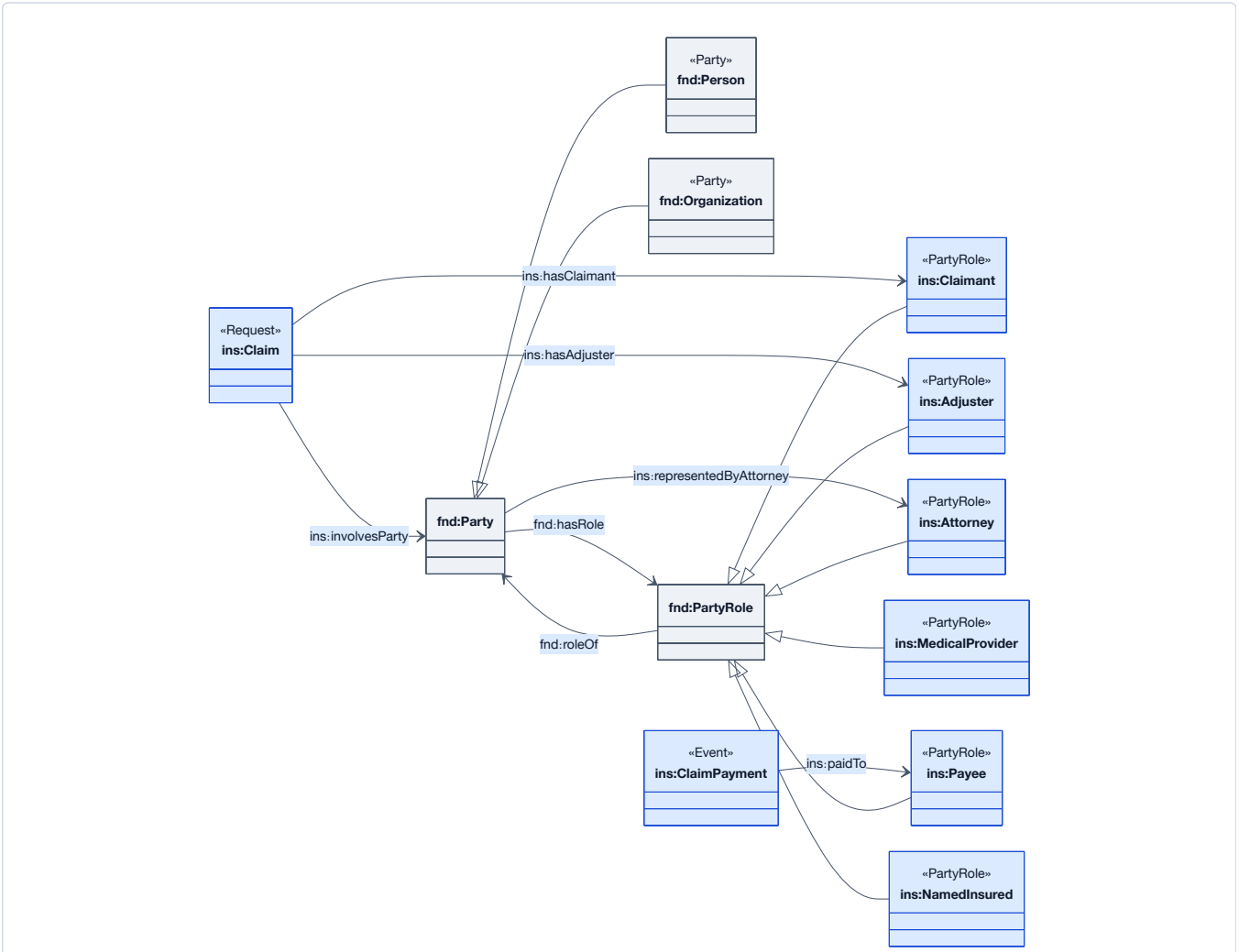
Rationale. NAIC, the OMG P&C Data Model, Oracle OIDF and IBM IIW all define a claim as a request or demand; ACORD separates the claim from the claim activity. Keeping them apart lets one loss produce several claims, and one claim be handled by several activities, without mixing their dates and statuses.

Change from CLM. Claim Exposure, Claim Line and Claim Feature are now one concept, Claim Component (ACORD 'Claim Component', IBM 'Elementary Claim'), and the old Loss Event is the Loss Occurrence.

> **Open items touching this diagram**
>
> - **OI-06** Relationships and attributes that say the same thing twice: `ins:forPolicy`
> - **OI-10** Facts the business questions ask for that the model cannot hold: `uw:Submission`

Evidence id	Standard · section	What the standard says (verbatim)
OMG-PC-Claim-Def	OMG P&C Data Model (PC) 1.0 8.3 Entity Definitions - Claim	“Claim is a request for indemnification by an insurance company for loss incurred from an insured peril or hazard.” verified
NAIC-Glossary-Claim	NAIC Glossary of Insurance Terms Claim	“a request made by the insured for insurer remittance of payment due to loss incurred and covered under the policy agreement.” verified
ORACLE-OIDF-Claim-Def	Oracle Insurance Data Foundation (OIDF) 8.1.1 About Insurance Claims	“An insurance claim is a formal request to an Insurance Company for coverage or compensation for a covered loss or policy event.” verified
FIBO-FND-ARR-Request	FIBO FND/Arrangements/Reporting (ontology maturity: Release)	“event in which some party asks another party for something at some point in time” verified
ACORD-IM-2026-ClaimActivity	ACORD Information Model / Data Model (July 2026 release) News Detail	“Claim Activity subtypes, to represent the claim-related tasks that may be performed by humans, AI agents, or both within the claim lifecycle.” verified
IBM-IIW-BDM-ElementaryClaim	IBM Insurance Information Warehouse 8.9.2 (Business Data Model) Entities used	“Elementary Claim - an entity that is a subtype of Claim that represents the smallest unit of a claim and is the bottom level of the claim decomposition that corresponds to the coverages in the insurance policy.” verified

A03 – Parties play roles in context



A03 – Parties play roles in context (specialist rendering; IRIs as in the ontology)

Axiom `ins:Claimant ⊑ fnd:PartyRole; fnd:PartyRole ⊓ fnd:Party ⊑ ⊥; fnd:hasRole: Party → PartyRole; fnd:roleOf: PartyRole → Party; ins:hasClaimant ⊑ fnd:hasPartyRole`

Declared in the ontology

```
Class: fnd:Party  (root)
Class: fnd:Person  SubClassOf: fnd:Party
Class: fnd:Organization  SubClassOf: fnd:Party
Class: fnd:PartyRole  (root)
Class: ins:Claimant  SubClassOf: fnd:PartyRole
Class: ins:Adjuster  SubClassOf: fnd:PartyRole
Class: ins:Attorney  SubClassOf: fnd:PartyRole
Class: ins:MedicalProvider  SubClassOf: fnd:PartyRole
Class: ins:Payee  SubClassOf: fnd:PartyRole
Class: ins:NamedInsured  SubClassOf: fnd:PartyRole
Class: ins:Claim  SubClassOf: fnd:Request
Class: ins:ClaimPayment  SubClassOf: fnd:FinancialTransaction
ObjectProperty: fnd:hasRole  Domain: fnd:Party  Range: fnd:PartyRole
ObjectProperty: fnd:roleOf  Domain: fnd:PartyRole  Range: fnd:Party
ObjectProperty: ins:hasClaimant  Domain: ins:Claim  Range: ins:Claimant  SubPropertyOf: fnd:hasPartyRole
ObjectProperty: ins:hasAdjuster  Domain: ins:Claim  Range: ins:Adjuster  SubPropertyOf: fnd:hasPartyRole
ObjectProperty: ins:involvesParty  Domain: ins:Claim  Range: fnd:Party
ObjectProperty: ins:paidTo  Domain: ins:ClaimPayment  Range: ins:Payee  SubPropertyOf: fnd:hasPartyRole
ObjectProperty: ins:representedByAttorney  Domain: fnd:Party  Range: ins:Attorney  SubPropertyOf: fnd:hasPartyRole
```

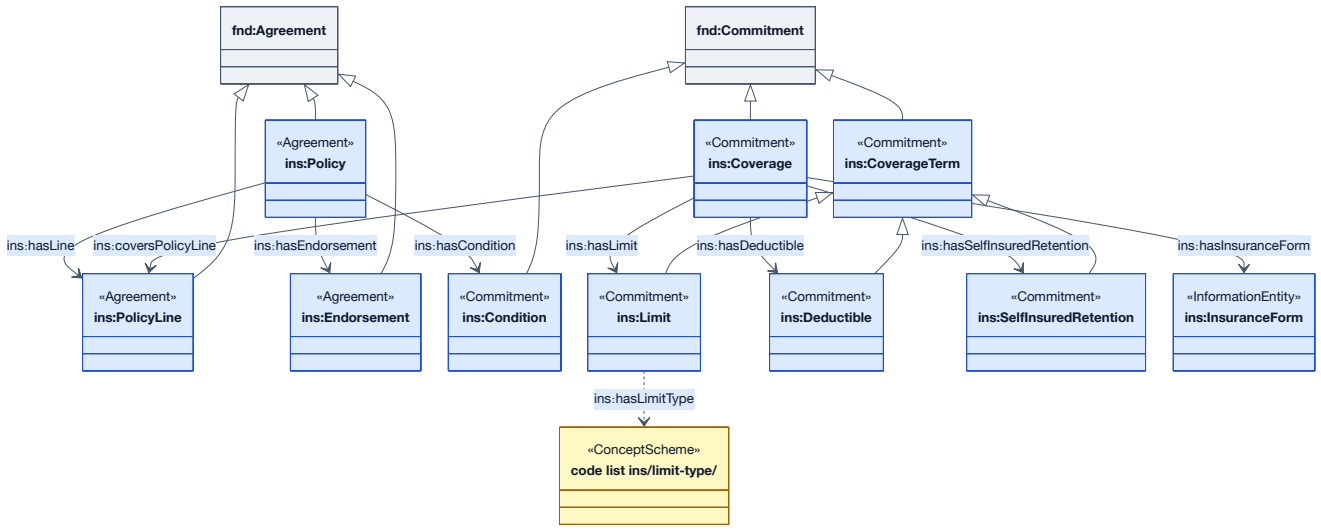
Rationale. OMG Commons, the OMG P&C Data Model and ACORD all model party roles this way; OntoClean shows why a role (something you can stop being) must not be a kind of person. It is what lets Claims, Underwriting and Finance share one customer record.

Change from CLM. The CLM model had 'Participant' and several role classes that also carried name and address. Those attributes now live on the party; the roles carry only what belongs to the role.

> **Open items touching this diagram**
>
> - **OI-06** Relationships and attributes that say the same thing twice: `ins:hasAdjuster`
> - **OI-08** Classes with no attributes or relationships of their own: `ins:Claimant, ins:Payee`

Evidence id	Standard · section	What the standard says (verbatim)
CMNS-PTS-PartyRole	OMG Commons Commons 1.3 spec section 8.16 'Ontology: Parties and Situations' (p. 94); module PartiesAndSituations	“role played by an organization or individual that may be time bound” verified
CMNS-RLCMP-isPlayedBy	OMG Commons Commons 1.3 spec section 8.20 'Ontology: Roles and Compositions' (p. 130); module RolesAndCompositions	“indicates something or someone, such as a person, organization, or other thing filling a role” verified
OMG-PC-ClaimPartyRole	OMG P&C Data Model Clause 8.3 Entity Definitions, p. 42	“Claim Party Role defines any Party’s involvement or role in a Claim. Examples: claimant, adjuster, victim. ... Claim Role is a subtype of Party Role that organizes the roles specific to Claim.” verified
ACAD-ONTOCLEAN-ANTIRIGID-SUBSUMPTION	OntoClean Essence and Rigidity (unnumbered section)	“One of these constraints is that anti-rigid properties cannot subsume rigid properties. For example, the class student cannot subsume the class person if the former is anti-rigid and the latter is rigid.” verified
ODP-AgentRole	ODP content pattern: AgentRole General description: Intent / Consequences	“This CP allows designers to make assertions on roles played by agents without involving the agents that play that roles, and vice versa. It does not allow to express temporariness of roles.” verified
ACORD-IM-PartyRole-Context	ACORD Information Model v2.x Slide 'Party Role → Context' (6iYbH7mWAvm)	“Party → Party Role → Context; Party Role In Agreement; Party Role In Claim; Claimant; Witness; Insured; Beneficiary” **inferred – not verified (member-only source)**

A04 – Agreements create commitments; coverage terms qualify them



A04 – Agreements create commitments; coverage terms qualify them (specialist rendering; IRIs as in the ontology)

Axiom `ins:Policy ⊑ fnd:Agreement; ins:Coverage ⊑ fnd:Commitment; ins:Limit ⊑ ins:CoverageTerm ⊑ fnd:Commitment; fnd:Agreement ⊓ fnd:Commitment ⊑ ⊥`

Declared in the ontology

```
Class: fnd:Agreement  (root)
Class: fnd:Commitment  (root)
Class: ins:Policy  SubClassOf: fnd:Agreement
Class: ins:PolicyLine  SubClassOf: fnd:Agreement
Class: ins:Endorsement  SubClassOf: fnd:Agreement
Class: ins:Coverage  SubClassOf: fnd:Commitment
Class: ins:Condition  SubClassOf: fnd:Commitment
Class: ins:CoverageTerm  SubClassOf: fnd:Commitment
Class: ins:Limit  SubClassOf: ins:CoverageTerm
Class: ins:Deductible  SubClassOf: ins:CoverageTerm
Class: ins:SelfInsuredRetention  SubClassOf: ins:CoverageTerm
Class: ins:InsuranceForm  SubClassOf: fnd:Document
ObjectProperty: ins:hasLine  Domain: ins:Policy  Range: ins:PolicyLine  SubPropertyOf: fnd:hasPart
ObjectProperty: ins:coversPolicyLine  Domain: ins:Coverage  Range: ins:PolicyLine
ObjectProperty: ins:hasCondition  Domain: ins:Policy  Range: ins:Condition
ObjectProperty: ins:hasEndorsement  Domain: ins:Policy  Range: ins:Endorsement
ObjectProperty: ins:hasLimit  Domain: ins:Coverage  Range: ins:Limit
ObjectProperty: ins:hasDeductible  Domain: ins:Coverage  Range: ins:Deductible
ObjectProperty: ins:hasSelfInsuredRetention  Domain: ins:Coverage  Range: ins:SelfInsuredRetention
ObjectProperty: ins:hasInsuranceForm  Domain: ins:Coverage  Range: ins:InsuranceForm
ObjectProperty: ins:hasLimitType  Domain: ins:Limit  Range: skos:Concept  SHACL: skos:inScheme vocabulary/ins/limit-type/
```

Rationale. FIBO and gist separate the agreement from the commitments it creates; the OMG P&C model and IBM IIW model coverage as a component of the policy. Claims adjudicate against the coverage, so a claim component points to the coverage it is claimed under.

Change from CLM. Limits and deductibles were separate classes per limit kind in CLM; they are now one Limit (or Deductible) with a limit-type value. Some flat limit amounts on coverage and policy remain and are listed as an open item.

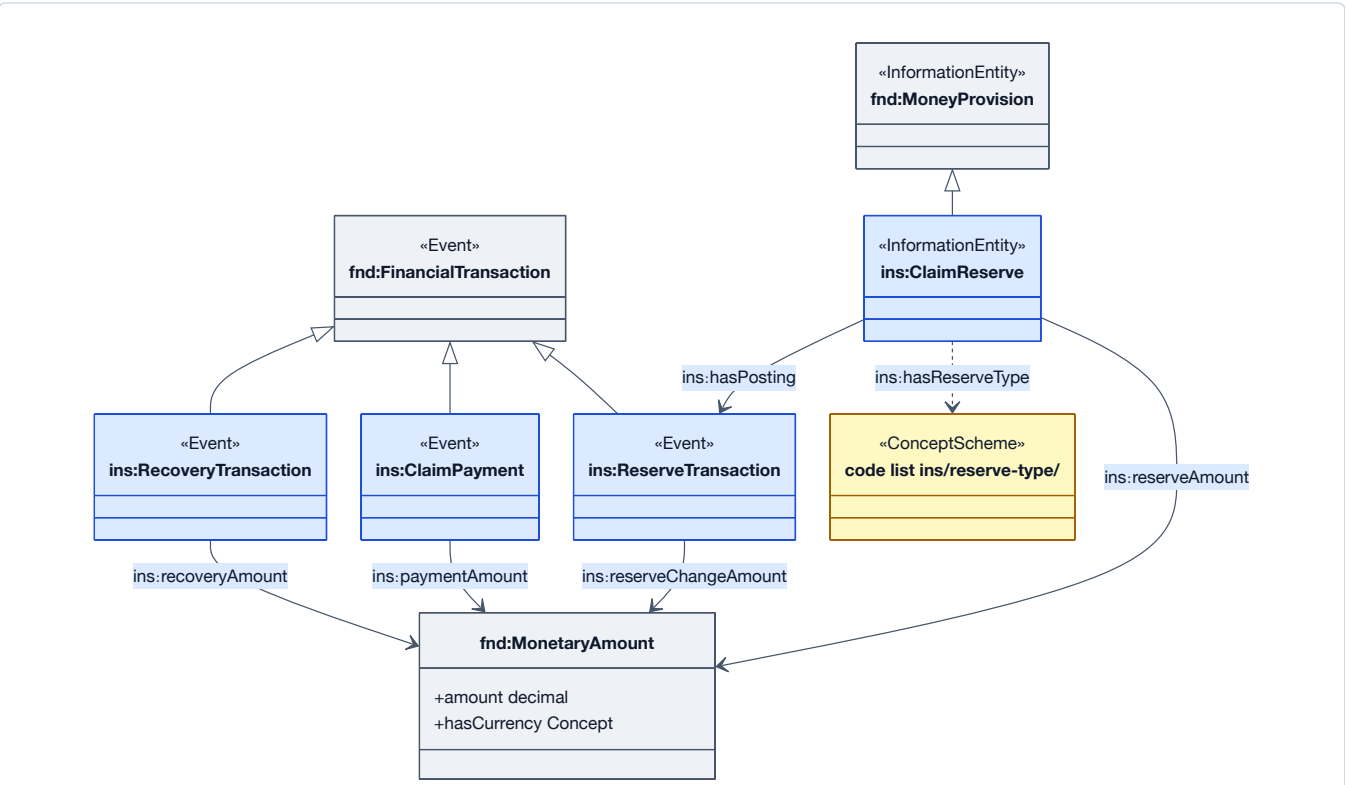
Open items touching this diagram

- **OI-08** Classes with no attributes or relationships of their own: `ins:Condition, ins:SelfInsuredRetention`

Evidence id	Standard · section	What the standard says (verbatim)
`FIBO-FND-AGR-Agreement`	FIBO FND/Agreements/Agreements (ontology maturity: Release)	“negotiated understanding between two or more parties, reflecting the offer and acceptance of commitments on the part of either party” verified
`FIBO-FND-AGR-Commitment`	FIBO FND/Agreements/Agreements (ontology maturity: Release)	“promise made by some party to act or refrain from acting in some manner” verified
`GIST-Commitment`	gist gistCore	“A promise made by a single party to one or more parties to do or not do something or act in a particular way.” verified
`OMG-PC-Coverage`	OMG P&C Data Model Clause 8.3 Entity Definitions, p. 43	“Coverage is the definition of the risks being provided indemnification, and the level of indemnification being provided under an insurance policy.” verified
`IBM-IIW-CoverageComponent`	IBM Insurance Information Warehouse 8.9.2 (Business Data Model) Entities used	“The Coverage Component entity is an agreement component that details the circumstances under which a benefit (money or services) will be paid.” verified

`ISO-CGL-InsuringAgreement`	ISO Commercial General Liability Coverage Form CG 00 01 04 13 Section I - Coverage A, 1. Insuring Agreement, a.	“We may, at our discretion, investigate any "occurrence" and settle any claim or "suit" that may result.” verified

A05 – Money: amounts carry a currency; money movements are dated events



A05 – Money: amounts carry a currency; money movements are dated events (specialist rendering; IRIs as in the ontology)

Axiom `fnd:FinancialTransaction ⊑ fnd:Event; fnd:MoneyProvision ⊑ fnd:InformationEntity; ins:ClaimReserve ⊑ fnd:MoneyProvision; every money value is a fnd:MonetaryAmount with exactly one fnd:amount (xsd:decimal) and one fnd:hasCurrency (ISO 4217 concept) — enforced by the MonetaryAmount SHACL shape`

Declared in the ontology

```
Class: fnd:MonetaryAmount  (root)
Class: fnd:FinancialTransaction  SubClassOf: fnd:Event
Class: fnd:MoneyProvision  SubClassOf: fnd:InformationEntity
Class: ins:ClaimReserve  SubClassOf: fnd:MoneyProvision
Class: ins:ReserveTransaction  SubClassOf: fnd:FinancialTransaction
Class: ins:ClaimPayment  SubClassOf: fnd:FinancialTransaction
Class: ins:RecoveryTransaction  SubClassOf: fnd:FinancialTransaction
ObjectProperty: ins:hasPosting  Domain: ins:ClaimReserve  Range: ins:ReserveTransaction
ObjectProperty: ins:reserveAmount  Domain: ins:ClaimReserve  Range: fnd:MonetaryAmount
ObjectProperty: ins:reserveChangeAmount  Domain: ins:ReserveTransaction  Range: fnd:MonetaryAmount
ObjectProperty: ins:paymentAmount  Domain: ins:ClaimPayment  Range: fnd:MonetaryAmount
ObjectProperty: ins:recoveryAmount  Domain: ins:RecoveryTransaction  Range: fnd:MonetaryAmount
ObjectProperty: ins:hasReserveType  Domain: ins:ClaimReserve  Range: skos:Concept  SHACL: skos:inScheme vocabulary/ins/reserve-type/
```

Rationale. FIBO and ACORD always pair an amount with its currency; IBM IIW calls a reserve a 'Money Provision' and keeps it apart from the financial transactions that change it; NAIC SSAP 55 defines reserves as estimates.

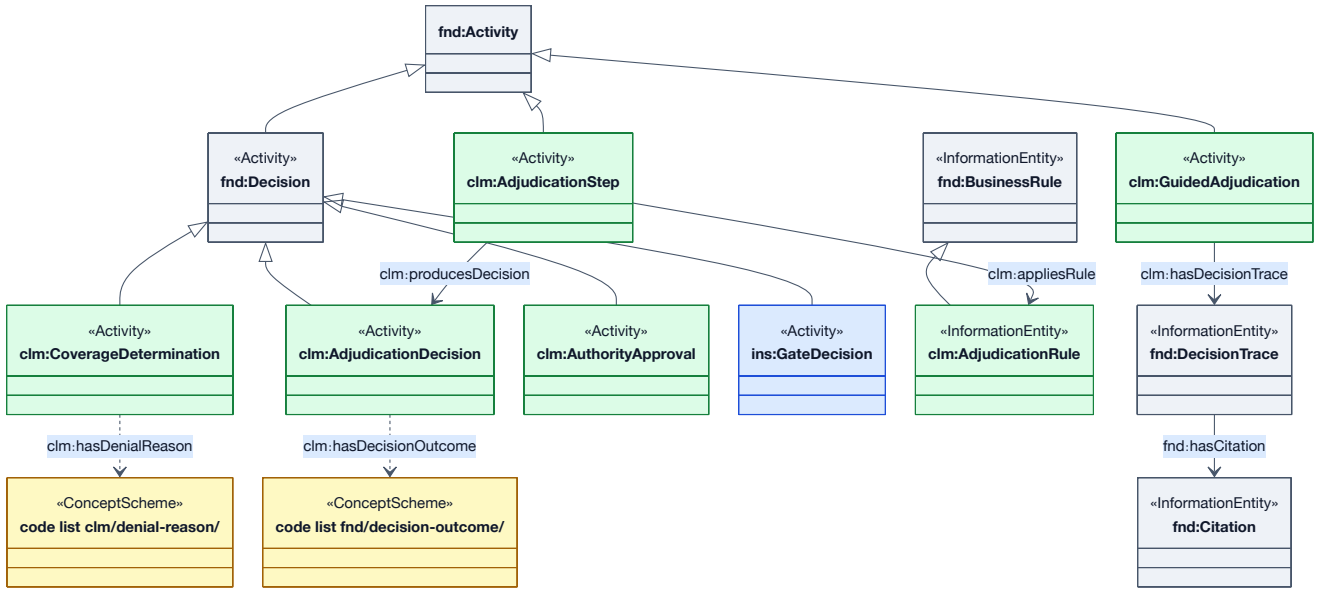
Change from CLM. About 500 amounts that were plain numbers or text in CLM now point to a monetary amount with a currency. A few still do not (e.g. total incurred, total outstanding) and are in the open-items list.

> **Open items:** none touch this diagram.

Evidence id	Standard · section	What the standard says (verbatim)
`FIBO-FND-ACC-MonetaryAmount`	FIBO FND/Accounting/CurrencyAmount (ontology maturity: Release)	“measure that is an amount of money specified in monetary units” verified
`FIBO-FND-ACC-hasCurrency`	FIBO FND/Accounting/CurrencyAmount (ontology maturity: Release)	“specifies the medium of exchange value in which something, such as a monetary amount is denominated” verified
`IBM-IIW-MoneyProvision`	IBM IIW Business Data Model Packages - Money Provision (p.17)	“Identifies monetary amounts outside the context of billing and accounting that are likely to become payable to or by the insurer.” verified
`IBM-IIW-FinancialTransaction`	IBM IIW Business Data Model Packages - Financial Transaction (p.16)	“Outbound payments (for example, the payment of a claim to a customer) result from the accounts payable” verified
`OMG-PC-ClaimReserve`	OMG P&C Data Model Clause 8.3 Entity Definitions, pp. 42 and 47	“Claim Reserve is the amount of expected loss over the life of the Claim. ... Loss Reserve is the amount set aside for expected loss over the life of the Claim.” verified

NAIC-SSAP55-Para4-Recognition	SSAP No. 55 Summary Conclusion, para. 4	“the covered or insured event is the occurrence of an incident which gives rise to a claim or the incurring of costs. For claims-made type policies, the covered or insured event is the reporting to the entity of the incident” verified
ACORD-XML-Amt-CurCd	ACORD P&C XML (currency amount pattern) ProbableIncurredAmt (Aggregate, DataType CURRENCY) with child elements Amt and CurCd	“The estimated total amount of a claim. This field is used only when the claim has not been completely settled, a.k.a. incurred.” verified

A06 – Decisions determine an outcome from rules and inputs



A06 – Decisions determine an outcome from rules and inputs (specialist rendering; IRIs as in the ontology)

Axiom `fnd:Decision ⊑ fnd:Activity; fnd:hasOutcome: Decision → skos:Concept; clm:hasDecisionOutcome ⊑ fnd:hasOutcome; clm:hasDenialReason ⊑ fnd:hasReason`

Declared in the ontology

```
Class: fnd:Activity  (root)
Class: fnd:Decision  SubClassOf: fnd:Activity
Class: clm:AdjudicationStep  SubClassOf: fnd:Activity
Class: clm:AdjudicationDecision  SubClassOf: fnd:Decision
Class: clm:CoverageDetermination  SubClassOf: fnd:Decision
Class: clm:AuthorityApproval  SubClassOf: fnd:Decision
Class: ins:GateDecision  SubClassOf: fnd:Decision
Class: clm:AdjudicationRule  SubClassOf: fnd:BusinessRule
Class: fnd:BusinessRule  SubClassOf: fnd:Specification
Class: clm:GuidedAdjudication  SubClassOf: fnd:Activity
Class: fnd:DecisionTrace  SubClassOf: fnd:InformationEntity
Class: fnd:Citation  SubClassOf: fnd:InformationEntity
ObjectProperty: clm:appliesRule  Domain: clm:AdjudicationStep  Range: clm:AdjudicationRule
ObjectProperty: clm:producesDecision  Domain: clm:AdjudicationStep  Range: clm:AdjudicationDecision
ObjectProperty: clm:hasDecisionOutcome  Domain: clm:AdjudicationDecision  Range: skos:Concept  SubPropertyOf: fnd:hasOutcome  SHACL: skos:inScheme
vocabulary/fnd/decision-outcome/
ObjectProperty: clm:hasDenialReason  Domain: clm:CoverageDetermination  Range: skos:Concept  SubPropertyOf: fnd:hasReason  SHACL: skos:inScheme
vocabulary/clm/denial-reason/
ObjectProperty: clm:hasDecisionTrace  Domain: clm:GuidedAdjudication  Range: fnd:DecisionTrace
ObjectProperty: fnd:hasCitation  Domain: fnd:DecisionTrace or fnd:Document  Range: fnd:Citation
```

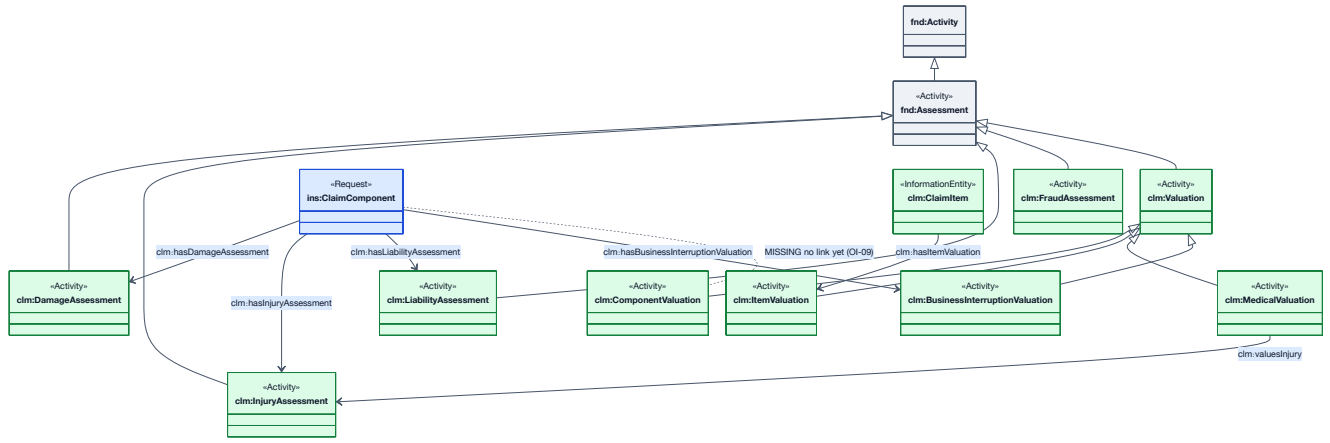
Rationale. OMG DMN defines a decision as determining an output from inputs using decision logic; storing the outcome as a code (not a separate class per outcome) keeps reporting consistent across departments; the decision trace follows W3C PROV so an auditor can see why a decision was made.

Change from CLM. CLM had separate classes such as 'Claim Denial' and 'SIU Referral Decision'; they are now outcomes and reasons of one decision concept.

> **Open items:** none touch this diagram.

Evidence id	Standard · section	What the standard says (verbatim)
`DMN-5.3.1-Decision`	DMN Clause 5.3.1 Decision requirements level, p. 14	“a decision is the act of determining an output value (the chosen option), from a number of input values, using logic defining how the output is determined from the inputs.” verified
`DMN-6.3.7-DecisionOutput`	DMN Clause 6.3.7 Decision metamodel, Table 11 'Decision attributes and model associations', p. 39	“In addition, a Decision defines an InformationItem representing its output. ... variable: InformationItem The instance of InformationItem that stores the result of this Decision.” verified
`GIST-Determination`	gist gistCore	“An event whose purpose is to establish a specific result, value, or outcome, usually by research, measuring, evaluating, or calculating.” verified
`W3C-PROV-Entity`	PROV-O 4.1 Starting Point Terms: (1) Class: prov:Entity	“An entity is a physical, digital, conceptual, or other kind of thing with some fixed aspects; entities may be real or imaginary.” verified
`BPMN-10.3-Activity`	BPMN Clause 10.3 Activities, p. 149	“An Activity is work that is performed within a Business Process. An Activity can be atomic or non-atomic (compound).” verified

A07 – Assessments evaluate; valuations put a price on the evaluation



A07 – Assessments evaluate; valuations put a price on the evaluation (specialist rendering; IRIs as in the ontology)

Axiom `fnd:Assessment ⊑ fnd:Activity; clm:Valuation ⊑ fnd:Assessment; clm:ComponentValuation ⊑ clm:Valuation`

Declared in the ontology

```
Class: fnd:Activity  (root)
Class: fnd:Assessment  SubClassOf: fnd:Activity
Class: clm:DamageAssessment  SubClassOf: fnd:Assessment
Class: clm:InjuryAssessment  SubClassOf: fnd:Assessment
Class: clm:LiabilityAssessment  SubClassOf: fnd:Assessment
Class: clm:FraudAssessment  SubClassOf: fnd:Assessment
Class: clm:Valuation  SubClassOf: fnd:Assessment
Class: clm:ComponentValuation  SubClassOf: clm:Valuation
Class: clm:ItemValuation  SubClassOf: clm:Valuation
Class: clm:MedicalValuation  SubClassOf: clm:Valuation
Class: clm:BusinessInterruptionValuation  SubClassOf: clm:Valuation
Class: ins:ClaimComponent  SubClassOf: fnd:Request
Class: clm:ClaimItem  SubClassOf: fnd:InformationEntity
ObjectProperty: clm:hasDamageAssessment  Domain: ins:ClaimComponent  Range: clm:DamageAssessment
ObjectProperty: clm:hasInjuryAssessment  Domain: ins:ClaimComponent  Range: clm:InjuryAssessment
ObjectProperty: clm:hasLiabilityAssessment  Domain: ins:ClaimComponent  Range: clm:LiabilityAssessment
ObjectProperty: clm:valuesInjury  Domain: clm:MedicalValuation  Range: clm:InjuryAssessment
ObjectProperty: clm:hasItemValuation  Domain: clm:ClaimItem or ins:Building  Range: clm:ItemValuation
ObjectProperty: clm:hasBusinessInterruptionValuation  Domain: ins:ClaimComponent  Range: clm:BusinessInterruptionValuation
```

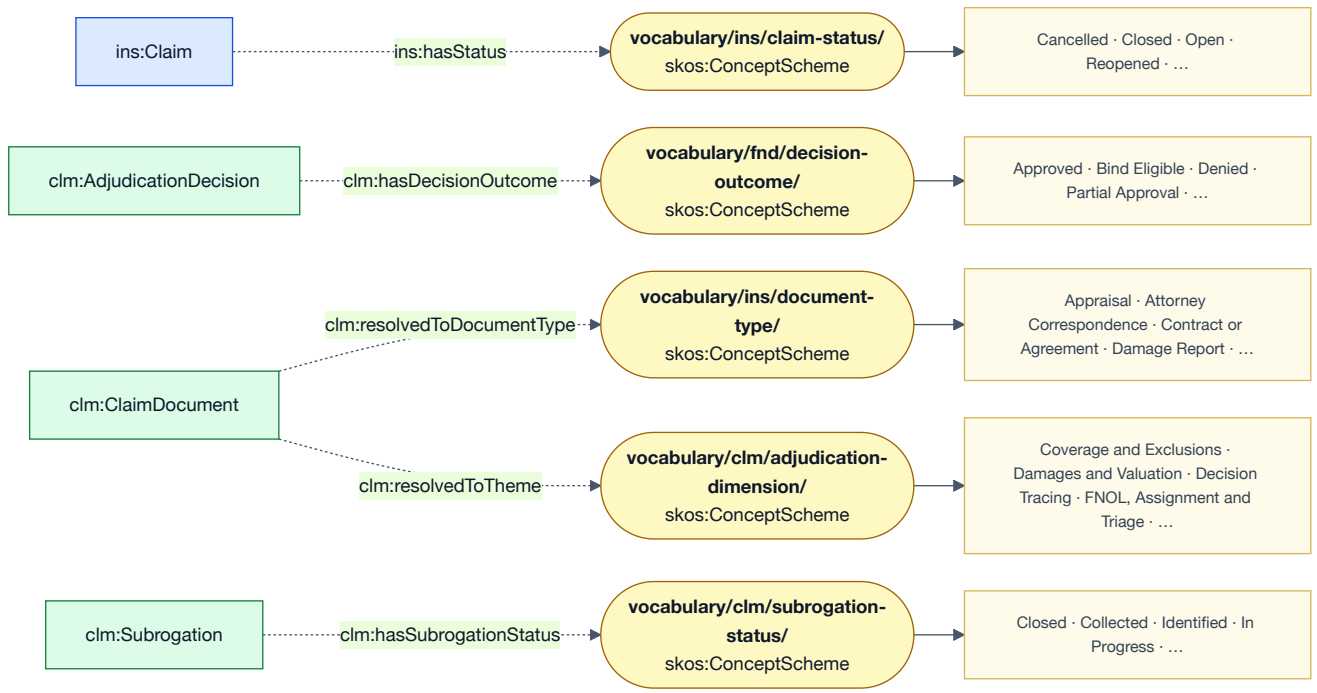
Rationale. The OMG P&C Data Model and IBM IIW both treat assessments as their own concept, separate from the decision that uses them; a department adds its own kind of assessment or valuation underneath without changing the shared ones.

Change from CLM. Damage Evaluation became Damage Assessment; the four CLM valuation classes were placed under one Valuation. There is still no direct link from a claim component to its component valuation (shown in red).

> **Open items touching this diagram**
> - **OI-09** Claim classes a query cannot reach from the claim: `clm:ComponentValuation`

Evidence id	Standard · section	What the standard says (verbatim)
`OMG-PC-Assessment`	OMG P&C Data Model Clause 8.3 Entity Definitions, p. 40	“Assessment is a formal evaluation of a particular person, organization, or thing that enables business decisions to be made. ... An Assessment Result is the outcome of the assessment.” verified
`OMG-PC-ClaimAssessment`	OMG P&C Data Model Clause 8.3 Entity Definitions, p. 41	“Claim Assessment is an associative entity that relates a Claim to an Assessment. ... Claim Evaluation Result is the outcome of a Claim Assessment.” verified
`IBM-IIW-AssessmentCondition`	IBM IIW Business Data Model Packages - Assessment and Condition (p.16)	“Condition is the state of a place, a physical object or an activity occurrence existing at a given point in time.” verified
`GIST-Determination`	gist gistCore	“An event whose purpose is to establish a specific result, value, or outcome, usually by research, measuring, evaluating, or calculating.” verified

A08 – Code lists are SKOS concept schemes bound by SHACL



A08 – Code lists are SKOS concept schemes bound by SHACL (specialist rendering; IRIs as in the ontology)

```
Axiom  coded property: range skos:Concept (OWL) + sh:class skos:Concept and sh:node [ sh:path skos:inScheme ; sh:hasValue <scheme> ] (SHACL); each concept has skos:inScheme, skos:prefLabel, skos:definition, skos:notation
```

```
Declared in the ontology
Class: ins:Claim  SubClassOf: fnd:Request
Class: clm:AdjudicationDecision  SubClassOf: fnd:Decision
Class: clm:ClaimDocument  SubClassOf: fnd:Document
Class: clm:Subrogation  SubClassOf: fnd:Activity
ObjectProperty: ins:hasStatus  Domain: ins:Claim  Range: skos:Concept  SHACL: skos:inScheme vocabulary/ins/claim-status/
ObjectProperty: clm:hasDecisionOutcome  Domain: clm:AdjudicationDecision  Range: skos:Concept  SubPropertyOf: fnd:hasOutcome  SHACL: skos:inScheme vocabulary/fnd/decision-outcome/
ObjectProperty: clm:resolvedToDocumentType  Domain: clm:ClaimDocument  Range: skos:Concept  SHACL: skos:inScheme vocabulary/ins/document-type/
ObjectProperty: clm:resolvedToTheme  Domain: clm:ClaimDocument  Range: skos:Concept  SHACL: skos:inScheme vocabulary/clm/adjudication-dimension/
ObjectProperty: clm:hasSubrogationStatus  Domain: clm:Subrogation  Range: skos:Concept  SHACL: skos:inScheme vocabulary/clm/subrogation-status/
```

Rationale. W3C SKOS is the standard for code lists; W3C SHACL lets the platform reject a value that is not in the list. Using one list per kind of code is what makes a claim status mean the same thing in every report.

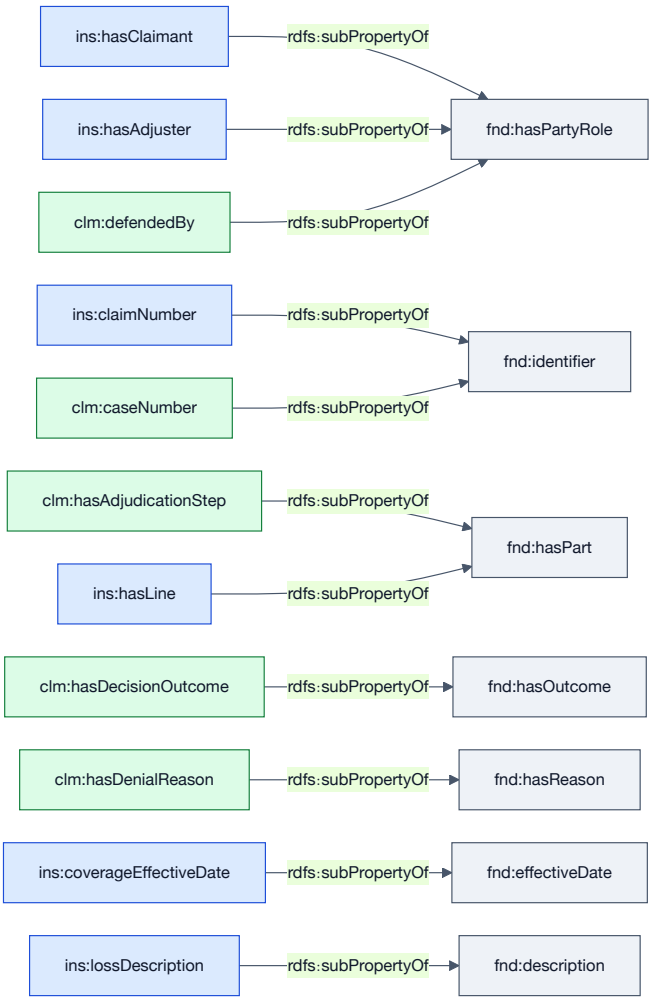
Change from CLM. 31 CLM vocabularies were promoted, merged or split into 69 enterprise code lists. 13 of them are still empty and 312 coded properties still need their list created – both are open items.

Open items touching this diagram

- **OI-06** Relationships and attributes that say the same thing twice: `ins:hasStatus`

Evidence id	Standard · section	What the standard says (verbatim)
`W3C-SKOS-REF-4.3`	SKOS Reference 4.3. Class & Property Definitions (in 4. Concept Schemes)	“S7 skos:topConceptOf is a sub-property of skos:inScheme. S8 skos:topConceptOf is owl:inverseOf the property skos:hasTopConcept.” verified
`W3C-SKOS-PRIMER-4.6`	SKOS Primer 4.6 Notations	“The first, preferred technique is to use the skos:notation property. This property allows a concept to be attached to an RDF typed literal—a literal with an explicit datatype [RDF-PRIMER].” verified
`W3C-SHACL-4.1.1`	SHACL 4.1.1 sh:class	“The condition specified by sh:class is that each value node is a SHACL instance of a given type.” verified
`GIST-Category-ClassVsCategory`	gist gistCore	“Often a type can be modeled either as an owl:Class or as a gist:Category. Use the latter if you don't care much about the formal structure of the different types, or if there is a whole hierarchy of ...” verified
`ACORD-IMT-CodeLists`	ACORD Information Model v2.x Slide 'Stereotype/Metadata (Cont'd)' (5ZgIoI2eSnr)	“Code List = Enumeration; Code Values = Enumeration Literals; Code List (Superset); Code List (Subset); Coverage = Cover” verified

A09 – Generic properties are specialised by sub-properties



A09 – Generic properties are specialised by sub-properties (specialist rendering; IRIs as in the ontology)

```
Axiom  150 rdfs:subPropertyOf axioms to 9 generic foundation properties (fnd:hasPartyRole, fnd:identifier, fnd:hasPart, fnd:hasOutcome, fnd:hasReason,
fnd:effectiveDate, fnd:expirationDate, fnd:description, fnd:hasAddress)
```

```
Declared in the ontology
ObjectProperty/DataProperty: ins:hasClaimant  SubPropertyOf: fnd:hasPartyRole
ObjectProperty/DataProperty: ins:hasAdjuster  SubPropertyOf: fnd:hasPartyRole
ObjectProperty/DataProperty: clm:defendedBy  SubPropertyOf: fnd:hasPartyRole
ObjectProperty/DataProperty: ins:claimNumber  SubPropertyOf: fnd:identifier
ObjectProperty/DataProperty: clm:caseNumber  SubPropertyOf: fnd:identifier
ObjectProperty/DataProperty: clm:hasAdjudicationStep  SubPropertyOf: fnd:hasPart
ObjectProperty/DataProperty: ins:hasLine  SubPropertyOf: fnd:hasPart
ObjectProperty/DataProperty: clm:hasDecisionOutcome  SubPropertyOf: fnd:hasOutcome
ObjectProperty/DataProperty: clm:hasDenialReason  SubPropertyOf: fnd:hasReason
ObjectProperty/DataProperty: ins:coverageEffectiveDate  SubPropertyOf: fnd:effectiveDate
ObjectProperty/DataProperty: ins:lossDescription  SubPropertyOf: fnd:description
```

Rationale. FIBO defines properties at the highest level where they apply and specialises them below; the W3C RDF Schema sub-property rule makes the general question return the specific answers automatically.

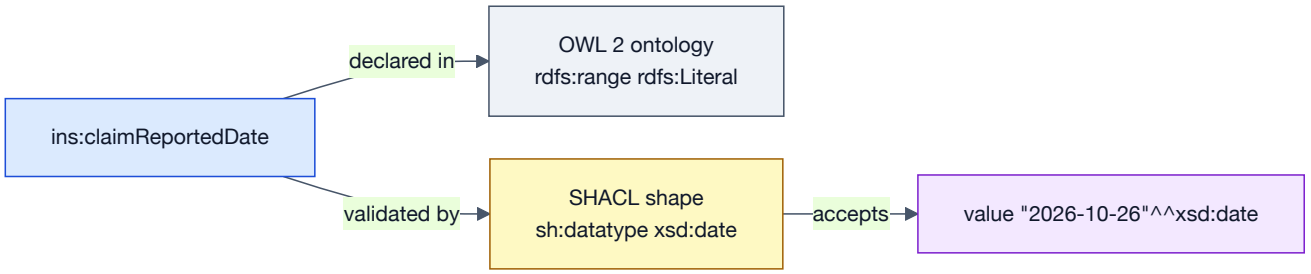
Change from CLM. In CLM each link stood alone; 150 links are now grouped under nine shared ones.

> **Open items touching this diagram**
> - **OI-06** Relationships and attributes that say the same thing twice: `ins:hasAdjuster`

Evidence id	Standard · section	What the standard says (verbatim)
`FIBO-GUIDE-DomainRange`	FIBO Conceptual Modeling Approach > Overarching Principles (item 2)	“we attempt to define properties at the highest level in the property hierarchy where they may be applicable and limit the use of the domain and range restrictions.” verified
`W3C-RDFS-3.4`	RDF Schema 1.1 3.4 rdfs:subClassOf	“The property rdfs:subClassOf is an instance of rdf:Property that is used to state that all the instances of one class are instances of another.” verified

`CMNS-PTS-hasPartyRole`	OMG Commons Commons 1.3 spec section 8.16 'Ontology: Parties and Situations' (p. 94); module PartiesAndSituations	“identifies a specific role played by some person or organization as related to a situation, agreement, contract, policy, regulation, activity or other relationship” verified
`CMNS-ID-Identifier`	OMG Commons Commons 1.3 spec section 8.11 'Ontology: Identifiers' (p. 66); module Identifiers	“sequence of characters uniquely identifying that with which it is associated” verified

A10 – Dates: OWL range rdfs:Literal, SHACL checks xsd:date



A10 – Dates: OWL range rdfs:Literal, SHACL checks xsd:date (specialist rendering; IRIs as in the ontology)

Axiom `xsd:date is not in the OWL 2 datatype map, so a date-only property has rdfs:range rdfs:Literal in OWL and sh:datatype xsd:date in SHACL; date-times use xsd:dateTime in both`

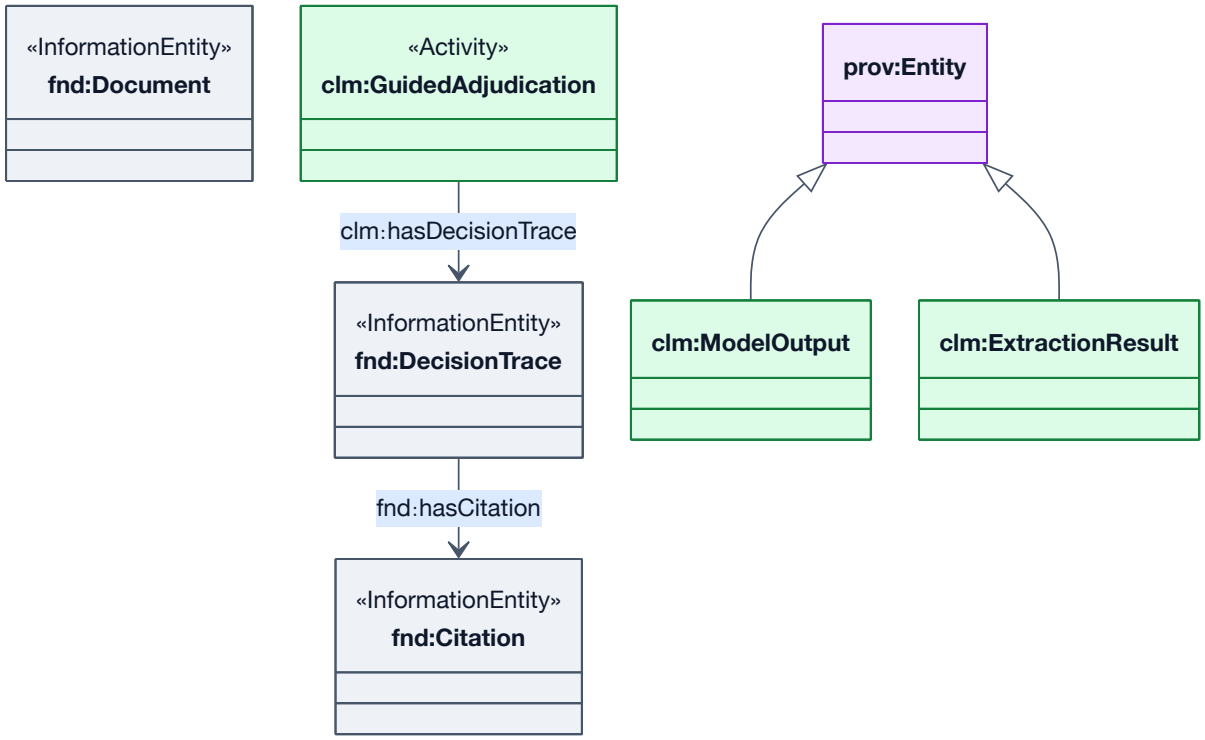
Rationale. The W3C OWL 2 standard does not include a plain 'date' type, so the reasoner sees the value as a literal while the W3C SHACL check enforces that it is a valid date. Nothing changes for the business user.

Change from CLM. Many CLM dates were stored as text; they are now proper dates or date-times. ins:dateOfLoss is still text and is in the open-items list.

> **Open items:** none touch this diagram.

Evidence id	Standard · section	What the standard says (verbatim)
W3C-OWL2-SYN-4	OWL 2 Structural Specification 4 Datatype Maps	“The rest of this section defines a particular datatype map called the OWL 2 datatype map, which lists the datatypes that can be used in OWL 2 ontologies.” verified
W3C-XSD11-3.3.9	XSD 1.1 Part 2: Datatypes 3.3.9 date	“[Definition:] date represents top-open intervals of exactly one day in length on the timelines of dateTime, beginning on the beginning moment of each day, up to but not including the beginning moment of the next day).” verified
W3C-SHACL-4.1.1	SHACL 4.1.1 sh:class	“The condition specified by sh:class is that each value node is a SHACL instance of a given type.” verified

A11 – Provenance: decisions and AI outputs keep their sources



A11 – Provenance: decisions and AI outputs keep their sources (specialist rendering; IRIs as in the ontology)

Axiom `fnd:DecisionTrace skos:closeMatch prov:Entity; clm:ModelOutput ⊑ prov:Entity; source keys, ETL lineage and AI pipeline metadata live in the mapping / provenance layer (R2RML + PROV-O), not in the business ontology`

Declared in the ontology

```
Class: fnd:DecisionTrace  SubClassOf: fnd:InformationEntity
Class: fnd:Citation  SubClassOf: fnd:InformationEntity
Class: fnd:Document  SubClassOf: fnd:InformationEntity
Class: clm:GuidedAdjudication  SubClassOf: fnd:Activity
Class: clm:ModelOutput  SubClassOf: prov:Entity
Class: clm:ExtractionResult  SubClassOf: prov:Entity
ObjectProperty: clm:hasDecisionTrace  Domain: clm:GuidedAdjudication  Range: fnd:DecisionTrace
ObjectProperty: fnd:hasCitation  Domain: fnd:DecisionTrace or fnd:Document  Range: fnd:Citation
```

Rationale. W3C PROV-O is the standard for provenance; separating lineage from meaning is what lets several source systems feed the same enterprise concept.

Change from CLM. 245 lineage attributes (source ids, ETL versions, AI confidence values) moved out of the business ontology into the provenance layer.

Open items touching this diagram

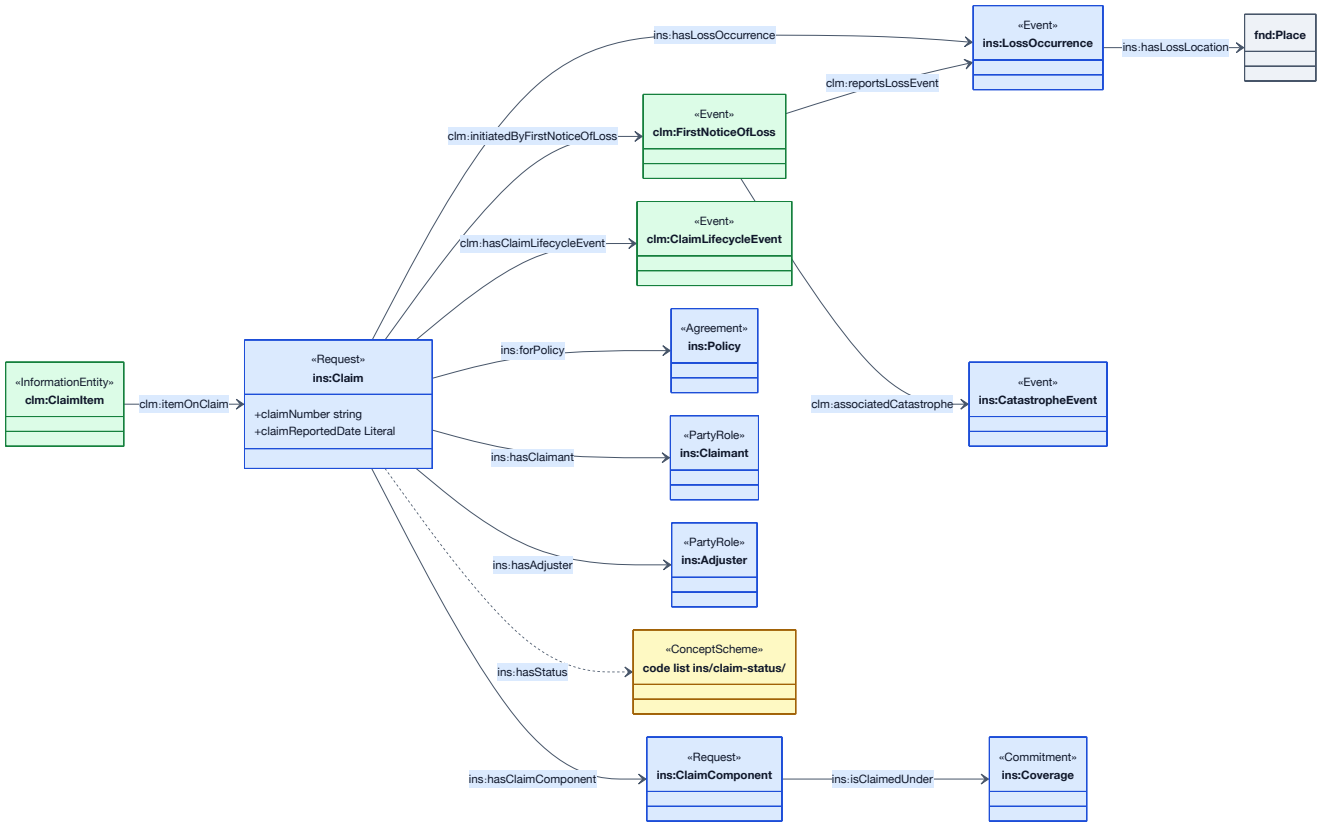
- **OI-08** Classes with no attributes or relationships of their own: `clm:ExtractionResult, clm:ModelOutput`
- **OI-13** Pipeline provenance classes still minted in the claims module: `clm:ExtractionResult, clm:ModelOutput`

Evidence id	Standard · section	What the standard says (verbatim)
`W3C-PROV-Entity`	PROV-O 4.1 Starting Point Terms: (1) Class: prov:Entity	“An entity is a physical, digital, conceptual, or other kind of thing with some fixed aspects; entities may be real or imaginary.” verified
`W3C-PROV-wasGeneratedBy`	PROV-O 4.1 Starting Point Terms: (4) Property: prov:wasGeneratedBy	“Generation is the completion of production of a new entity by an activity. This entity did not exist before generation and becomes available for usage after this generation.” verified
`W3C-R2RML-ABSTRACT`	R2RML Abstract	“Such mappings provide the ability to view existing relational data in the RDF data model, expressed in a structure and target vocabulary of the mapping author's choice.” verified
`W3C-ANNO-4.2`	Web Annotation Data Model 4.2 Selectors	“A Selector is used to describe how to determine the Segment from within the Source resource.” verified

5. Main concepts

- C01 – Claim core
- C02 – Claim financials
- C03 – Guided adjudication
- C04 – Evaluation, negotiation and settlement
- C05 – Investigation and fraud
- C06 – Litigation
- C07 – Insured objects and claim items
- C08 – Documents and communications
- C09 – Handling and workflow
- C10 – How a department extends the enterprise claim ontology (example)

C01 – Claim core



C01 – Claim core (specialist rendering; IRIs as in the ontology)

```
Declared in the ontology
Class: ins:Claim  SubClassOf: fnd:Request
Class: ins:ClaimComponent  SubClassOf: fnd:Request
Class: ins:LossOccurrence  SubClassOf: fnd:Event
Class: ins:CatastropheEvent  SubClassOf: fnd:Event
Class: clm:FirstNoticeOfLoss  SubClassOf: fnd:Event
Class: clm:ClaimLifecycleEvent  SubClassOf: fnd:Event
Class: ins:Policy  SubClassOf: fnd:Agreement
Class: ins:Coverage  SubClassOf: fnd:Commitment
Class: ins:Claimant  SubClassOf: fnd:PartyRole
Class: ins:Adjuster  SubClassOf: fnd:PartyRole
Class: fnd:Place  (root)
Class: clm:ClaimItem  SubClassOf: fnd:InformationEntity
ObjectProperty: ins:hasClaimComponent  Domain: ins:Claim or ins:ClaimComponent  Range: ins:ClaimComponent
ObjectProperty: ins:hasLossOccurrence  Domain: ins:Claim  Range: ins:LossOccurrence
ObjectProperty: ins:hasLossLocation  Domain: ins:LossOccurrence  Range: fnd:Place
ObjectProperty: clm:initiatedByFirstNoticeOfLoss  Domain: ins:Claim  Range: clm:FirstNoticeOfLoss
ObjectProperty: clm:reportsLossEvent  Domain: clm:FirstNoticeOfLoss  Range: ins:LossOccurrence
ObjectProperty: clm:associatedCatastrophe  Domain: clm:FirstNoticeOfLoss  Range: ins:CatastropheEvent
ObjectProperty: clm:hasClaimLifecycleEvent  Domain: ins:Claim  Range: clm:ClaimLifecycleEvent
ObjectProperty: ins:forPolicy  Domain: ins:Claim or ins:Communication or ins:PolicyCancellation  Range: ins:Policy
ObjectProperty: ins:isClaimedUnder  Domain: ins:ClaimComponent  Range: ins:Coverage
ObjectProperty: ins:hasClaimant  Domain: ins:Claim  Range: ins:Claimant  SubPropertyOf: fnd:hasPartyRole
ObjectProperty: ins:hasAdjuster  Domain: ins:Claim  Range: ins:Adjuster  SubPropertyOf: fnd:hasPartyRole
ObjectProperty: clm:itemOnClaim  Domain: clm:ClaimItem  Range: ins:Claim
…
```

Rationale. This is the enterprise claim kernel every department shares: ACORD, OMG P&C and IBM IIW use the same core (claim, claim component, occurrence, coverage, roles).

Change from CLM. Claim, Claim Exposure, Claim Line and Claim Feature from CLM are now Claim and Claim Component; the claim kernel moved from the claims module to the enterprise layer (ins:).

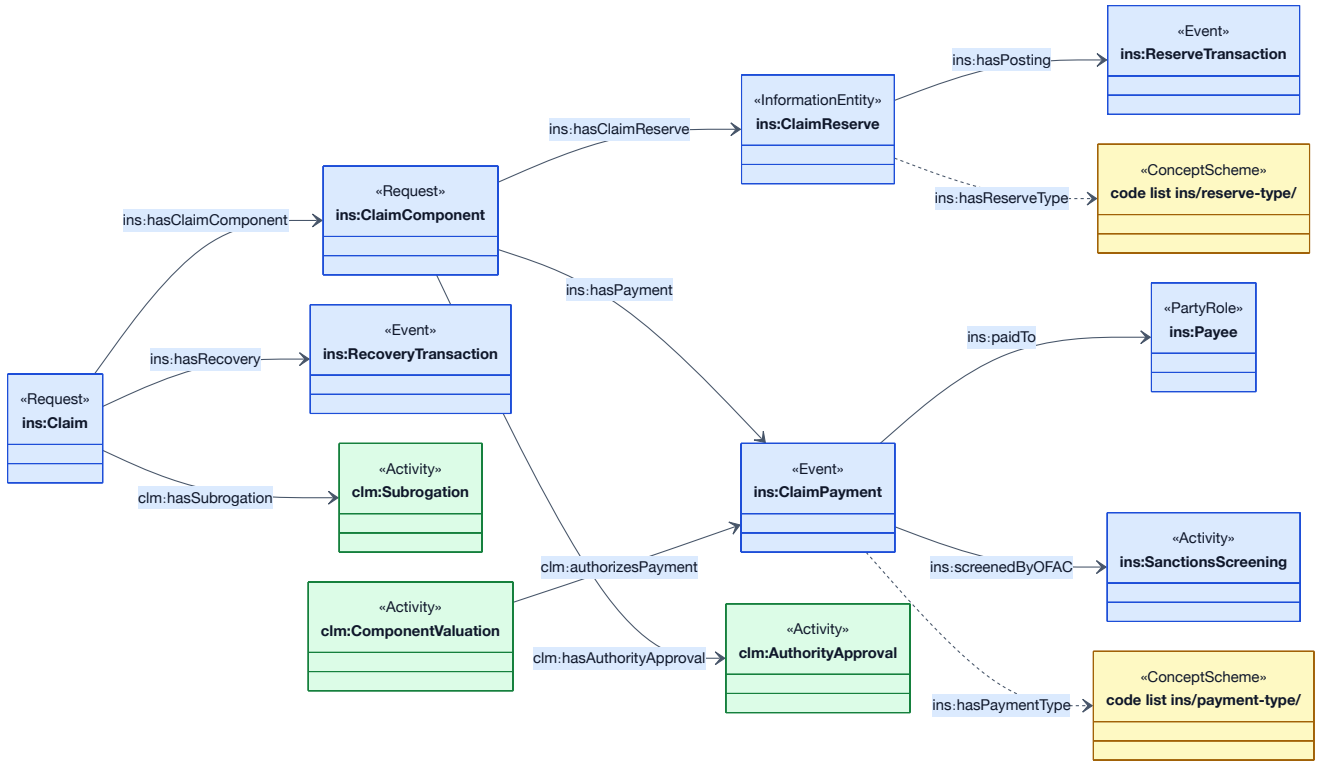
Open items touching this diagram

- **OI-06** Relationships and attributes that say the same thing twice: `ins:forPolicy, ins:hasAdjuster, ins:hasStatus`
- **OI-08** Classes with no attributes or relationships of their own: `ins:Claimant`

Evidence id	Standard · section	What the standard says (verbatim)
`OMG-PC-7.2-ClaimLinks`	OMG P&C Data Model Clause 7.2 Conceptual Data Models, p. 21	“Policy Coverage Detail is a key link among Policy, Claim, and Reinsurance. ... Claim is tied to Policy through Policy Coverage Detail. ... Claim is tied to Party, Insurable Object, Policy Coverage Detail, and Reinsurance.” verified

`OMG-PC-ClaimEvent-Occurrence`	OMG P&C Data Model (PC) 1.0 8.3 Entity Definitions - Claim Event; Occurrence	“Claim Event is a subtype of Event that identifies and describes the accident or occurrence that triggered the claim.” verified
`ACORD-IM-Claim-Hierarchy`	ACORD Information Model v2.x Slide 'Claim' (63cHYw8BuxP) with legend from slide 'Inheritance' (6c5YrnjomLg)	“Grey line(s) = Inheritance; Red line = Association; Claim Base; Claim; Claim Component; Claim Grouping; Claim Offer” **inferred – not verified (member-only source)**
`IBM-IIW-Claim-Structure`	IBM IIW Business Data Model Packages - Claim (p.16)	“The definition of a claim in the context of the model involves the structure of a claim (the splitting of a claim into smaller claims parts)” verified
`Q-OccurrenceVsClaim`	Cross-standard comparison (ACORD, IBM, Oracle, OMG, NAIC) see cited entries	“A code identifying if this is notice of an occurrence or a claim.” verified

C02 – Claim financials



C02 – Claim financials (specialist rendering; IRIs as in the ontology)

```
Declared in the ontology
Class: ins:Claim  SubClassOf: fnd:Request
Class: ins:ClaimComponent  SubClassOf: fnd:Request
Class: ins:ClaimReserve  SubClassOf: fnd:MoneyProvision
Class: ins:ReserveTransaction  SubClassOf: fnd:FinancialTransaction
Class: ins:ClaimPayment  SubClassOf: fnd:FinancialTransaction
Class: ins:Payee  SubClassOf: fnd:PartyRole
Class: ins:RecoveryTransaction  SubClassOf: fnd:FinancialTransaction
Class: clm:Subrogation  SubClassOf: fnd:Activity
Class: clm:AuthorityApproval  SubClassOf: fnd:Decision
Class: clm:ComponentValuation  SubClassOf: clm:Valuation
Class: ins:SanctionsScreening  SubClassOf: fnd:Assessment
ObjectProperty: ins:hasClaimReserve  Domain: ins:Claim or ins:ClaimComponent  Range: ins:ClaimReserve
ObjectProperty: ins:hasPosting  Domain: ins:ClaimReserve  Range: ins:ReserveTransaction
ObjectProperty: ins:hasPayment  Domain: ins:ClaimComponent  Range: ins:ClaimPayment
ObjectProperty: ins:paidTo  Domain: ins:ClaimPayment  Range: ins:Payee  SubPropertyOf: fnd:hasPartyRole
ObjectProperty: ins:hasRecovery  Domain: ins:Claim  Range: ins:RecoveryTransaction
ObjectProperty: clm:hasSubrogation  Domain: ins:Claim  Range: clm:Subrogation
ObjectProperty: clm:hasAuthorityApproval  Domain: ins:ClaimComponent  Range: clm:AuthorityApproval
ObjectProperty: clm:authorizesPayment  Domain: clm:ComponentValuation  Range: ins:ClaimPayment
ObjectProperty: ins:screenedByOFAC  Domain: ins:ClaimPayment  Range: ins:SanctionsScreening
ObjectProperty: ins:hasClaimComponent  Domain: ins:Claim or ins:ClaimComponent  Range: ins:ClaimComponent
ObjectProperty: ins:hasReserveType  Domain: ins:ClaimReserve  Range: skos:Concept  SHACL: skos:inScheme vocabulary/ins/reserve-type/
ObjectProperty: ins:hasPaymentType  Domain: ins:ClaimPayment  Range: skos:Concept  SHACL: skos:inScheme vocabulary/ins/payment-type/
```

Rationale. Reserves, payments and recoveries are enterprise financial concepts shared with Finance and Reinsurance, so they live in the enterprise layer (ins:); the reserve / payment / recovery types are enterprise code lists.

Change from CLM. Claim Reserve, Reserve Change, Claim Payment and Claim Recovery were promoted from CLM to the enterprise layer and re-based on the money pattern (A05).

Open items touching this diagram

- **OI-06** Relationships and attributes that say the same thing twice: `ins:hasPayment`
- **OI-08** Classes with no attributes or relationships of their own: `ins:Payee`
- **OI-09** Claim classes a query cannot reach from the claim: `clm:ComponentValuation`
- **OI-16** Retired IRIs reused for a different meaning: `ins:hasPayment`

Evidence id	Standard · section	What the standard says (verbatim)
`OMG-PC-ClaimMoney`	OMG P&C Data Model (PC) 1.0 8.3 Entity Definitions - Claim Amount; Claim Reserve; Claim Payment	“Claim Amount is the money being paid or collected for settling a claim and paying the claimants, reinsurers, other insurers, and other interested parties.” verified
`OMG-PC-ClaimPayment`	OMG P&C Data Model Clause 8.3 Entity Definitions, p. 42	“Claim Payment is the amount paid for loss or expense to settle a claim in whole or in part.” verified

ACORD-XML-ReserveChangeInfo	ACORD P&C XML ReserveChangeInfo (Aggregate) and ReservePositionTypeCd	“This aggregate contains information about a claim reserve.” verified
NAIC-Glossary-Subrogation	NAIC Glossary of Insurance Terms Subrogation	“situation where an insurer, on behalf of the insured, has a legal right to bring a liability suit against a third party who caused losses to the insured.” verified
NAIC-SSAP55-SalvageSubrogation	SSAP No. 55 General, para. 14	“If a reporting entity chooses to anticipate salvage and subrogation recoverables” verified

C03 – Guided adjudication



C03 – Guided adjudication (specialist rendering; IRIs as in the ontology)

```
Declared in the ontology
Class: ins:Claim  SubClassOf: fnd:Request
Class: clm:GuidedAdjudication  SubClassOf: fnd:Activity
Class: clm:AdjudicationStep  SubClassOf: fnd:Activity
Class: clm:AdjudicationRule  SubClassOf: fnd:BusinessRule
Class: clm:AdjudicationDecision  SubClassOf: fnd:Decision
Class: ins:GateDecision  SubClassOf: fnd:Decision
Class: clm:Referral  SubClassOf: fnd:Event
Class: clm:LiabilityAssessment  SubClassOf: fnd:Assessment
Class: fnd:DecisionTrace  SubClassOf: fnd:InformationEntity
Class: clm:CoverageDetermination  SubClassOf: fnd:Decision
Class: clm:ReservationOfRights  SubClassOf: fnd:Document
Class: clm:ClaimRuleSet  SubClassOf: fnd:BusinessRule
Class: clm:CoverageRule  SubClassOf: fnd:BusinessRule
Class: clm:ExclusionApplication  SubClassOf: fnd:Decision
Class: clm:ComponentValuation  SubClassOf: clm:Valuation
ObjectProperty: clm:hasGuidedAdjudication  Domain: ins:Claim  Range: clm:GuidedAdjudication
ObjectProperty: clm:hasAdjudicationStep  Domain: clm:GuidedAdjudication  Range: clm:AdjudicationStep  SubPropertyOf: fnd:hasPart
ObjectProperty: clm:appliesRule  Domain: clm:AdjudicationStep  Range: clm:AdjudicationRule
ObjectProperty: clm:producesDecision  Domain: clm:AdjudicationStep  Range: clm:AdjudicationDecision
ObjectProperty: clm:evaluatedBySTPGate  Domain: clm:AdjudicationStep  Range: ins:GateDecision
ObjectProperty: clm:resultsInReferral  Domain: clm:AdjudicationDecision or clm:FraudAssessment  Range: clm:Referral
ObjectProperty: clm:informedByLiabilityAssessment  Domain: clm:AdjudicationDecision  Range: clm:LiabilityAssessment
ObjectProperty: clm:hasDecisionTrace  Domain: clm:GuidedAdjudication  Range: fnd:DecisionTrace
ObjectProperty: clm:hasCoverageDetermination  Domain: ins:Claim  Range: clm:CoverageDetermination
…
```

Rationale. This is the shared adjudication framework every claim department plugs into: a department adds its own rule sets, steps and decision outcomes as data, without changing the framework. It follows OMG DMN (decisions), BPMN / CMMN (steps and case handling) and ACORD Claim Activity.

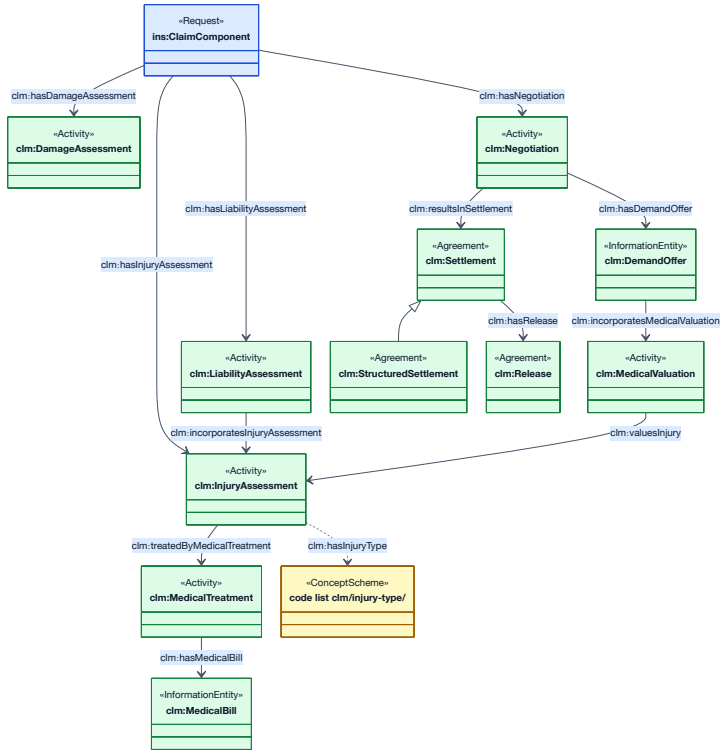
Change from CLM. STP gate and STP score were merged into one gate decision; Claim Denial merged into the coverage determination (a denial is now a denial reason); SIU Referral merged into Referral.

> **Open items touching this diagram**
> - **OI-09** Claim classes a query cannot reach from the claim: `clm:ComponentValuation`

Evidence id	Standard · section	What the standard says (verbatim)
`CMMN-6.15-ClaimsManagementExample`	CMMN Clause 6.15 Examples, Figure 6.73, p. 82	“The following illustration shows a combination of various elements, by means of a small example, which is about claims management. ... Figure 6.73 - Claims Management Example” verified
`DMN-5.3.1-Decision`	DMN Clause 5.3.1 Decision requirements level, p. 14	“a decision is the act of determining an output value (the chosen option), from a number of input values, using logic defining how the output is determined from the inputs.” verified

`BPMN-10.3-Activity`	BPMN Clause 10.3 Activities, p. 149	“An Activity is work that is performed within a Business Process. An Activity can be atomic or non-atomic (compound).” verified
`ACORD-IM-2026-ClaimActivity`	ACORD Information Model / Data Model (July 2026 release) News Detail	“Claim Activity subtypes, to represent the claim-related tasks that may be performed by humans, AI agents, or both within the claim lifecycle.” verified

C04 – Evaluation, negotiation and settlement



C04 – Evaluation, negotiation and settlement (specialist rendering; IRIs as in the ontology)

```
Declared in the ontology
Class: ins:ClaimComponent  SubClassOf: fnd:Request
Class: clm:DamageAssessment  SubClassOf: fnd:Assessment
Class: clm:InjuryAssessment  SubClassOf: fnd:Assessment
Class: clm:LiabilityAssessment  SubClassOf: fnd:Assessment
Class: clm:MedicalValuation  SubClassOf: clm:Valuation
Class: clm:MedicalTreatment  SubClassOf: fnd:Activity
Class: clm:MedicalBill  SubClassOf: fnd:Document
Class: clm:Negotiation  SubClassOf: fnd:Activity
Class: clm:DemandOffer  SubClassOf: fnd:InformationEntity
Class: clm:Settlement  SubClassOf: fnd:Agreement
Class: clm:StructuredSettlement  SubClassOf: clm:Settlement
Class: clm:Release  SubClassOf: fnd:Agreement
ObjectProperty: clm:hasDamageAssessment  Domain: ins:ClaimComponent  Range: clm:DamageAssessment
ObjectProperty: clm:hasInjuryAssessment  Domain: ins:ClaimComponent  Range: clm:InjuryAssessment
ObjectProperty: clm:hasLiabilityAssessment  Domain: ins:ClaimComponent  Range: clm:LiabilityAssessment
ObjectProperty: clm:incorporatesInjuryAssessment  Domain: clm:LiabilityAssessment  Range: clm:InjuryAssessment
ObjectProperty: clm:valuesInjury  Domain: clm:MedicalValuation  Range: clm:InjuryAssessment
ObjectProperty: clm:treatedByMedicalTreatment  Domain: clm:InjuryAssessment  Range: clm:MedicalTreatment
ObjectProperty: clm:hasMedicalBill  Domain: clm:MedicalTreatment  Range: clm:MedicalBill
ObjectProperty: clm:hasNegotiation  Domain: ins:ClaimComponent  Range: clm:Negotiation
ObjectProperty: clm:hasDemandOffer  Domain: clm:Negotiation  Range: clm:DemandOffer
ObjectProperty: clm:incorporatesMedicalValuation  Domain: clm:DemandOffer  Range: clm:MedicalValuation
ObjectProperty: clm:resultsInSettlement  Domain: clm:Negotiation  Range: clm:Settlement
ObjectProperty: clm:hasRelease  Domain: clm:Settlement  Range: clm:Release
…
```

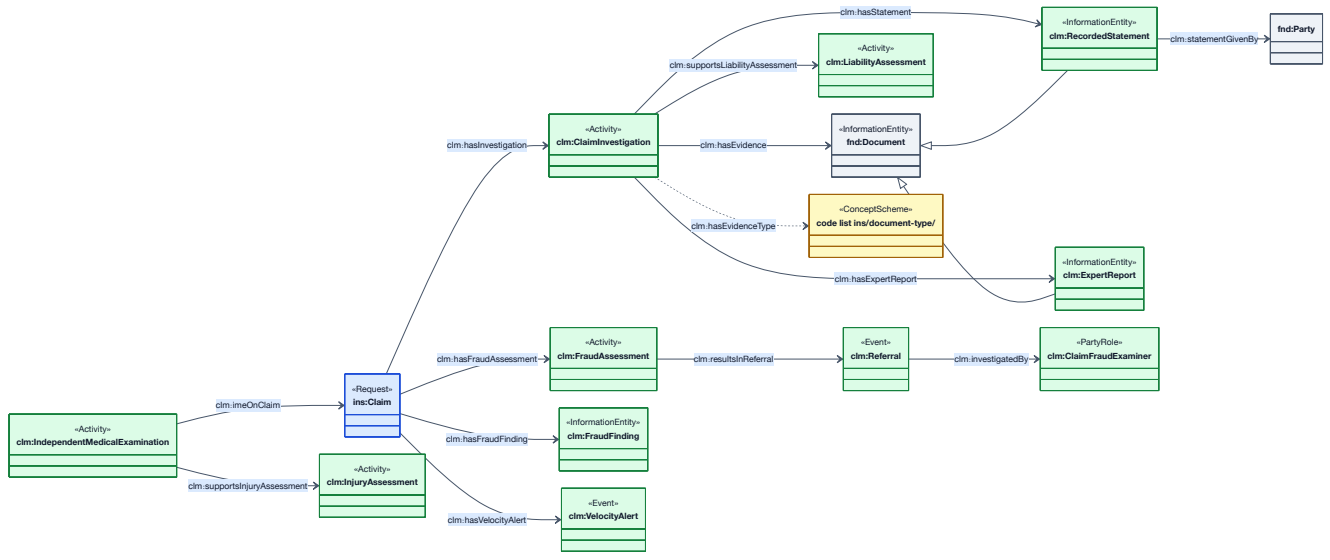
Rationale. These are shared claim-handling concepts (OMG P&C 'Claim Offer', 'Claim Assessment'); each department adds its own assessment details underneath.

Change from CLM. AI-extracted injury indicators (amputation, paraplegia, permanent disability…) were moved to the provenance layer; whether the business fact should stay is an open decision for you (OI-05).

> **Open items touching this diagram**
> - **OI-01** Definitions that only repeat the label: `clm:treatedByMedicalTreatment`

Evidence id	Standard · section	What the standard says (verbatim)
`OMG-PC-ClaimOffer`	OMG P&C Data Model Clause 8.3 Entity Definitions, p. 42	“A Claim Offer is a proposal made by an insurer to a claimant or third party in order to settle a claim.” verified
`OMG-PC-ClaimAssessment`	OMG P&C Data Model Clause 8.3 Entity Definitions, p. 41	“Claim Assessment is an associative entity that relates a Claim to an Assessment. ... Claim Evaluation Result is the outcome of a Claim Assessment.” verified
`IBM-IIW-AssessmentCondition`	IBM IIW Business Data Model Packages - Assessment and Condition (p.16)	“Condition is the state of a place, a physical object or an activity occurrence existing at a given point in time.” verified

C05 – Investigation and fraud



C05 – Investigation and fraud (specialist rendering; IRIs as in the ontology)

```
Declared in the ontology
Class: ins:Claim  SubClassOf: fnd:Request
Class: clm:ClaimInvestigation  SubClassOf: fnd:Activity
Class: fnd:Document  SubClassOf: fnd:InformationEntity
Class: clm:RecordedStatement  SubClassOf: fnd:Document
Class: clm:ExpertReport  SubClassOf: fnd:Document
Class: clm:LiabilityAssessment  SubClassOf: fnd:Assessment
Class: clm:FraudAssessment  SubClassOf: fnd:Assessment
Class: clm:Referral  SubClassOf: fnd:Event
Class: clm:ClaimFraudExaminer  SubClassOf: fnd:PartyRole
Class: clm:FraudFinding  SubClassOf: fnd:InformationEntity
Class: clm:VelocityAlert  SubClassOf: fnd:Event
Class: clm:IndependentMedicalExamination  SubClassOf: fnd:Activity
Class: clm:InjuryAssessment  SubClassOf: fnd:Assessment
Class: fnd:Party  (root)
ObjectProperty: clm:hasInvestigation  Domain: ins:Claim  Range: clm:ClaimInvestigation
ObjectProperty: clm:hasEvidence  Domain: clm:ClaimInvestigation  Range: fnd:PhysicalObject or fnd:Document
ObjectProperty: clm:hasStatement  Domain: clm:ClaimInvestigation  Range: clm:RecordedStatement
ObjectProperty: clm:hasExpertReport  Domain: clm:ClaimInvestigation  Range: clm:ExpertReport
ObjectProperty: clm:supportsLiabilityAssessment  Domain: clm:ClaimInvestigation  Range: clm:LiabilityAssessment
ObjectProperty: clm:statementGivenBy  Domain: clm:RecordedStatement  Range: fnd:Party
ObjectProperty: clm:hasFraudAssessment  Domain: ins:Claim  Range: clm:FraudAssessment
ObjectProperty: clm:resultsInReferral  Domain: clm:AdjudicationDecision or clm:FraudAssessment  Range: clm:Referral
ObjectProperty: clm:investigatedBy  Domain: clm:Referral  Range: clm:ClaimFraudExaminer
ObjectProperty: clm:hasFraudFinding  Domain: ins:Claim  Range: clm:FraudFinding
…
```

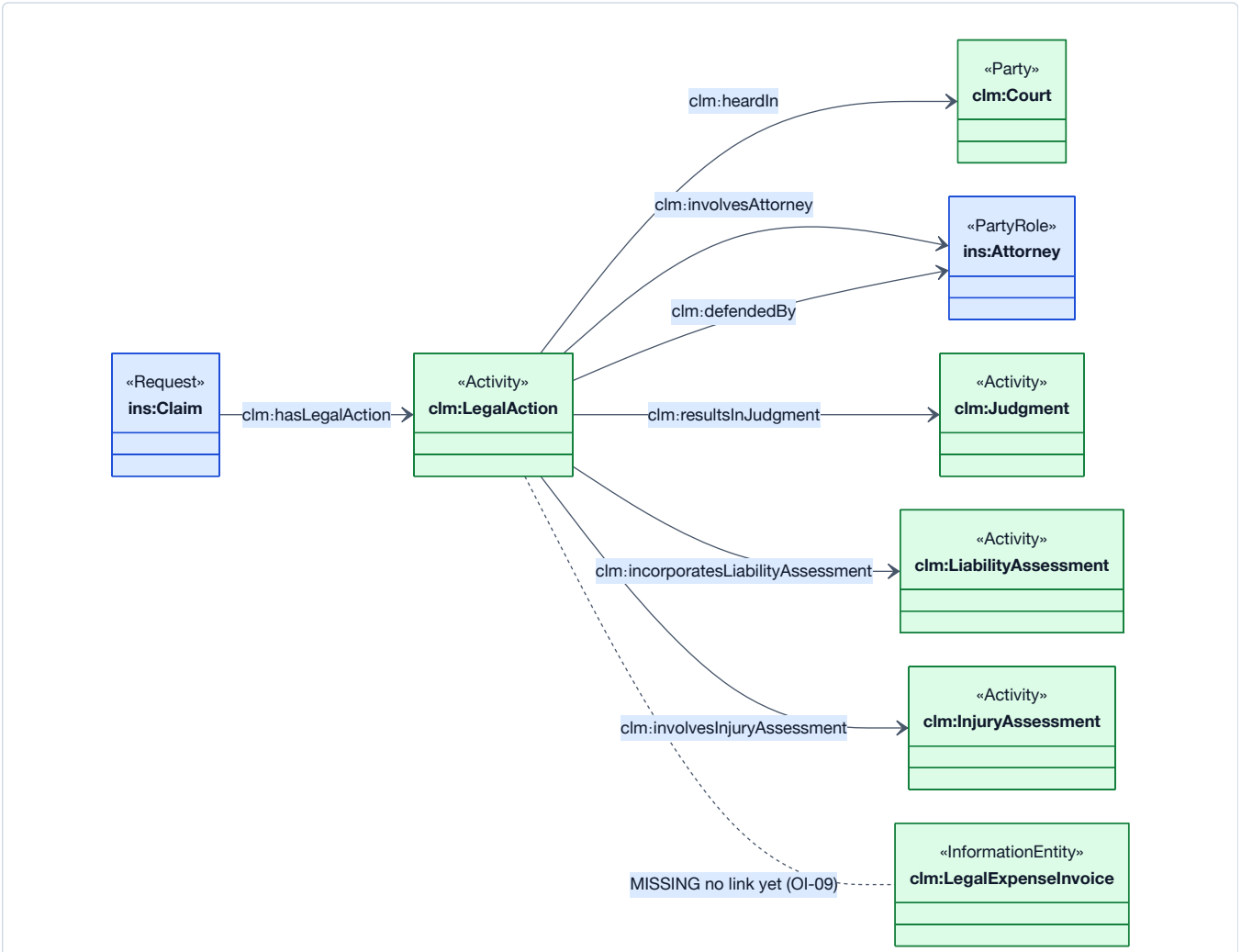
Rationale. 'Being evidence' is a role a document or object plays in an investigation, not a kind of thing (OntoClean), so the investigation links directly to the document or object.

Change from CLM. Evidence is no longer a class; SIU Referral merged into Referral with a referral type; the evidence link is now called 'has evidence' (corrected in this build).

> **Open items touching this diagram**
>
> - **OI-01** Definitions that only repeat the label: `clm:hasEvidence, clm:supportsLiabilityAssessment`
> - **OI-08** Classes with no attributes or relationships of their own: `clm:ClaimFraudExaminer`
> - **OI-10** Facts the business questions ask for that the model cannot hold: `clm:VelocityAlert`

Evidence id	Standard · section	What the standard says (verbatim)
`NAIC-Glossary-Claim`	NAIC Glossary of Insurance Terms Claim	“a request made by the insured for insurer remittance of payment due to loss incurred and covered under the policy agreement.” verified
`OMG-PC-ClaimAssessment`	OMG P&C Data Model Clause 8.3 Entity Definitions, p. 41	“Claim Assessment is an associative entity that relates a Claim to an Assessment. ... Claim Evaluation Result is the outcome of a Claim Assessment.” verified
`ACAD-ONTOCLEAN-RIGIDITY`	OntoClean Essence and Rigidity (unnumbered section)	“A special form of essence is rigidity: a property is rigid if it is essential to all its instances.” verified

C06 – Litigation



C06 – Litigation (specialist rendering; IRIs as in the ontology)

```
Declared in the ontology
Class: ins:Claim  SubClassOf: fnd:Request
Class: clm:LegalAction  SubClassOf: fnd:Activity
Class: clm:Court  SubClassOf: fnd:Organization
Class: ins:Attorney  SubClassOf: fnd:PartyRole
Class: clm:Judgment  SubClassOf: fnd:Decision
Class: clm:LiabilityAssessment  SubClassOf: fnd:Assessment
Class: clm:InjuryAssessment  SubClassOf: fnd:Assessment
Class: clm:LegalExpenseInvoice  SubClassOf: fnd:Document
ObjectProperty: clm:hasLegalAction  Domain: ins:Claim  Range: clm:LegalAction
ObjectProperty: clm:heardIn  Domain: clm:LegalAction  Range: clm:Court
ObjectProperty: clm:involvesAttorney  Domain: clm:LegalAction  Range: ins:Attorney  SubPropertyOf: fnd:hasPartyRole
ObjectProperty: clm:defendedBy  Domain: clm:LegalAction  Range: ins:Attorney  SubPropertyOf: fnd:hasPartyRole
ObjectProperty: clm:resultsInJudgment  Domain: clm:LegalAction  Range: clm:Judgment
ObjectProperty: clm:incorporatesLiabilityAssessment  Domain: clm:LegalAction  Range: clm:LiabilityAssessment
ObjectProperty: clm:involvesInjuryAssessment  Domain: clm:LegalAction  Range: clm:InjuryAssessment
```

Rationale. IBM IIW's 'Legal Action' covers every dispute-resolution proceeding, so one concept serves lawsuits, arbitrations and mediations, told apart by the proceeding type.

Change from CLM. Claim Litigation, Lawsuit and Legal Proceeding were three overlapping CLM classes; they are now one Legal Action. Legal expense invoices are not yet linked to the legal action (shown in red).

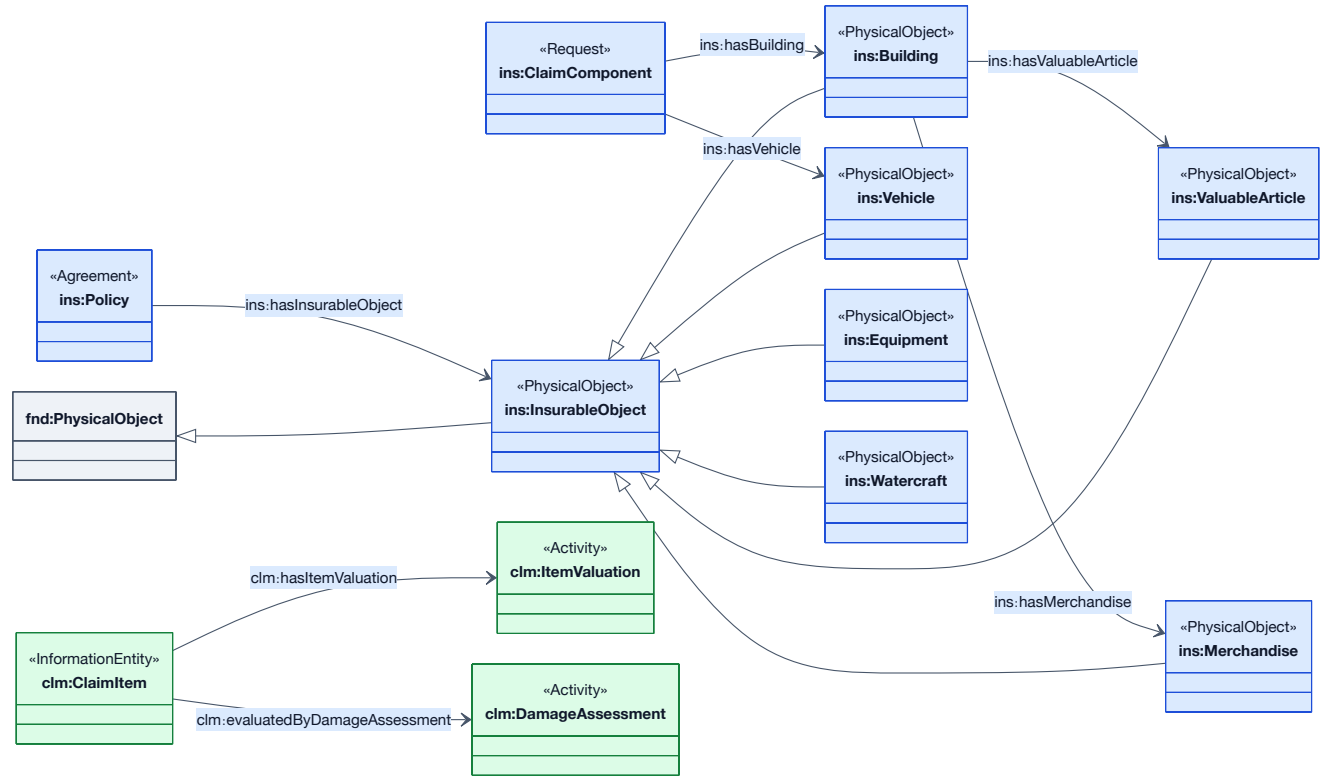
Open items touching this diagram

- **OI-09** Claim classes a query cannot reach from the claim: `clm:LegalExpenseInvoice`
- **OI-10** Facts the business questions ask for that the model cannot hold: `clm:Judgment`

Evidence id	Standard · section	What the standard says (verbatim)
`IBM-IIW-LegalAction`	IBM IIW Business Data Model Packages - Legal Action (p.17)	“Disputes can arise for different reasons, but often are related to claims; for example, when the liability of a claim is disputed, when a subrogation is issued” verified

CMNS-RGA-Jurisdiction	OMG Commons Commons 1.3 spec section 8.19 'Ontology: Regulatory Agencies' (p. 126); module RegulatoryAgencies	“power of a court or regulatory agency to adjudicate cases, issue orders, and interpret and apply the law with respect to some specific geographic area” verified

C07 – Insured objects and claim items



C07 – Insured objects and claim items (specialist rendering; IRIs as in the ontology)

```
Declared in the ontology
Class: fnd:PhysicalObject  (root)
Class: ins:InsurableObject  SubClassOf: fnd:PhysicalObject
Class: ins:Building  SubClassOf: ins:InsurableObject
Class: ins:Vehicle  SubClassOf: ins:InsurableObject
Class: ins:Equipment  SubClassOf: ins:InsurableObject
Class: ins:Merchandise  SubClassOf: ins:InsurableObject
Class: ins:ValuableArticle  SubClassOf: ins:InsurableObject
Class: ins:Watercraft  SubClassOf: ins:InsurableObject
Class: ins:Policy  SubClassOf: fnd:Agreement
Class: ins:ClaimComponent  SubClassOf: fnd:Request
Class: clm:ClaimItem  SubClassOf: fnd:InformationEntity
Class: clm:ItemValuation  SubClassOf: clm:Valuation
Class: clm:DamageAssessment  SubClassOf: fnd:Assessment
ObjectProperty: ins:hasInsurableObject  Domain: ins:Policy or ins:RiskLocation  Range: ins:InsurableObject
ObjectProperty: ins:hasVehicle  Domain: ins:ClaimComponent  Range: ins:Vehicle
ObjectProperty: ins:hasBuilding  Domain: ins:ClaimComponent  Range: ins:Building
ObjectProperty: ins:hasValuableArticle  Domain: ins:Building  Range: ins:ValuableArticle
ObjectProperty: ins:hasMerchandise  Domain: ins:Building  Range: ins:Merchandise
ObjectProperty: clm:hasItemValuation  Domain: clm:ClaimItem or ins:Building  Range: clm:ItemValuation
ObjectProperty: clm:evaluatedByDamageAssessment  Domain: clm:ClaimItem  Range: clm:DamageAssessment
```

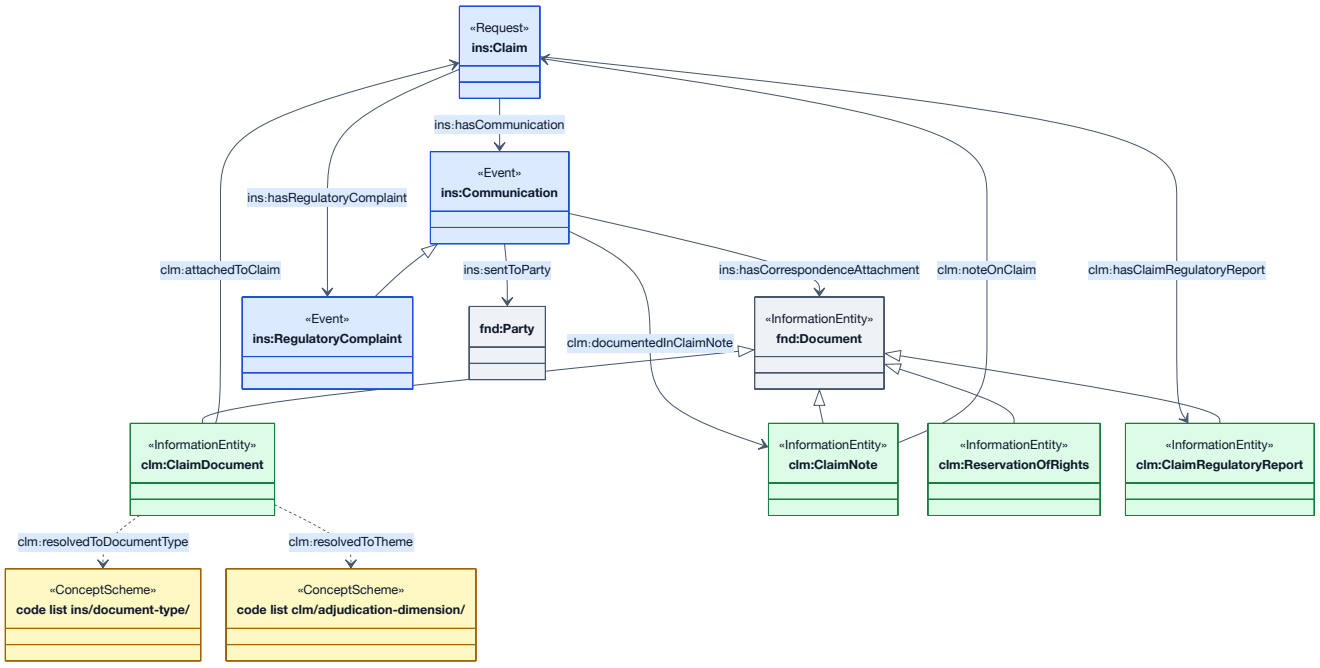
Rationale. The OMG P&C model and IBM IIW keep the insured object separate from its involvement in a claim; a department adds its own kinds of object underneath (e.g. aircraft, crops).

Change from CLM. Claim Property was a duplicate of Building and was merged; Workers' Compensation Item was split into a claim component, equipment and a body-part code.

> **Open items:** none touch this diagram.

Evidence id	Standard · section	What the standard says (verbatim)
`OMG-PC-InsurableObject`	OMG P&C Data Model Clause 8.3 Entity Definitions, p. 46	“An Insurable Object is an item which may be included or excluded from an insurance coverage or policy, either as the object for which possible damages of the object or loss of the object is insured …” verified
`IBM-IIW-PhysicalObject-Place`	IBM IIW Business Data Model Packages - Physical Object and Place (p.17)	“All physical objects that can be covered by an insurance policy, excluded from insurance or involved in a claim, are represented in the model.” verified
`FIBO-FND-OAC-PhysicalAsset`	FIBO FND/OwnershipAndControl/Ownership (ontology maturity: Release)	“tangible asset that has a material form, such as property, equipment, and inventory” verified

C08 – Documents and communications



C08 – Documents and communications (specialist rendering; IRIs as in the ontology)

```
Declared in the ontology
Class: ins:Claim  SubClassOf: fnd:Request
Class: fnd:Document  SubClassOf: fnd:InformationEntity
Class: clm:ClaimDocument  SubClassOf: fnd:Document
Class: clm:ClaimNote  SubClassOf: fnd:Document
Class: clm:ReservationOfRights  SubClassOf: fnd:Document
Class: clm:ClaimRegulatoryReport  SubClassOf: fnd:Document
Class: ins:Communication  SubClassOf: fnd:Event
Class: ins:RegulatoryComplaint  SubClassOf: ins:Communication
Class: fnd:Party  (root)
ObjectProperty: clm:attachedToClaim  Domain: clm:ClaimDocument  Range: ins:Claim
ObjectProperty: clm:noteOnClaim  Domain: clm:ClaimNote  Range: ins:Claim
ObjectProperty: ins:hasCommunication  Domain: ins:Claim  Range: ins:Communication
ObjectProperty: ins:sentToParty  Domain: ins:Communication  Range: fnd:Party
ObjectProperty: clm:documentedInClaimNote  Domain: ins:Communication  Range: clm:ClaimNote
ObjectProperty: ins:hasCorrespondenceAttachment  Domain: ins:Communication  Range: fnd:Document
ObjectProperty: clm:hasClaimRegulatoryReport  Domain: ins:Claim  Range: clm:ClaimRegulatoryReport
ObjectProperty: ins:hasRegulatoryComplaint  Domain: ins:Claim  Range: ins:RegulatoryComplaint
ObjectProperty: clm:resolvedToDocumentType  Domain: clm:ClaimDocument  Range: skos:Concept  SHACL: skos:inScheme vocabulary/ins/document-type/
ObjectProperty: clm:resolvedToTheme  Domain: clm:ClaimDocument  Range: skos:Concept  SHACL: skos:inScheme vocabulary/clm/adjudication-dimension/
```

Rationale. OMG Commons defines Document, Record and Notice; a single document concept with a type code keeps every department's documents searchable in one way.

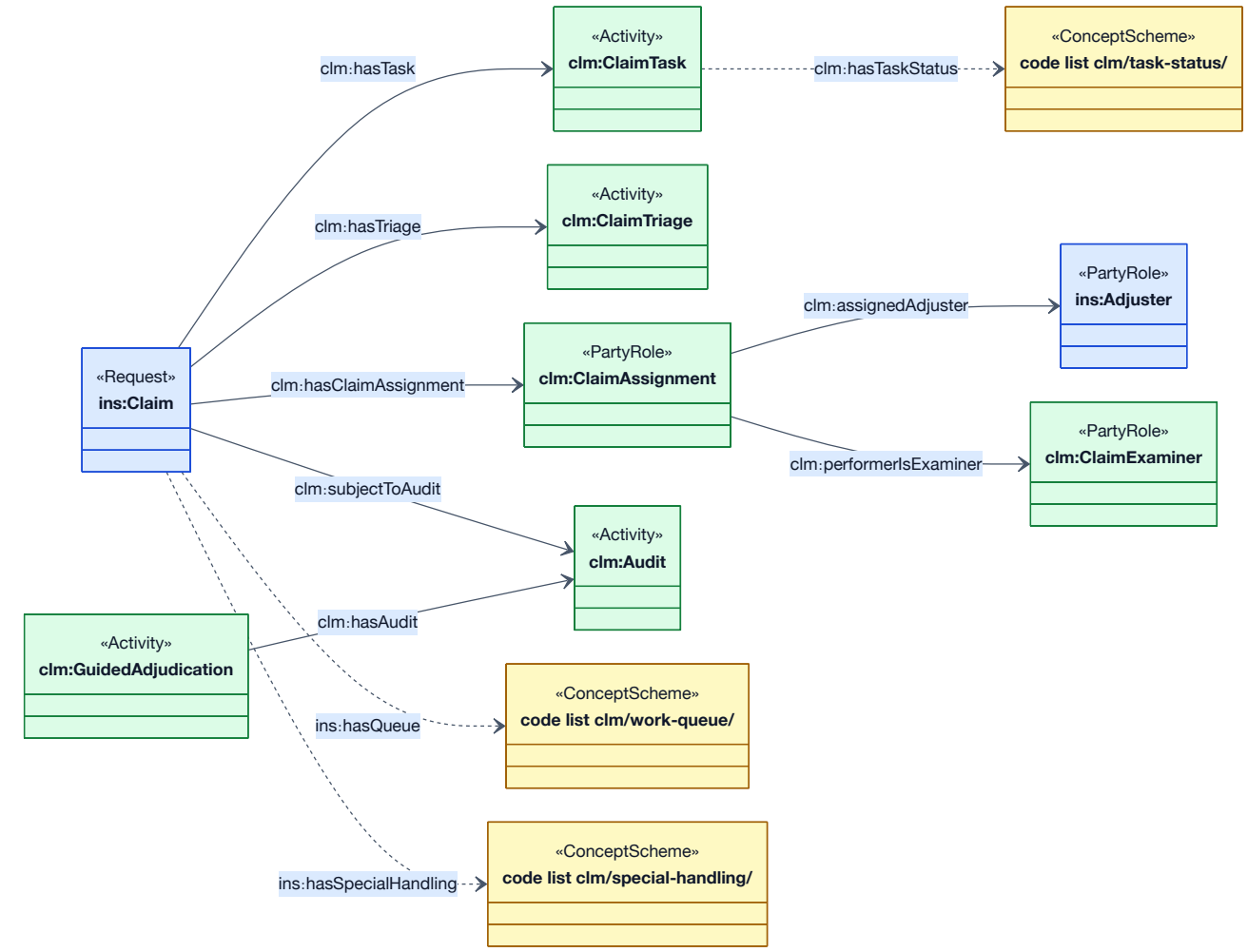
Change from CLM. Claim Attachment became Claim Document; document-routing and extraction profiles moved to the application configuration graph.

Open items touching this diagram

- **OI-01** Definitions that only repeat the label: `clm:documentedInClaimNote, ins:sentToParty`
- **OI-10** Facts the business questions ask for that the model cannot hold: `clm:ClaimRegulatoryReport, ins:RegulatoryComplaint`

Evidence id	Standard · section	What the standard says (verbatim)
`CMNS-DOC-Document`	OMG Commons Commons 1.3 spec section 8.10 'Ontology: Documents' (p. 59); module Documents	“unitary expression of some realization of an intellectual or artistic work” verified
`CMNS-DOC-Record`	OMG Commons Commons 1.3 spec section 8.10 'Ontology: Documents' (p. 59); module Documents	“memorialization and objective evidence of activities performed, events occurred, results achieved, or statements made, regardless of its characteristics, media, physical form, or the manner in which it is recorded or stored” verified
`CMNS-DOC-Notice`	OMG Commons Commons 1.3 spec section 8.10 'Ontology: Documents' (p. 59); module Documents	“announcement, communication, intimation, or advance warning of something, usually, but not necessarily, to allow preparations to be made” verified
`OMG-PC-ClaimFolder`	OMG P&C Data Model Clause 8.3 Entity Definitions, p. 41	“A Claim Folder is the physical file in which all claim documents are maintained. ... Claim Folder Document is written information such as agreements, financial statements, offers, proposals, etc.” verified

C09 – Handling and workflow



C09 – Handling and workflow (specialist rendering; IRIs as in the ontology)

```
Declared in the ontology
Class: ins:Claim  SubClassOf: fnd:Request
Class: clm:ClaimTask  SubClassOf: fnd:Activity
Class: clm:ClaimTriage  SubClassOf: fnd:Decision
Class: clm:ClaimAssignment  SubClassOf: fnd:PartyRole
Class: ins:Adjuster  SubClassOf: fnd:PartyRole
Class: clm:ClaimExaminer  SubClassOf: fnd:PartyRole
Class: clm:Audit  SubClassOf: fnd:Activity
Class: clm:GuidedAdjudication  SubClassOf: fnd:Activity
ObjectProperty: clm:hasTask  Domain: ins:Claim  Range: clm:ClaimTask
ObjectProperty: clm:hasTriage  Domain: ins:Claim  Range: clm:ClaimTriage
ObjectProperty: clm:hasClaimAssignment  Domain: clm:GuidedAdjudication or ins:Claim  Range: clm:ClaimAssignment
ObjectProperty: clm:assignedAdjuster  Domain: clm:ClaimAssignment  Range: ins:Adjuster  SubPropertyOf: fnd:hasPartyRole
ObjectProperty: clm:performerIsExaminer  Domain: clm:ClaimAssignment  Range: clm:ClaimExaminer
ObjectProperty: clm:subjectToAudit  Domain: ins:Claim  Range: clm:Audit
ObjectProperty: clm:hasAudit  Domain: clm:GuidedAdjudication  Range: clm:Audit
ObjectProperty: ins:hasQueue  Domain: ins:Claim  Range: skos:Concept  SHACL: skos:inScheme vocabulary/clm/work-queue/
ObjectProperty: ins:hasSpecialHandling  Domain: ins:Claim  Range: skos:Concept  SHACL: skos:inScheme vocabulary/clm/special-handling/
ObjectProperty: clm:hasTaskStatus  Domain: clm:ClaimTask  Range: skos:Concept  SHACL: skos:inScheme vocabulary/clm/task-status/
```

Rationale. These handling concepts are common to every claim department; work queues and special-handling values are where departments differ, so they are code lists a department can extend.

Change from CLM. 'Has diary' and 'has task' still both exist and mean the same thing (open item OI-06).

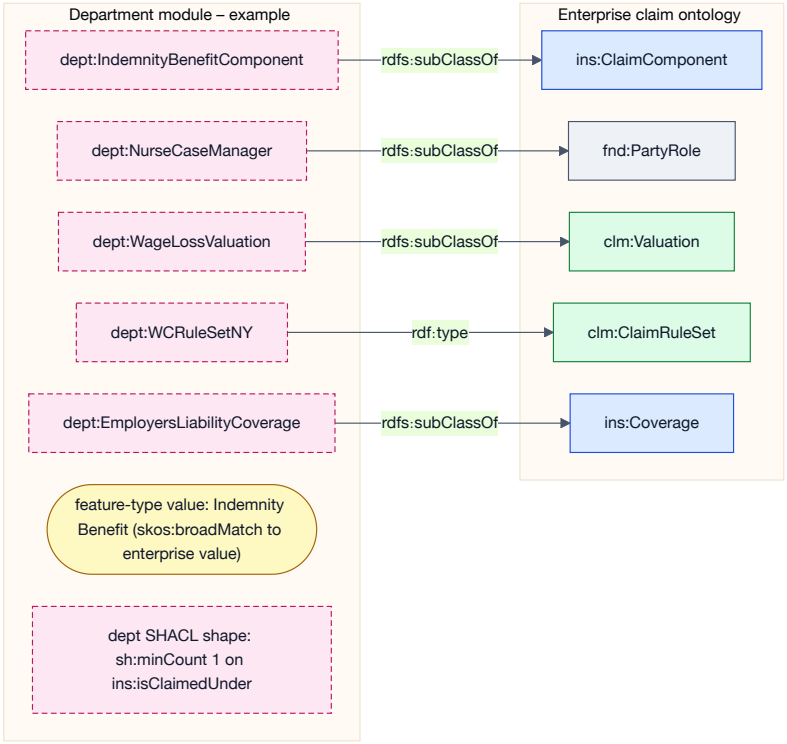
Open items touching this diagram

- **OI-04** Code lists created empty (skeleton) – values still to be loaded: `vocabulary/clm/work-queue/`
- **OI-06** Relationships and attributes that say the same thing twice: `clm:hasTask`
- **OI-08** Classes with no attributes or relationships of their own: `clm:ClaimExaminer`

Evidence id	Standard · section	What the standard says (verbatim)

`CMMN-4.1-Case`	CMMN Clause 4.1 General Concept, p. 5	“A Case is a proceeding that involves actions taken regarding a subject in a particular situation to achieve a desired outcome.” verified
`OMG-PC-ClaimAdministrator`	OMG P&C Data Model Clause 8.3 Entity Definitions, p. 41	“Claim Administrator is a Role played by a Party who is designated by the insurance company, to manage the administration and handling of a claim.” verified

C10 – How a department extends the enterprise claim ontology (example)



C10 – How a department extends the enterprise claim ontology (example) (specialist rendering; IRIs as in the ontology)

```
Declared in the ontology
Class: ins:ClaimComponent  SubClassOf: fnd:Request
Class: fnd:PartyRole  (root)
Class: clm:Valuation  SubClassOf: fnd:Assessment
Class: clm:ClaimRuleSet  SubClassOf: fnd:BusinessRule
Class: ins:Coverage  SubClassOf: fnd:Commitment
```

Rationale. This is how FIBO and the OMG specifications are extended by users: import, subclass, specialise properties, never edit the imported files. SHACL shapes in the department module may tighten the rules but not relax them.

Change from CLM. New – the CLM ontology had no extension mechanism; departments would have copied it.

> **Open items:** none touch this diagram.

Evidence id	Standard · section	What the standard says (verbatim)
`FIBO-GUIDE-NoUpperOntology`	FIBO Conceptual Modeling Approach > Overarching Principles (item 4)	“We have not integrated FIBO with any existing 'upper' ontology, and are increasingly limiting the number of philosophically-grounded concepts at our highest levels.” verified
`FIBO-GUIDE-DomainRange`	FIBO Conceptual Modeling Approach > Overarching Principles (item 2)	“we attempt to define properties at the highest level in the property hierarchy where they may be applicable and limit the use of the domain and range restrictions.” verified
`W3C-SKOS-REF-10.1-CLOSE`	SKOS Reference 10.1. Preamble (in 10. Mapping Properties)	“The property skos:closeMatch is used to link two concepts that are sufficiently similar that they can be used interchangeably in some information retrieval applications.” verified
`W3C-SHACL-2.1.4`	SHACL 2.1.4 Declaring the Severity of a Shape	“The specific values of sh:severity have no impact on the validation, but MAY be used by user interface tools to categorize validation results.” verified

6. Axiom inventory

Axiom type	Count	Meaning in this ontology
owl:AllDisjointClasses	1	The 13 foundation roots are pairwise disjoint (A01).
owl:FunctionalProperty	324	Single-valued datatype properties (one claim number, one effective date…); SHACL adds sh:maxCount 1.
owl:unionOf	24	Union domains / ranges where one relation serves two classes (e.g. ins:hasClaimReserve on Claim ∪ ClaimComponent).
rdfs:domain	1,501	Every property has a domain except the generic foundation properties, which are open by design (FIBO).
rdfs:range	1,522	Every property has a range except fnd:hasPart (abstract) and clm:noteConcerns (OI-11).
rdfs:subClassOf	185	Every class sits under exactly one foundation root.
rdfs:subPropertyOf	150	Specific relations specialise nine generic foundation properties (A09).
skos:closeMatch	46	Alignments of foundation and enterprise terms to FIBO, OMG Commons, gist and W3C terms.

No owl:inverseOf (gist / FIBO advice: query the inverse instead of asserting it), no owl:equivalentClass and no property restrictions: cardinality and value constraints are SHACL, not OWL, so the ontology stays in OWL 2 DL and the reasoner stays fast.

7. Validation, tests and competency questions

The regression suite `tests/test_enterprise.py` runs after every build (163 passed, 0 failed): every file parses; every class and property has a label, an ISO 704 definition and rdfs:isDefinedBy; layering; no class under two disjoint roots; datatype ranges in the OWL 2 datatype map; no punning; unique labels; SHACL targets, paths and datatypes agree with the ontology; SKOS integrity; the crosswalk covers every CLM term; and, for every ported competency question, that it parses, uses only declared terms, and respects domain / range and the money and code-list value patterns.

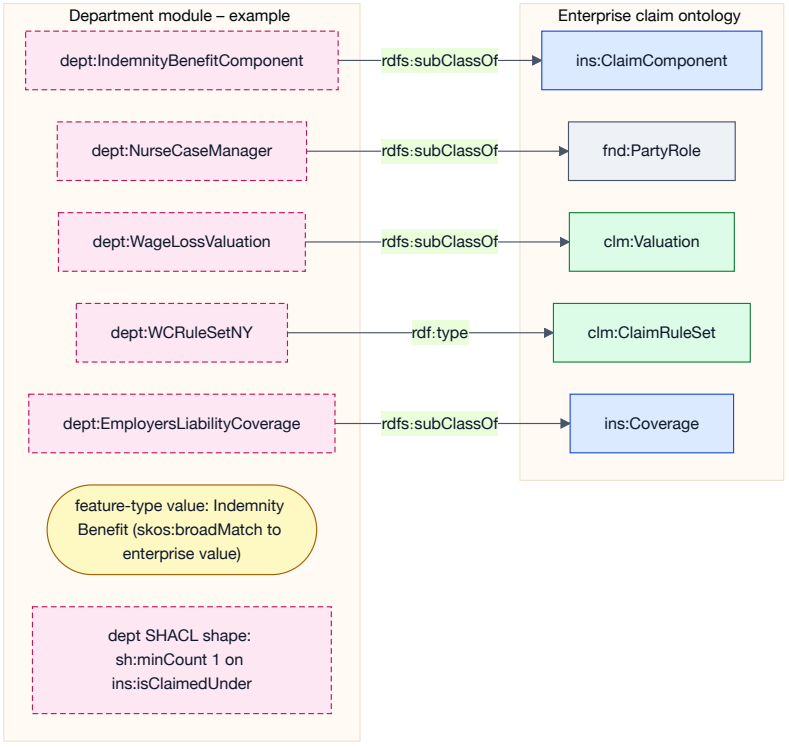
Rewrite kind	Questions	Meaning
dropped pattern	9	Part of the question asks for a fact the model does not hold (see OI-10).
rename	7	Only names changed.
restructured	57	The pattern changed (merged classes, coded values, money as MonetaryAmount).
unmappable	3	The question was about pipeline / analytics data that left the business ontology.

Question	Business question	How it is answered now
`CQ-COMP-02` `dropped pattern`	Which claims have a Department of Insurance complaint and what is the complaint status?	clm:DOIComplaint promoted to ins:RegulatoryComplaint and clm:hasDOIComplaint to ins:hasRegulatoryComplaint. clm:complaintReceivedDate never existed in the source ontology; ins:complaintDate is used. clm:complaintStatus never existed either and ins:RegulatoryComplaint declares no status property, so the status pattern (and ?status) is dropped.
`CQ-COMP-06` `dropped pattern`	Which claims require a statutory report filing, and has the filing deadline been met?	clm:StatutoryClaimReport renamed into clm:ClaimRegulatoryReport, discriminated by vocabulary/clm/claim-regulatory-report-type/StatutoryClaimReport via fnd:hasDocumentType; clm:hasStatutoryClaimReport to clm:hasClaimRegulatoryReport. clm:reportFilingDeadline and clm:reportFiledDate never existed in the source ontology and clm:ClaimRegulatoryReport declares no date properties, so both are dropped; the SKOS link clm:hasReportingStatus is returned as the nearest signal for whether filing is complete.
`CQ-HIST-04` `unmappable`	What benchmark records exist for a claim, and how does the claim compare to peer benchmarks?	clm:BenchmarkRecord was re-parented to W3C Data Cube qb:Observation (industry statistics are observations in a statistical dataset) and clm:benchmarksClaim was retired; clm:benchmarkValue and clm:percentileRank never existed in the source ontology. The enterprise ontology declares qb:Observation as a reused external class but no Chubb property joins a claim to an observation: the comparison dimensions (line of business, cause of loss, severity band) belong to the dataset's qb:DataStructureDefinition. The query lists the observations and their dataset; the claim comparison is left to the analytics layer.
`CQ-INV-05` `dropped pattern`	Which claims triggered a velocity alert and what was the alert threshold exceeded?	clm:Claim to ins:Claim; clm:VelocityAlert re-parented under fnd:Event and clm:hasVelocityAlert kept. clm:alertType never existed in the source ontology; the SKOS link clm:hasVelocityAlertType is used. clm:thresholdValue never existed either and clm:VelocityAlert declares no threshold, so that pattern (and ?thresholdValue) is dropped; clm:velocityAlertDate is returned instead.
`CQ-ITEM-02` `dropped pattern`	What vehicle details are recorded for vehicle claims, including make, model, and year?	clm:Vehicle promoted to ins:Vehicle (an ins:InsurableObject) and is reached from the claim through ins:hasClaimComponent / ins:hasVehicle (clm:itemOnClaim applies to clm:ClaimItem only). clm:vehicleMake to ins:vehicleMake. clm:vehicleYear and clm:vehicleVIN never existed in the source ontology; ins:vehicleModelYear and ins:vehicleIdentificationNumber are used. clm:vehicleModel moved to the mapping / provenance layer, so the model pattern (and ? model) is dropped.
`CQ-ITEM-04` `dropped pattern`	What workers' compensation items are on record for a claimant and what is the injury type?	clm:WorkersCompensationItem was split three ways (the WC benefit line is an ins:ClaimComponent, the equipment an ins:Equipment, the body part a code in vocabulary/clm/body-part/) and clm:hasWorkersCompensationItem to ins:hasClaimComponent; clm:ClaimLine to ins:ClaimComponent. The injury facts live on clm:InjuryAssessment (clm:hasInjuryAssessment): clm:injuryType became the SKOS link clm:hasInjuryType (vocabulary/clm/injury-type/); clm:bodyPartAffected never existed in the source ontology, clm:bodyPart is used (the body-part scheme is a skeleton still to be loaded); clm:disabilityStatus never existed either; ins:disabilityStartDate / ins:disabilityEndDate on the component give the disability period. clm:permanentDisabilityFlag (an AI indicator extracted from notes) moved to the mapping / provenance layer, so the permanent-disability pattern is dropped – see the open item on AI-extracted injury indicators.
`CQ-LIT-04` `dropped pattern`	Which litigated claims resulted in a judgment, and what was the judgment amount?	clm:Claim to ins:Claim; clm:ClaimLitigation to clm:LegalAction and clm:hasLitigation to clm:hasLegalAction; clm:resultsInJudgment and clm:Judgment (now a fnd:Decision) kept. clm:judgmentAmount became an object property (fnd:MonetaryAmount via fnd:amount). clm:judgmentDate never existed in the source ontology and clm:Judgment declares no date, so that pattern (and ?judgmentDate) is dropped; clm:verdict is returned instead.
`CQ-PROV-03` `unmappable`	What reinsurance account information is tracked in the provenance record?	clm:reinsuranceAccountCode, clm:reinsuranceTypeName and clm:sourceTransactionID are source-system lineage and moved to the mapping / provenance layer (R2RML mappings and PROV graphs); no enterprise term carries them, and reinsurance itself is modelled on the policy (ins:hasReinsuranceContract, ins:hasReinsuranceType). What PROV-O can answer is which source record an entity prov:wasDerivedFrom; the account code lives on that record in the mapping layer.
`CQ-DA-02` `unmappable`	Which predicates are extractable from a given document type?	clm:PredicateExtractionProfile is a meta-model of ontology predicates for the IDP pipeline and moved to the extraction configuration graph, with clm:targetPredicate, clm:extractableFromDocument and clm:extractionMethod. No enterprise term answers the question; the document type itself survives as vocabulary/ins/document-type/MedicalDocument (the clm document-type scheme was promoted to ins). The query only confirms the document type concept; the extraction profiles are read from the configuration graph.

CQ-INS-04 `dropped pattern`	What reinsurance contracts and cessions are linked to a policy?	ins:Policy, ins:hasReinsuranceContract, ins:ReinsuranceContract, ins:hasReinsuranceCession and ins:hasReinsurer kept (labels aligned). ins:cessionAmount never existed in the source ontology and ins:ReinsuranceCession (a fnd:FinancialTransaction) declares no amount yet, so that pattern (and ?cessionAmount) is dropped; the SKOS link ins:hasReinsuranceType is returned instead.
CQ-WF-02 `dropped pattern`	What underwriting stages has a submission passed through, and what is the current stage?	ins:UWStage was converted to SKOS reference data (vocabulary/uw/workflow-stage/) and ins:hasUWStage to uw:hasUWStage, which links the uw:Submission to the stage it currently occupies; ins:stageName is the concept's skos:prefLabel (skos:notation gives the code). ins:stageStatus never existed in the source ontology and the stage link itself is the current stage, so the status pattern (and ?stageStatus) is dropped; stages passed through are a history question for the event log, not the ontology.
CQ-WF-03 `dropped pattern`	Which bind requests resulted in a binder being issued, and are there open subjectivities?	ins:BindRequest to uw:BindRequest (a fnd:Request); ins:hasBinder to uw:hasBinder; ins:Binder re-parented under fnd:Agreement; ins:hasSubjectivity kept and ins:Subjectivity re-parented under fnd:Commitment. ins:subjectivityStatus never existed in the source ontology and ins:Subjectivity declares no status property, so the status pattern (and ?subjectivityStatus) is dropped.

Only the dropped and unmappable questions are listed; all 76 with their SPARQL are in competency-v2/ and the workbook sheet ‘Competency Questions’. The questions have not yet been executed against instance data (OI-14).

8. Enterprise claim release and how departments extend it



Department extension pattern (illustrative department terms in pink; they are not part of the ontology).

Rule	What a department module may and may not do
Import, never edit	owl:imports the enterprise claim release (fnd + ins + clm); never changes an enterprise file, label, definition, domain or range.
Own namespace	Mints terms only in its own namespace (e.g. https://ontology.chubb.com/ontology/clm-wc/); one module per department, versioned with the enterprise release it imports.
Subclass, don't duplicate	Every new class has an enterprise parent (see 'How to extend' per class in the workbook); a new class that duplicates an enterprise class is rejected in review.
Specialise properties	New properties declare rdfs:subPropertyOf the enterprise property they refine (fnd:hasPartyRole, fnd:identifier, fnd:hasPart, fnd:hasOutcome…) so enterprise queries still find them.
Codes before classes	A new kind of claim component, document or payment is first a new code value (skos:broadMatch to the enterprise value); a subclass only when it needs its own attributes.
Rules are data	Department rule sets, steps and decision outcomes are instances of clm:ClaimRuleSet / clm:CoverageRule / clm:AdjudicationRule, keyed by line of business and jurisdiction.
Tighten, never relax	Department SHACL shapes may add constraints (minCount, value lists) on enterprise classes; they never remove one.
Same quality gate	The department module must pass the same regression suite (definitions, layering, DL profile, reasoner, SHACL meta-validation) plus its own competency questions.

9. Open items – what still needs to be fixed

Id	Prio	Open item	Count	Why it matters · recommended fix	Owner
OI-01	P2	Definitions that only repeat the label `clm:addressesInjuryAssessment, clm:auditDate, clm:auditQuestion, clm:demandDate, clm:documentedInClaimNote …`	30	An ISO 704 definition (genus + differentia) is what lets every department read the term the same way; 'Demand Date.' says nothing. **Fix:** SME writes a one-sentence definition; the engineer stores it as skos:definition and removes the editorial note.	SME
OI-02	P2	Definitions generated from the label (source held only lineage) `clm:fileNoteTextLastUpdateTimestamp, clm:fileNoteTextWithHtmlTags, clm:hasAuthorityLimitType, clm:hasAuthorityStatus, clm:hasInjuryStatus …`	22	The source definition was only system lineage, so the build wrote a placeholder from the label. **Fix:** SME confirms or rewrites the generated sentence.	SME
OI-03	P3	Code values whose definitions were generated from the label `vocabulary/clm/claim-lifecycle-event-type/Closed, vocabulary/clm/claim-lifecycle-event-type/Opened, vocabulary/clm/claim-lifecycle-event-type/Reopened, vocabulary/clm/claim-regulatory-report-type/CMSSection111Report, vocabulary/clm/claim-regulatory-report-type/ISOClaimSearchReport …`	72	Code values are shared across departments; a value without a definition is used inconsistently. **Fix:** SME confirms each value's meaning and gives the source-system code (skos:notation).	SME
OI-04	P1	Code lists created empty (skeleton) – values still to be loaded `vocabulary/clm/advocacy/, vocabulary/clm/body-part/, vocabulary/clm/work-queue/, vocabulary/fnd/legal-entity-type/, vocabulary/ins/construction-type/ …`	13	A property constrained to an empty code list cannot be populated; SHACL rejects every value. **Fix:** Load the values (with skos:notation and definitions) from the source system or the ACORD code list; SME confirms.	SME + data owner
OI-05	P1	AI-extracted injury, liability and handling indicators moved to provenance `clm:amputationFlag, clm:catastrophicInjuryToChildFlag, clm:damagesWithinPrimaryLayerFlag, clm:distractedDrivingFlag, clm:drugInvolvementFlag …`	43	These indicators (e.g. amputation, paraplegia, permanent disability) were defined as 'AI indicator extracted from adjuster notes', so the build moved them to the PROV layer. The business fact itself (an amputation occurred) now has no home in the ontology, while the adjuster's reasoning text was kept. **Fix:** Decide per indicator: (a) keep the fact as a business attribute and record the AI origin as PROV-O provenance, or (b) express it as a value of an injury-severity / handling-indicator code list (several already exist in vocabulary/clm/injury-type/).	SME
OI-06	P2	Relationships and attributes that say the same thing twice `clm:assignmentOnClaim, clm:depreciationAmount, clm:grossSettlementAmount, clm:hasDiary, clm:hasTask …`	28	Two names for one fact split the data: one department fills one, another department the other. **Fix:** SME confirms each pair is one fact; the engineer keeps the survivor and maps the other to it (merge + crosswalk).	SME + ontology engineer
OI-07	P1	Money, dates and counts still stored with the wrong datatype `ins:dateOfLoss, ins:roofAge, ins:totalIncurred, ins:totalOutstanding`	4	The model's own convention is money → fnd:MonetaryAmount (amount + currency), dates → date, counts → integer; these few escaped the automatic conversion (e.g. ins:dateOfLoss is text, ins:totalIncurred is a bare decimal while ins:totalPaid is money). **Fix:** Convert each to the convention and update its SHACL shape.	Ontology engineer
OI-08	P3	Classes with no attributes or relationships of their own `clm:AssignmentOfBenefits, clm:ClaimExaminer, clm:ClaimFraudExaminer, clm:ClaimPaymentAuthorization, clm:ExtractionResult …`	36	A class with nothing to say may be a pure role marker (fine, e.g. ins:Claimant) or a concept whose attributes were lost in the merge. **Fix:** SME confirms each is intended as a marker, or names the attributes it needs.	SME
OI-09	P1	Claim classes a query cannot reach from the claim `clm:AssignmentOfBenefits, clm:ClaimPaymentAuthorization, clm:ComponentValuation, clm:LegalExpenseInvoice`	4	No chain of claim relationships (in either direction, not counting shared hubs such as amounts and code lists) connects these classes to ins:Claim; clm:ComponentValuation is reached only through a payment, never from the claim component it values – the competency question on exclusions had to leave that join open. **Fix:** Add the missing link (e.g. ins:ClaimComponent —clm:hasComponentValuation→ clm:ComponentValuation; clm:LegalAction —clm:hasLegalExpenseInvoice→ clm:LegalExpenseInvoice) or confirm the class is reached another way.	SME + ontology engineer
OI-10	P2	Facts the business questions ask for that the model cannot hold `clm:ClaimRegulatoryReport, clm:Judgment, clm:VelocityAlert, ins:RegulatoryComplaint, ins:ReinsuranceCession …`	7	Found while porting the competency questions: the question is valid but the class has no attribute for the fact. **Fix:** SME confirms the fact is needed; the engineer adds the attribute (or a code list) to the enterprise class.	SME + ontology engineer
OI-11	P2	Properties without a range `clm:noteConcerns`	1	Without a range the property cannot be validated or used by a reasoner (fnd:hasPart is abstract by design and excluded). **Fix:** Declare the range.	Ontology engineer
OI-12	P2	Limits and deductibles held twice: as flat amounts and as coverage terms `ins:aggregateCoverageLimitAmount, ins:aggregateLimit, ins:eachOccurrenceLimitAmount, ins:fireLegalLiabilityLimit, ins:medicalPaymentsLimit …`	13	The target pattern is Coverage —hasLimit→ Limit (amount + limit type); these flat amounts on Coverage / Policy say the same thing a second way. **Fix:** SME confirms the coverage-term pattern; the engineer turns each flat amount into a Limit / Deductible / SIR with its limit-type value.	SME + ontology engineer

OI-13	P3	Pipeline provenance classes still minted in the claims module `clm:ExtractionResult, clm:ModelOutput, uw:IntakeProcessingRun`	3	Model outputs and extraction results are provenance (PROV-O), not claim business concepts; uw:IntakeProcessingRun is even an underwriting term in a claims file. **Fix:** Move them to the provenance / mapping graph that the target architecture reserves for pipeline metadata.	Ontology engineer
OI-14	P1	Competency questions not yet run against data `76 competency questions`	1	The questions are checked for syntax, declared terms, domain / range and value patterns, but there is no sample instance data, so expectedMinRows has not been executed. **Fix:** Build a small anonymised claim dataset (one claim per department) and run every question in CI.	Ontology engineer
OI-15	P1	Workbook sheets not refreshed by this build `workbook/Chubb_CLM_Ontology_Revamp.xlsx, workbook/Chubb_Ontology_Identified_Issues.xlsx`	2	The main workbook was open in LibreOffice, so the build skipped writing to it; the clm:gathersEvidence → clm:hasEvidence correction is in the ontology and crosswalk but not yet in those sheets. **Fix:** Close the workbook and re-run build_enterprise_alignment.py then build_enterprise_ontology.py.	Ontology engineer
OI-16	P1	Retired IRIs reused for a different meaning `ins:hasPayment, ins:hasRiskState`	2	FIBO's rule is never to reuse a deprecated IRI: data or queries written against the old meaning would silently change meaning. **Fix:** Give the new relation its own IRI (or make the crosswalk say 'Fix domain / range' when the meaning really is the same).	Ontology engineer
OI-17	P2	Codes still named after source columns `ins:hasCat, ins:hasClaimA, ins:hasClaimB, ins:hasClaimC`	4	OMG P&C and FIBO naming rules require spelled-out business names; 'Claim A / B / C' only make sense to someone who knows the source table. **Fix:** Rename to the business name suggested (crosswalk entry kept).	SME + ontology engineer
OI-18	P2	Coded properties with no code list – the plan's 'new code lists' work package `clm:hasAdjudicationStatus, clm:hasAuditOutcome, clm:hasAuthorityLimitType, clm:hasAuthorityStatus, clm:hasAutomationLevel …`	308	These properties were converted from text to codes, but their code lists were never created, so the SHACL shape only checks 'is a skos:Concept' and accepts a value from any list (a litigation type could be a claim status). This is the 'new code lists' work package of the two-sprint plan, still to do. **Fix:** Create each code list from the source-system values (ACORD code lists where they exist) and bind the property to it (sh:node … skos:inScheme). Where a list with the same name already exists it is named here – bind it now.	Ontology engineer + SME

Every affected term is listed in the workbook sheet ‘Open Item Terms’; the terms of OI-01…OI-05 are also in the SME pack.

Appendix A – Mermaid sources

The same sources are in docs/diagrams/*.mmd (specialist and SME rendering of each diagram); paste one into any Mermaid editor to adapt it.

D00 – Target layering

```
flowchart TB
  STD["<b>W3C · OMG Commons · FIBO · gist</b><br/>OWL 2, SKOS, SHACL, PROV-O, OWL-Time — reused, never re-minted"]:::ext
  subgraph L_fnd["Enterprise Foundation (fnd:)"]
  direction LR
  M_core["core"]:::fnd ~~~ M_external_declarations["external-declarations"]:::fnd
  end
  subgraph L_ins["Enterprise Insurance Common (ins:)"]
  direction LR
  M_ins_agreement["ins-agreement"]:::ins ~~~ M_ins_claim["ins-claim"]:::ins ~~~ M_ins_correspondence["ins-correspondence"]:::ins ~~~ M_ins_financial["ins-financial"]:::ins
  M_ins_location["ins-location"]:::ins ~~~ M_ins_party["ins-party"]:::ins ~~~ M_ins_product["ins-product"]:::ins ~~~ M_ins_regulatory["ins-regulatory"]:::ins
  M_ins_risk["ins-risk"]:::ins ~~~ M_ins_workflow["ins-workflow"]:::ins
  end
  subgraph L_clm["Enterprise Claims Domain (clm:)"]
  direction LR
  M_clm_adjudication["clm-adjudication"]:::clm ~~~ M_clm_compliance["clm-compliance"]:::clm ~~~ M_clm_core["clm-core"]:::clm ~~~ M_clm_document_adjudication["clm-document-adjudi
cation"]:::clm
  M_clm_evaluation["clm-evaluation"]:::clm ~~~ M_clm_financials["clm-financials"]:::clm ~~~ M_clm_investigation["clm-investigation"]:::clm ~~~ M_clm_item["clm-item"]:::clm
  M_clm_litigation["clm-litigation"]:::clm ~~~ M_clm_provenance["clm-provenance"]:::clm
  end
  subgraph L_uw["Underwriting Domain (uw:)"]
  direction LR
  M_uw_decisioning["uw-decisioning"]:::uw ~~~ M_uw_rating["uw-rating"]:::uw ~~~ M_uw_submission["uw-submission"]:::uw
  end
  DEPT["<b>Department claim extension modules</b><br/>e.g. Property, Casualty, Workers' Comp, A&amp;amp;H, Marine<br/>import clm: + ins: + fnd: · subclass, never edit"]:::dept
  RD(["<b>Reference data</b><br/>69 SKOS code lists in vocabulary/fnd · ins · clm · uw"]):::code
  L_clm -->|"imports ×20"| L_fnd
  L_clm -->|"imports ×17"| L_ins
  L_ins -->|"imports ×20"| L_fnd
  L_uw -->|"imports ×1"| L_clm
  L_uw -->|"imports ×6"| L_fnd
  L_uw -->|"imports ×8"| L_ins
  L_fnd -->|"aligns with"| STD
  DEPT -->|"imports"| L_clm
  L_ins -.->|"uses"| RD
  L_clm -.->|"uses"| RD
  classDef fnd fill:#EEF2F7,stroke:#475569,color:#0F172A
  classDef ins fill:#DBEAFE,stroke:#1D4ED8,color:#0F172A
  classDef clm fill:#DCFCE7,stroke:#15803D,color:#0F172A
  classDef uw fill:#FFEDD5,stroke:#C2410C,color:#0F172A
  classDef code fill:#FEF9C3,stroke:#A16207,color:#0F172A
  classDef ext fill:#F3E8FF,stroke:#7E22CE,color:#0F172A
  classDef dept fill:#FCE7F3,stroke:#BE185D,color:#0F172A,stroke-dasharray:5 3
  classDef gap fill:#FFFFFF,stroke:#DC2626,color:#991B1B,stroke-dasharray:4 3
```

A01 – Thirteen disjoint foundation roots

```
flowchart LR
  TOP["<b>owl:Thing</b><br/>owl:AllDisjointClasses over the 13 roots"]:::ext
  fnd_Agreement["fnd:Agreement"]:::fnd
  TOP --- fnd_Agreement
  fnd_Commitment["fnd:Commitment"]:::fnd
  TOP --- fnd_Commitment
  fnd_Request["fnd:Request"]:::fnd
  TOP --- fnd_Request
  fnd_Party["fnd:Party"]:::fnd
  TOP --- fnd_Party
  fnd_PartyRole["fnd:PartyRole"]:::fnd
  TOP --- fnd_PartyRole
  fnd_Event["fnd:Event"]:::fnd
  TOP --- fnd_Event
  fnd_Activity["fnd:Activity"]:::fnd
  TOP --- fnd_Activity
  fnd_InformationEntity["fnd:InformationEntity"]:::fnd
  TOP --- fnd_InformationEntity
  fnd_MonetaryAmount["fnd:MonetaryAmount"]:::fnd
  TOP --- fnd_MonetaryAmount
  fnd_Quantity["fnd:Quantity"]:::fnd
  TOP --- fnd_Quantity
  fnd_PhysicalObject["fnd:PhysicalObject"]:::fnd
  TOP --- fnd_PhysicalObject
  fnd_Place["fnd:Place"]:::fnd
  TOP --- fnd_Place
  fnd_Identifier["fnd:Identifier"]:::fnd
  TOP --- fnd_Identifier
  fnd_Decision["fnd:Decision"]:::fnd
  fnd_Activity -->|"rdfs:subClassOf ⁻¹"| fnd_Decision
  fnd_Assessment["fnd:Assessment"]:::fnd
  fnd_Activity -->|"rdfs:subClassOf ⁻¹"| fnd_Assessment
  fnd_FinancialTransaction["fnd:FinancialTransaction"]:::fnd
  fnd_Event -->|"rdfs:subClassOf ⁻¹"| fnd_FinancialTransaction
  fnd_Person["fnd:Person"]:::fnd
  fnd_Party -->|"rdfs:subClassOf ⁻¹"| fnd_Person
  fnd_Organization["fnd:Organization"]:::fnd
  fnd_Party -->|"rdfs:subClassOf ⁻¹"| fnd_Organization
  fnd_Document["fnd:Document"]:::fnd
  fnd_InformationEntity -->|"rdfs:subClassOf ⁻¹"| fnd_Document
  fnd_MoneyProvision["fnd:MoneyProvision"]:::fnd
  fnd_InformationEntity -->|"rdfs:subClassOf ⁻¹"| fnd_MoneyProvision
  fnd_Specification["fnd:Specification"]:::fnd
  fnd_InformationEntity -->|"rdfs:subClassOf ⁻¹"| fnd_Specification
  fnd_BusinessRule["fnd:BusinessRule"]:::fnd
  fnd_Specification -->|"rdfs:subClassOf ⁻¹"| fnd_BusinessRule
  fnd_DecisionTrace["fnd:DecisionTrace"]:::fnd
  fnd_InformationEntity -->|"rdfs:subClassOf ⁻¹"| fnd_DecisionTrace
  classDef fnd fill:#EEF2F7,stroke:#475569,color:#0F172A
  classDef ins fill:#DBEAFE,stroke:#1D4ED8,color:#0F172A
```

```
  classDef clm fill:#DCFCE7,stroke:#15803D,color:#0F172A
  classDef uw fill:#FFEDD5,stroke:#C2410C,color:#0F172A
  classDef code fill:#FEF9C3,stroke:#A16207,color:#0F172A
  classDef ext fill:#F3E8FF,stroke:#7E22CE,color:#0F172A
  classDef dept fill:#FCE7F3,stroke:#BE185D,color:#0F172A,stroke-dasharray:5 3
  classDef gap fill:#FFFFFF,stroke:#DC2626,color:#991B1B,stroke-dasharray:4 3
```

A02 – A claim is a request, not an activity

```
classDiagram
direction LR
class fnd_Request["fnd:Request"]
class fnd_Event["fnd:Event"]
class fnd_Activity["fnd:Activity"]
class fnd_Agreement["fnd:Agreement"]
class fnd_Commitment["fnd:Commitment"]
class ins_Claim["ins:Claim"]
<<Request>> ins_Claim
class ins_ClaimComponent["ins:ClaimComponent"]
<<Request>> ins_ClaimComponent
class uw_Submission["uw:Submission"]
<<Request>> uw_Submission
class ins_LossOccurrence["ins:LossOccurrence"]
<<Event>> ins_LossOccurrence
class clm_FirstNoticeOfLoss["clm:FirstNoticeOfLoss"]
<<Event>> clm_FirstNoticeOfLoss
class clm_GuidedAdjudication["clm:GuidedAdjudication"]
<<Activity>> clm_GuidedAdjudication
class ins_Policy["ins:Policy"]
<<Agreement>> ins_Policy
class ins_Coverage["ins:Coverage"]
<<Commitment>> ins_Coverage
ins_Claim --> ins_ClaimComponent : ins:hasClaimComponent
ins_Claim --> ins_LossOccurrence : ins:hasLossOccurrence
ins_Claim --> clm_FirstNoticeOfLoss : clm:initiatedByFirstNoticeOfLoss
ins_Claim --> clm_GuidedAdjudication : clm:hasGuidedAdjudication
ins_Claim --> ins_Policy : ins:forPolicy
ins_ClaimComponent --> ins_Coverage : ins:isClaimedUnder
fnd_Request <|-- ins_Claim
fnd_Request <|-- ins_ClaimComponent
fnd_Request <|-- uw_Submission
fnd_Event <|-- ins_LossOccurrence
fnd_Event <|-- clm_FirstNoticeOfLoss
fnd_Activity <|-- clm_GuidedAdjudication
fnd_Agreement <|-- ins_Policy
fnd_Commitment <|-- ins_Coverage
style fnd_Request fill:#EEF2F7,stroke:#475569,color:#0F172A
style fnd_Event fill:#EEF2F7,stroke:#475569,color:#0F172A
style fnd_Activity fill:#EEF2F7,stroke:#475569,color:#0F172A
style fnd_Agreement fill:#EEF2F7,stroke:#475569,color:#0F172A
style fnd_Commitment fill:#EEF2F7,stroke:#475569,color:#0F172A
style ins_Claim fill:#DBEAFE,stroke:#1D4ED8,color:#0F172A
style ins_ClaimComponent fill:#DBEAFE,stroke:#1D4ED8,color:#0F172A
style uw_Submission fill:#FFEDD5,stroke:#C2410C,color:#0F172A
style ins_LossOccurrence fill:#DBEAFE,stroke:#1D4ED8,color:#0F172A
style clm_FirstNoticeOfLoss fill:#DCFCE7,stroke:#15803D,color:#0F172A
style clm_GuidedAdjudication fill:#DCFCE7,stroke:#15803D,color:#0F172A
style ins_Policy fill:#DBEAFE,stroke:#1D4ED8,color:#0F172A
style ins_Coverage fill:#DBEAFE,stroke:#1D4ED8,color:#0F172A
```

A03 – Parties play roles in context

```
classDiagram
direction LR
class fnd_Party["fnd:Party"]
class fnd_Person["fnd:Person"]
<<Party>> fnd_Person
class fnd_Organization["fnd:Organization"]
<<Party>> fnd_Organization
class fnd_PartyRole["fnd:PartyRole"]
class ins_Claimant["ins:Claimant"]
<<PartyRole>> ins_Claimant
class ins_Adjuster["ins:Adjuster"]
<<PartyRole>> ins_Adjuster
class ins_Attorney["ins:Attorney"]
<<PartyRole>> ins_Attorney
class ins_MedicalProvider["ins:MedicalProvider"]
<<PartyRole>> ins_MedicalProvider
class ins_Payee["ins:Payee"]
<<PartyRole>> ins_Payee
class ins_NamedInsured["ins:NamedInsured"]
<<PartyRole>> ins_NamedInsured
class ins_Claim["ins:Claim"]
<<Request>> ins_Claim
class ins_ClaimPayment["ins:ClaimPayment"]
<<Event>> ins_ClaimPayment
fnd_Party --> fnd_PartyRole : fnd:hasRole
fnd_PartyRole --> fnd_Party : fnd:roleOf
ins_Claim --> ins_Claimant : ins:hasClaimant
ins_Claim --> ins_Adjuster : ins:hasAdjuster
ins_Claim --> fnd_Party : ins:involvesParty
ins_ClaimPayment --> ins_Payee : ins:paidTo
fnd_Party --> ins_Attorney : ins:representedByAttorney
fnd_Party <|-- fnd_Person
fnd_Party <|-- fnd_Organization
fnd_PartyRole <|-- ins_Claimant
fnd_PartyRole <|-- ins_Adjuster
fnd_PartyRole <|-- ins_Attorney
fnd_PartyRole <|-- ins_MedicalProvider
fnd_PartyRole <|-- ins_Payee
fnd_PartyRole <|-- ins_NamedInsured
style fnd_Party fill:#EEF2F7,stroke:#475569,color:#0F172A
style fnd_Person fill:#EEF2F7,stroke:#475569,color:#0F172A
style fnd_Organization fill:#EEF2F7,stroke:#475569,color:#0F172A
style fnd_PartyRole fill:#EEF2F7,stroke:#475569,color:#0F172A
```

```
style ins_Claimant fill:#DBEAFE,stroke:#1D4ED8,color:#0F172A
style ins_Adjuster fill:#DBEAFE,stroke:#1D4ED8,color:#0F172A
style ins_Attorney fill:#DBEAFE,stroke:#1D4ED8,color:#0F172A
style ins_MedicalProvider fill:#DBEAFE,stroke:#1D4ED8,color:#0F172A
style ins_Payee fill:#DBEAFE,stroke:#1D4ED8,color:#0F172A
style ins_NamedInsured fill:#DBEAFE,stroke:#1D4ED8,color:#0F172A
style ins_Claim fill:#DBEAFE,stroke:#1D4ED8,color:#0F172A
style ins_ClaimPayment fill:#DBEAFE,stroke:#1D4ED8,color:#0F172A
```

A04 – Agreements create commitments; coverage terms qualify them

```
classDiagram
direction TB
class fnd_Agreement["fnd:Agreement"]
class fnd_Commitment["fnd:Commitment"]
class ins_Policy["ins:Policy"]
<<Agreement>> ins_Policy
class ins_PolicyLine["ins:PolicyLine"]
<<Agreement>> ins_PolicyLine
class ins_Endorsement["ins:Endorsement"]
<<Agreement>> ins_Endorsement
class ins_Coverage["ins:Coverage"]
<<Commitment>> ins_Coverage
class ins_Condition["ins:Condition"]
<<Commitment>> ins_Condition
class ins_CoverageTerm["ins:CoverageTerm"]
<<Commitment>> ins_CoverageTerm
class ins_Limit["ins:Limit"]
<<Commitment>> ins_Limit
class ins_Deductible["ins:Deductible"]
<<Commitment>> ins_Deductible
class ins_SelfInsuredRetention["ins:SelfInsuredRetention"]
<<Commitment>> ins_SelfInsuredRetention
class ins_InsuranceForm["ins:InsuranceForm"]
<<InformationEntity>> ins_InsuranceForm
ins_Policy --> ins_PolicyLine : ins:hasLine
ins_Coverage --> ins_PolicyLine : ins:coversPolicyLine
ins_Policy --> ins_Condition : ins:hasCondition
ins_Policy --> ins_Endorsement : ins:hasEndorsement
ins_Coverage --> ins_Limit : ins:hasLimit
ins_Coverage --> ins_Deductible : ins:hasDeductible
ins_Coverage --> ins_SelfInsuredRetention : ins:hasSelfInsuredRetention
ins_Coverage --> ins_InsuranceForm : ins:hasInsuranceForm
class vocabulary_ins_limit_type_["code list ins/limit-type/"]
<<ConceptScheme>> vocabulary_ins_limit_type_
ins_Limit ..> vocabulary_ins_limit_type_ : ins:hasLimitType
fnd_Agreement <|-- ins_Policy
fnd_Agreement <|-- ins_PolicyLine
fnd_Agreement <|-- ins_Endorsement
fnd_Commitment <|-- ins_Coverage
fnd_Commitment <|-- ins_Condition
fnd_Commitment <|-- ins_CoverageTerm
ins_CoverageTerm <|-- ins_Limit
ins_CoverageTerm <|-- ins_Deductible
ins_CoverageTerm <|-- ins_SelfInsuredRetention
style fnd_Agreement fill:#EEF2F7,stroke:#475569,color:#0F172A
style fnd_Commitment fill:#EEF2F7,stroke:#475569,color:#0F172A
style ins_Policy fill:#DBEAFE,stroke:#1D4ED8,color:#0F172A
style ins_PolicyLine fill:#DBEAFE,stroke:#1D4ED8,color:#0F172A
style ins_Endorsement fill:#DBEAFE,stroke:#1D4ED8,color:#0F172A
style ins_Coverage fill:#DBEAFE,stroke:#1D4ED8,color:#0F172A
style ins_Condition fill:#DBEAFE,stroke:#1D4ED8,color:#0F172A
style ins_CoverageTerm fill:#DBEAFE,stroke:#1D4ED8,color:#0F172A
style ins_Limit fill:#DBEAFE,stroke:#1D4ED8,color:#0F172A
style ins_Deductible fill:#DBEAFE,stroke:#1D4ED8,color:#0F172A
style ins_SelfInsuredRetention fill:#DBEAFE,stroke:#1D4ED8,color:#0F172A
style ins_InsuranceForm fill:#DBEAFE,stroke:#1D4ED8,color:#0F172A
style vocabulary_ins_limit_type_ fill:#FEF9C3,stroke:#A16207,color:#0F172A
```

A05 – Money: amounts carry a currency; money movements are dated events

```
classDiagram
direction TB
class fnd_MonetaryAmount["fnd:MonetaryAmount"]
fnd_MonetaryAmount : +amount decimal
fnd_MonetaryAmount : +hasCurrency Concept
class fnd_FinancialTransaction["fnd:FinancialTransaction"]
<<Event>> fnd_FinancialTransaction
class fnd_MoneyProvision["fnd:MoneyProvision"]
<<InformationEntity>> fnd_MoneyProvision
class ins_ClaimReserve["ins:ClaimReserve"]
<<InformationEntity>> ins_ClaimReserve
class ins_ReserveTransaction["ins:ReserveTransaction"]
<<Event>> ins_ReserveTransaction
class ins_ClaimPayment["ins:ClaimPayment"]
<<Event>> ins_ClaimPayment
class ins_RecoveryTransaction["ins:RecoveryTransaction"]
<<Event>> ins_RecoveryTransaction
ins_ClaimReserve --> ins_ReserveTransaction : ins:hasPosting
ins_ClaimReserve --> fnd_MonetaryAmount : ins:reserveAmount
ins_ReserveTransaction --> fnd_MonetaryAmount : ins:reserveChangeAmount
ins_ClaimPayment --> fnd_MonetaryAmount : ins:paymentAmount
ins_RecoveryTransaction --> fnd_MonetaryAmount : ins:recoveryAmount
class vocabulary_ins_reserve_type_["code list ins/reserve-type/"]
<<ConceptScheme>> vocabulary_ins_reserve_type_
ins_ClaimReserve ..> vocabulary_ins_reserve_type_ : ins:hasReserveType
fnd_MoneyProvision <|-- ins_ClaimReserve
fnd_FinancialTransaction <|-- ins_ReserveTransaction
fnd_FinancialTransaction <|-- ins_ClaimPayment
fnd_FinancialTransaction <|-- ins_RecoveryTransaction
style fnd_MonetaryAmount fill:#EEF2F7,stroke:#475569,color:#0F172A
style fnd_FinancialTransaction fill:#EEF2F7,stroke:#475569,color:#0F172A
style fnd_MoneyProvision fill:#EEF2F7,stroke:#475569,color:#0F172A
style ins_ClaimReserve fill:#DBEAFE,stroke:#1D4ED8,color:#0F172A
style ins_ReserveTransaction fill:#DBEAFE,stroke:#1D4ED8,color:#0F172A
```

```
style ins_ClaimPayment fill:#DBEAFE,stroke:#1D4ED8,color:#0F172A
style ins_RecoveryTransaction fill:#DBEAFE,stroke:#1D4ED8,color:#0F172A
style vocabulary_ins_reserve_type_ fill:#FEF9C3,stroke:#A16207,color:#0F172A
```

A06 – Decisions determine an outcome from rules and inputs

```
classDiagram
direction TB
class fnd_Activity["fnd:Activity"]
class fnd_Decision["fnd:Decision"]
<<Activity>> fnd_Decision
class clm_AdjudicationStep["clm:AdjudicationStep"]
<<Activity>> clm_AdjudicationStep
class clm_AdjudicationDecision["clm:AdjudicationDecision"]
<<Activity>> clm_AdjudicationDecision
class clm_CoverageDetermination["clm:CoverageDetermination"]
<<Activity>> clm_CoverageDetermination
class clm_AuthorityApproval["clm:AuthorityApproval"]
<<Activity>> clm_AuthorityApproval
class ins_GateDecision["ins:GateDecision"]
<<Activity>> ins_GateDecision
class clm_AdjudicationRule["clm:AdjudicationRule"]
<<InformationEntity>> clm_AdjudicationRule
class fnd_BusinessRule["fnd:BusinessRule"]
<<InformationEntity>> fnd_BusinessRule
class clm_GuidedAdjudication["clm:GuidedAdjudication"]
<<Activity>> clm_GuidedAdjudication
class fnd_DecisionTrace["fnd:DecisionTrace"]
<<InformationEntity>> fnd_DecisionTrace
class fnd_Citation["fnd:Citation"]
<<InformationEntity>> fnd_Citation
clm_AdjudicationStep --> clm_AdjudicationRule : clm:appliesRule
clm_AdjudicationStep --> clm_AdjudicationDecision : clm:producesDecision
class vocabulary_fnd_decision_outcome_["code list fnd/decision-outcome/"]
<<ConceptScheme>> vocabulary_fnd_decision_outcome_
clm_AdjudicationDecision ..> vocabulary_fnd_decision_outcome_ : clm:hasDecisionOutcome
class vocabulary_clm_denial_reason_["code list clm/denial-reason/"]
<<ConceptScheme>> vocabulary_clm_denial_reason_
clm_CoverageDetermination ..> vocabulary_clm_denial_reason_ : clm:hasDenialReason
clm_GuidedAdjudication --> fnd_DecisionTrace : clm:hasDecisionTrace
fnd_DecisionTrace --> fnd_Citation : fnd:hasCitation
fnd_Activity <|-- fnd_Decision
fnd_Decision <|-- clm_AdjudicationDecision
fnd_Decision <|-- clm_CoverageDetermination
fnd_Decision <|-- clm_AuthorityApproval
fnd_Decision <|-- ins_GateDecision
fnd_BusinessRule <|-- clm_AdjudicationRule
fnd_Activity <|-- clm_AdjudicationStep
fnd_Activity <|-- clm_GuidedAdjudication
style fnd_Activity fill:#EEF2F7,stroke:#475569,color:#0F172A
style fnd_Decision fill:#EEF2F7,stroke:#475569,color:#0F172A
style clm_AdjudicationStep fill:#DCFCE7,stroke:#15803D,color:#0F172A
style clm_AdjudicationDecision fill:#DCFCE7,stroke:#15803D,color:#0F172A
style clm_CoverageDetermination fill:#DCFCE7,stroke:#15803D,color:#0F172A
style clm_AuthorityApproval fill:#DCFCE7,stroke:#15803D,color:#0F172A
style ins_GateDecision fill:#DBEAFE,stroke:#1D4ED8,color:#0F172A
style clm_AdjudicationRule fill:#DCFCE7,stroke:#15803D,color:#0F172A
style fnd_BusinessRule fill:#EEF2F7,stroke:#475569,color:#0F172A
style clm_GuidedAdjudication fill:#DCFCE7,stroke:#15803D,color:#0F172A
style fnd_DecisionTrace fill:#EEF2F7,stroke:#475569,color:#0F172A
style fnd_Citation fill:#EEF2F7,stroke:#475569,color:#0F172A
style vocabulary_fnd_decision_outcome_ fill:#FEF9C3,stroke:#A16207,color:#0F172A
style vocabulary_clm_denial_reason_ fill:#FEF9C3,stroke:#A16207,color:#0F172A
```

A07 – Assessments evaluate; valuations put a price on the evaluation

```
classDiagram
direction TB
class fnd_Activity["fnd:Activity"]
class fnd_Assessment["fnd:Assessment"]
<<Activity>> fnd_Assessment
class clm_DamageAssessment["clm:DamageAssessment"]
<<Activity>> clm_DamageAssessment
class clm_InjuryAssessment["clm:InjuryAssessment"]
<<Activity>> clm_InjuryAssessment
class clm_LiabilityAssessment["clm:LiabilityAssessment"]
<<Activity>> clm_LiabilityAssessment
class clm_FraudAssessment["clm:FraudAssessment"]
<<Activity>> clm_FraudAssessment
class clm_Valuation["clm:Valuation"]
<<Activity>> clm_Valuation
class clm_ComponentValuation["clm:ComponentValuation"]
<<Activity>> clm_ComponentValuation
class clm_ItemValuation["clm:ItemValuation"]
<<Activity>> clm_ItemValuation
class clm_MedicalValuation["clm:MedicalValuation"]
<<Activity>> clm_MedicalValuation
class clm_BusinessInterruptionValuation["clm:BusinessInterruptionValuation"]
<<Activity>> clm_BusinessInterruptionValuation
class ins_ClaimComponent["ins:ClaimComponent"]
<<Request>> ins_ClaimComponent
class clm_ClaimItem["clm:ClaimItem"]
<<InformationEntity>> clm_ClaimItem
ins_ClaimComponent --> clm_DamageAssessment : clm:hasDamageAssessment
ins_ClaimComponent --> clm_InjuryAssessment : clm:hasInjuryAssessment
ins_ClaimComponent --> clm_LiabilityAssessment : clm:hasLiabilityAssessment
clm_MedicalValuation --> clm_InjuryAssessment : clm:valuesInjury
clm_ClaimItem --> clm_ItemValuation : clm:hasItemValuation
ins_ClaimComponent --> clm_BusinessInterruptionValuation : clm:hasBusinessInterruptionValuation
fnd_Activity <|-- fnd_Assessment
fnd_Assessment <|-- clm_DamageAssessment
fnd_Assessment <|-- clm_InjuryAssessment
fnd_Assessment <|-- clm_LiabilityAssessment
fnd_Assessment <|-- clm_FraudAssessment
fnd_Assessment <|-- clm_Valuation
```

```
clm_Valuation <|-- clm_ComponentValuation
clm_Valuation <|-- clm_ItemValuation
clm_Valuation <|-- clm_MedicalValuation
clm_Valuation <|-- clm_BusinessInterruptionValuation
ins_ClaimComponent .. clm_ComponentValuation : MISSING no link yet (OI-09)
style fnd_Activity fill:#EEF2F7,stroke:#475569,color:#0F172A
style fnd_Assessment fill:#EEF2F7,stroke:#475569,color:#0F172A
style clm_DamageAssessment fill:#DCFCE7,stroke:#15803D,color:#0F172A
style clm_InjuryAssessment fill:#DCFCE7,stroke:#15803D,color:#0F172A
style clm_LiabilityAssessment fill:#DCFCE7,stroke:#15803D,color:#0F172A
style clm_FraudAssessment fill:#DCFCE7,stroke:#15803D,color:#0F172A
style clm_Valuation fill:#DCFCE7,stroke:#15803D,color:#0F172A
style clm_ComponentValuation fill:#DCFCE7,stroke:#15803D,color:#0F172A
style clm_ItemValuation fill:#DCFCE7,stroke:#15803D,color:#0F172A
style clm_MedicalValuation fill:#DCFCE7,stroke:#15803D,color:#0F172A
style clm_BusinessInterruptionValuation fill:#DCFCE7,stroke:#15803D,color:#0F172A
style ins_ClaimComponent fill:#DBEAFE,stroke:#1D4ED8,color:#0F172A
style clm_ClaimItem fill:#DCFCE7,stroke:#15803D,color:#0F172A
```

A08 – Code lists are SKOS concept schemes bound by SHACL

```
flowchart LR
  ins_Claim["ins:Claim"]:::ins
  clm_AdjudicationDecision["clm:AdjudicationDecision"]:::clm
  clm_ClaimDocument["clm:ClaimDocument"]:::clm
  clm_Subrogation["clm:Subrogation"]:::clm
  vocabulary_ins_claim_status_(["<b>vocabulary/ins/claim-status/</b><br/>skos:ConceptScheme"]):::code
  vocabulary_ins_claim_status__v["Cancelled · Closed · Open · Reopened · …"]:::codev
  ins_Claim -.->|"ins:hasStatus"| vocabulary_ins_claim_status_
  vocabulary_ins_claim_status_ --- vocabulary_ins_claim_status__v
  vocabulary_fnd_decision_outcome_(["<b>vocabulary/fnd/decision-outcome/</b><br/>skos:ConceptScheme"]):::code
  vocabulary_fnd_decision_outcome__v["Approved · Bind Eligible · Denied · Partial Approval · …"]:::codev
  clm_AdjudicationDecision -.->|"clm:hasDecisionOutcome"| vocabulary_fnd_decision_outcome_
  vocabulary_fnd_decision_outcome_ --- vocabulary_fnd_decision_outcome__v
  vocabulary_ins_document_type_(["<b>vocabulary/ins/document-type/</b><br/>skos:ConceptScheme"]):::code
  vocabulary_ins_document_type__v["Appraisal · Attorney Correspondence · Contract or Agreement · Damage Report · …"]:::codev
  clm_ClaimDocument -.->|"clm:resolvedToDocumentType"| vocabulary_ins_document_type_
  vocabulary_ins_document_type_ --- vocabulary_ins_document_type__v
  vocabulary_clm_adjudication_dimension_(["<b>vocabulary/clm/adjudication-dimension/</b><br/>skos:ConceptScheme"]):::code
  vocabulary_clm_adjudication_dimension__v["Coverage and Exclusions · Damages and Valuation · Decision Tracing · FNOL, Assignment and Triage · …"]:::codev
  clm_ClaimDocument -.->|"clm:resolvedToTheme"| vocabulary_clm_adjudication_dimension_
  vocabulary_clm_adjudication_dimension_ --- vocabulary_clm_adjudication_dimension__v
  vocabulary_clm_subrogation_status_(["<b>vocabulary/clm/subrogation-status/</b><br/>skos:ConceptScheme"]):::code
  vocabulary_clm_subrogation_status__v["Closed · Collected · Identified · In Progress · …"]:::codev
  clm_Subrogation -.->|"clm:hasSubrogationStatus"| vocabulary_clm_subrogation_status_
  vocabulary_clm_subrogation_status_ --- vocabulary_clm_subrogation_status__v
  classDef codev fill:#FFFBEB,stroke:#D6B656,color:#334155,font-size:12px
  classDef fnd fill:#EEF2F7,stroke:#475569,color:#0F172A
  classDef ins fill:#DBEAFE,stroke:#1D4ED8,color:#0F172A
  classDef clm fill:#DCFCE7,stroke:#15803D,color:#0F172A
  classDef uw fill:#FFEDD5,stroke:#C2410C,color:#0F172A
  classDef code fill:#FEF9C3,stroke:#A16207,color:#0F172A
  classDef ext fill:#F3E8FF,stroke:#7E22CE,color:#0F172A
  classDef dept fill:#FCE7F3,stroke:#BE185D,color:#0F172A,stroke-dasharray:5 3
  classDef gap fill:#FFFFFF,stroke:#DC2626,color:#991B1B,stroke-dasharray:4 3
```

A09 – Generic properties are specialised by sub-properties

```
flowchart LR
  fnd_hasPartyRole["fnd:hasPartyRole"]:::fnd
  fnd_identifier["fnd:identifier"]:::fnd
  fnd_hasPart["fnd:hasPart"]:::fnd
  fnd_hasOutcome["fnd:hasOutcome"]:::fnd
  fnd_hasReason["fnd:hasReason"]:::fnd
  fnd_effectiveDate["fnd:effectiveDate"]:::fnd
  fnd_description["fnd:description"]:::fnd
  ins_hasClaimant["ins:hasClaimant"]:::ins
  ins_hasClaimant -->|"rdfs:subPropertyOf"| fnd_hasPartyRole
  ins_hasAdjuster["ins:hasAdjuster"]:::ins
  ins_hasAdjuster -->|"rdfs:subPropertyOf"| fnd_hasPartyRole
  clm_defendedBy["clm:defendedBy"]:::clm
  clm_defendedBy -->|"rdfs:subPropertyOf"| fnd_hasPartyRole
  ins_claimNumber["ins:claimNumber"]:::ins
  ins_claimNumber -->|"rdfs:subPropertyOf"| fnd_identifier
  clm_caseNumber["clm:caseNumber"]:::clm
  clm_caseNumber -->|"rdfs:subPropertyOf"| fnd_identifier
  clm_hasAdjudicationStep["clm:hasAdjudicationStep"]:::clm
  clm_hasAdjudicationStep -->|"rdfs:subPropertyOf"| fnd_hasPart
  ins_hasLine["ins:hasLine"]:::ins
  ins_hasLine -->|"rdfs:subPropertyOf"| fnd_hasPart
  clm_hasDecisionOutcome["clm:hasDecisionOutcome"]:::clm
  clm_hasDecisionOutcome -->|"rdfs:subPropertyOf"| fnd_hasOutcome
  clm_hasDenialReason["clm:hasDenialReason"]:::clm
  clm_hasDenialReason -->|"rdfs:subPropertyOf"| fnd_hasReason
  ins_coverageEffectiveDate["ins:coverageEffectiveDate"]:::ins
  ins_coverageEffectiveDate -->|"rdfs:subPropertyOf"| fnd_effectiveDate
  ins_lossDescription["ins:lossDescription"]:::ins
  ins_lossDescription -->|"rdfs:subPropertyOf"| fnd_description
  classDef fnd fill:#EEF2F7,stroke:#475569,color:#0F172A
  classDef ins fill:#DBEAFE,stroke:#1D4ED8,color:#0F172A
  classDef clm fill:#DCFCE7,stroke:#15803D,color:#0F172A
  classDef uw fill:#FFEDD5,stroke:#C2410C,color:#0F172A
  classDef code fill:#FEF9C3,stroke:#A16207,color:#0F172A
  classDef ext fill:#F3E8FF,stroke:#7E22CE,color:#0F172A
  classDef dept fill:#FCE7F3,stroke:#BE185D,color:#0F172A,stroke-dasharray:5 3
  classDef gap fill:#FFFFFF,stroke:#DC2626,color:#991B1B,stroke-dasharray:4 3
```

A10 – Dates: OWL range rdfs:Literal, SHACL checks xsd:date

```
flowchart LR
  P["ins:claimReportedDate"]:::ins
  O["OWL 2 ontology<br/>rdfs:range rdfs:Literal"]:::fnd
  S["SHACL shape<br/>sh:datatype xsd:date"]:::code
```

```
  V["value #quot;2026-10-26#quot;^^xsd:date"]:::ext
  P -->|"declared in"| O
  P -->|"validated by"| S
  S -->|"accepts"| V
  classDef fnd fill:#EEF2F7,stroke:#475569,color:#0F172A
  classDef ins fill:#DBEAFE,stroke:#1D4ED8,color:#0F172A
  classDef clm fill:#DCFCE7,stroke:#15803D,color:#0F172A
  classDef uw fill:#FFEDD5,stroke:#C2410C,color:#0F172A
  classDef code fill:#FEF9C3,stroke:#A16207,color:#0F172A
  classDef ext fill:#F3E8FF,stroke:#7E22CE,color:#0F172A
  classDef dept fill:#FCE7F3,stroke:#BE185D,color:#0F172A,stroke-dasharray:5 3
  classDef gap fill:#FFFFFF,stroke:#DC2626,color:#991B1B,stroke-dasharray:4 3
```

A11 – Provenance: decisions and AI outputs keep their sources

```
classDiagram
direction TB
class fnd_DecisionTrace["fnd:DecisionTrace"]
<<InformationEntity>> fnd_DecisionTrace
class fnd_Citation["fnd:Citation"]
<<InformationEntity>> fnd_Citation
class fnd_Document["fnd:Document"]
<<InformationEntity>> fnd_Document
class clm_GuidedAdjudication["clm:GuidedAdjudication"]
<<Activity>> clm_GuidedAdjudication
class clm_ModelOutput["clm:ModelOutput"]
class clm_ExtractionResult["clm:ExtractionResult"]
class prov_Entity["prov:Entity"]
clm_GuidedAdjudication --> fnd_DecisionTrace : clm:hasDecisionTrace
fnd_DecisionTrace --> fnd_Citation : fnd:hasCitation
prov_Entity <|-- clm_ModelOutput
prov_Entity <|-- clm_ExtractionResult
style fnd_DecisionTrace fill:#EEF2F7,stroke:#475569,color:#0F172A
style fnd_Citation fill:#EEF2F7,stroke:#475569,color:#0F172A
style fnd_Document fill:#EEF2F7,stroke:#475569,color:#0F172A
style clm_GuidedAdjudication fill:#DCFCE7,stroke:#15803D,color:#0F172A
style clm_ModelOutput fill:#DCFCE7,stroke:#15803D,color:#0F172A
style clm_ExtractionResult fill:#DCFCE7,stroke:#15803D,color:#0F172A
style prov_Entity fill:#F3E8FF,stroke:#7E22CE,color:#0F172A
```

C01 – Claim core

```
classDiagram
direction LR
class ins_Claim["ins:Claim"]
<<Request>> ins_Claim
ins_Claim : +claimNumber string
ins_Claim : +claimReportedDate Literal
class ins_ClaimComponent["ins:ClaimComponent"]
<<Request>> ins_ClaimComponent
class ins_LossOccurrence["ins:LossOccurrence"]
<<Event>> ins_LossOccurrence
class ins_CatastropheEvent["ins:CatastropheEvent"]
<<Event>> ins_CatastropheEvent
class clm_FirstNoticeOfLoss["clm:FirstNoticeOfLoss"]
<<Event>> clm_FirstNoticeOfLoss
class clm_ClaimLifecycleEvent["clm:ClaimLifecycleEvent"]
<<Event>> clm_ClaimLifecycleEvent
class ins_Policy["ins:Policy"]
<<Agreement>> ins_Policy
class ins_Coverage["ins:Coverage"]
<<Commitment>> ins_Coverage
class ins_Claimant["ins:Claimant"]
<<PartyRole>> ins_Claimant
class ins_Adjuster["ins:Adjuster"]
<<PartyRole>> ins_Adjuster
class fnd_Place["fnd:Place"]
class clm_ClaimItem["clm:ClaimItem"]
<<InformationEntity>> clm_ClaimItem
ins_Claim --> ins_ClaimComponent : ins:hasClaimComponent
ins_Claim --> ins_LossOccurrence : ins:hasLossOccurrence
ins_LossOccurrence --> fnd_Place : ins:hasLossLocation
ins_Claim --> clm_FirstNoticeOfLoss : clm:initiatedByFirstNoticeOfLoss
clm_FirstNoticeOfLoss --> ins_LossOccurrence : clm:reportsLossEvent
clm_FirstNoticeOfLoss --> ins_CatastropheEvent : clm:associatedCatastrophe
ins_Claim --> clm_ClaimLifecycleEvent : clm:hasClaimLifecycleEvent
ins_Claim --> ins_Policy : ins:forPolicy
ins_ClaimComponent --> ins_Coverage : ins:isClaimedUnder
ins_Claim --> ins_Claimant : ins:hasClaimant
ins_Claim --> ins_Adjuster : ins:hasAdjuster
clm_ClaimItem --> ins_Claim : clm:itemOnClaim
class vocabulary_ins_claim_status_["code list ins/claim-status/"]
<<ConceptScheme>> vocabulary_ins_claim_status_
ins_Claim ..> vocabulary_ins_claim_status_ : ins:hasStatus
style ins_Claim fill:#DBEAFE,stroke:#1D4ED8,color:#0F172A
style ins_ClaimComponent fill:#DBEAFE,stroke:#1D4ED8,color:#0F172A
style ins_LossOccurrence fill:#DBEAFE,stroke:#1D4ED8,color:#0F172A
style ins_CatastropheEvent fill:#DBEAFE,stroke:#1D4ED8,color:#0F172A
style clm_FirstNoticeOfLoss fill:#DCFCE7,stroke:#15803D,color:#0F172A
style clm_ClaimLifecycleEvent fill:#DCFCE7,stroke:#15803D,color:#0F172A
style ins_Policy fill:#DBEAFE,stroke:#1D4ED8,color:#0F172A
style ins_Coverage fill:#DBEAFE,stroke:#1D4ED8,color:#0F172A
style ins_Claimant fill:#DBEAFE,stroke:#1D4ED8,color:#0F172A
style ins_Adjuster fill:#DBEAFE,stroke:#1D4ED8,color:#0F172A
style fnd_Place fill:#EEF2F7,stroke:#475569,color:#0F172A
style clm_ClaimItem fill:#DCFCE7,stroke:#15803D,color:#0F172A
style vocabulary_ins_claim_status_ fill:#FEF9C3,stroke:#A16207,color:#0F172A
```

C02 – Claim financials

```
classDiagram
direction LR
class ins_Claim["ins:Claim"]
```

```
<<Request>> ins_Claim
class ins_ClaimComponent["ins:ClaimComponent"]
<<Request>> ins_ClaimComponent
class ins_ClaimReserve["ins:ClaimReserve"]
<<InformationEntity>> ins_ClaimReserve
class ins_ReserveTransaction["ins:ReserveTransaction"]
<<Event>> ins_ReserveTransaction
class ins_ClaimPayment["ins:ClaimPayment"]
<<Event>> ins_ClaimPayment
class ins_Payee["ins:Payee"]
<<PartyRole>> ins_Payee
class ins_RecoveryTransaction["ins:RecoveryTransaction"]
<<Event>> ins_RecoveryTransaction
class clm_Subrogation["clm:Subrogation"]
<<Activity>> clm_Subrogation
class clm_AuthorityApproval["clm:AuthorityApproval"]
<<Activity>> clm_AuthorityApproval
class clm_ComponentValuation["clm:ComponentValuation"]
<<Activity>> clm_ComponentValuation
class ins_SanctionsScreening["ins:SanctionsScreening"]
<<Activity>> ins_SanctionsScreening
ins_ClaimComponent --> ins_ClaimReserve : ins:hasClaimReserve
ins_ClaimReserve --> ins_ReserveTransaction : ins:hasPosting
ins_ClaimComponent --> ins_ClaimPayment : ins:hasPayment
ins_ClaimPayment --> ins_Payee : ins:paidTo
ins_Claim --> ins_RecoveryTransaction : ins:hasRecovery
ins_Claim --> clm_Subrogation : clm:hasSubrogation
ins_ClaimComponent --> clm_AuthorityApproval : clm:hasAuthorityApproval
clm_ComponentValuation --> ins_ClaimPayment : clm:authorizesPayment
ins_ClaimPayment --> ins_SanctionsScreening : ins:screenedByOFAC
ins_Claim --> ins_ClaimComponent : ins:hasClaimComponent
class vocabulary_ins_reserve_type_["code list ins/reserve-type/"]
<<ConceptScheme>> vocabulary_ins_reserve_type_
ins_ClaimReserve ..> vocabulary_ins_reserve_type_ : ins:hasReserveType
class vocabulary_ins_payment_type_["code list ins/payment-type/"]
<<ConceptScheme>> vocabulary_ins_payment_type_
ins_ClaimPayment ..> vocabulary_ins_payment_type_ : ins:hasPaymentType
style ins_Claim fill:#DBEAFE,stroke:#1D4ED8,color:#0F172A
style ins_ClaimComponent fill:#DBEAFE,stroke:#1D4ED8,color:#0F172A
style ins_ClaimReserve fill:#DBEAFE,stroke:#1D4ED8,color:#0F172A
style ins_ReserveTransaction fill:#DBEAFE,stroke:#1D4ED8,color:#0F172A
style ins_ClaimPayment fill:#DBEAFE,stroke:#1D4ED8,color:#0F172A
style ins_Payee fill:#DBEAFE,stroke:#1D4ED8,color:#0F172A
style ins_RecoveryTransaction fill:#DBEAFE,stroke:#1D4ED8,color:#0F172A
style clm_Subrogation fill:#DCFCE7,stroke:#15803D,color:#0F172A
style clm_AuthorityApproval fill:#DCFCE7,stroke:#15803D,color:#0F172A
style clm_ComponentValuation fill:#DCFCE7,stroke:#15803D,color:#0F172A
style ins_SanctionsScreening fill:#DBEAFE,stroke:#1D4ED8,color:#0F172A
style vocabulary_ins_reserve_type_ fill:#FEF9C3,stroke:#A16207,color:#0F172A
style vocabulary_ins_payment_type_ fill:#FEF9C3,stroke:#A16207,color:#0F172A
```

C03 – Guided adjudication

```
classDiagram
direction TB
class ins_Claim["ins:Claim"]
<<Request>> ins_Claim
class clm_GuidedAdjudication["clm:GuidedAdjudication"]
<<Activity>> clm_GuidedAdjudication
class clm_AdjudicationStep["clm:AdjudicationStep"]
<<Activity>> clm_AdjudicationStep
class clm_AdjudicationRule["clm:AdjudicationRule"]
<<InformationEntity>> clm_AdjudicationRule
class clm_AdjudicationDecision["clm:AdjudicationDecision"]
<<Activity>> clm_AdjudicationDecision
class ins_GateDecision["ins:GateDecision"]
<<Activity>> ins_GateDecision
class clm_Referral["clm:Referral"]
<<Event>> clm_Referral
class clm_LiabilityAssessment["clm:LiabilityAssessment"]
<<Activity>> clm_LiabilityAssessment
class fnd_DecisionTrace["fnd:DecisionTrace"]
<<InformationEntity>> fnd_DecisionTrace
class clm_CoverageDetermination["clm:CoverageDetermination"]
<<Activity>> clm_CoverageDetermination
class clm_ReservationOfRights["clm:ReservationOfRights"]
<<InformationEntity>> clm_ReservationOfRights
class clm_ClaimRuleSet["clm:ClaimRuleSet"]
<<InformationEntity>> clm_ClaimRuleSet
class clm_CoverageRule["clm:CoverageRule"]
<<InformationEntity>> clm_CoverageRule
class clm_ExclusionApplication["clm:ExclusionApplication"]
<<Activity>> clm_ExclusionApplication
class clm_ComponentValuation["clm:ComponentValuation"]
<<Activity>> clm_ComponentValuation
ins_Claim --> clm_GuidedAdjudication : clm:hasGuidedAdjudication
clm_GuidedAdjudication --> clm_AdjudicationStep : clm:hasAdjudicationStep
clm_AdjudicationStep --> clm_AdjudicationRule : clm:appliesRule
clm_AdjudicationStep --> clm_AdjudicationDecision : clm:producesDecision
clm_AdjudicationStep --> ins_GateDecision : clm:evaluatedBySTPGate
clm_AdjudicationDecision --> clm_Referral : clm:resultsInReferral
clm_AdjudicationDecision --> clm_LiabilityAssessment : clm:informedByLiabilityAssessment
clm_GuidedAdjudication --> fnd_DecisionTrace : clm:hasDecisionTrace
ins_Claim --> clm_CoverageDetermination : clm:hasCoverageDetermination
clm_CoverageDetermination --> clm_ReservationOfRights : clm:hasReservationOfRights
clm_ClaimRuleSet --> clm_CoverageRule : clm:hasCoverageRule
clm_ComponentValuation --> clm_ExclusionApplication : clm:hasExclusionApplication
clm_ExclusionApplication --> clm_CoverageRule : clm:appliesExclusionRule
class vocabulary_fnd_decision_outcome_["code list fnd/decision-outcome/"]
<<ConceptScheme>> vocabulary_fnd_decision_outcome_
clm_AdjudicationDecision ..> vocabulary_fnd_decision_outcome_ : clm:hasDecisionOutcome
style ins_Claim fill:#DBEAFE,stroke:#1D4ED8,color:#0F172A
style clm_GuidedAdjudication fill:#DCFCE7,stroke:#15803D,color:#0F172A
style clm_AdjudicationStep fill:#DCFCE7,stroke:#15803D,color:#0F172A
style clm_AdjudicationRule fill:#DCFCE7,stroke:#15803D,color:#0F172A
style clm_AdjudicationDecision fill:#DCFCE7,stroke:#15803D,color:#0F172A
style ins_GateDecision fill:#DBEAFE,stroke:#1D4ED8,color:#0F172A
```

```
style clm_Referral fill:#DCFCE7,stroke:#15803D,color:#0F172A
style clm_LiabilityAssessment fill:#DCFCE7,stroke:#15803D,color:#0F172A
style fnd_DecisionTrace fill:#EEF2F7,stroke:#475569,color:#0F172A
style clm_CoverageDetermination fill:#DCFCE7,stroke:#15803D,color:#0F172A
style clm_ReservationOfRights fill:#DCFCE7,stroke:#15803D,color:#0F172A
style clm_ClaimRuleSet fill:#DCFCE7,stroke:#15803D,color:#0F172A
style clm_CoverageRule fill:#DCFCE7,stroke:#15803D,color:#0F172A
style clm_ExclusionApplication fill:#DCFCE7,stroke:#15803D,color:#0F172A
style clm_ComponentValuation fill:#DCFCE7,stroke:#15803D,color:#0F172A
style vocabulary_fnd_decision_outcome_ fill:#FEF9C3,stroke:#A16207,color:#0F172A
```

C04 – Evaluation, negotiation and settlement

```
classDiagram
direction TB
class ins_ClaimComponent["ins:ClaimComponent"]
<<Request>> ins_ClaimComponent
class clm_DamageAssessment["clm:DamageAssessment"]
<<Activity>> clm_DamageAssessment
class clm_InjuryAssessment["clm:InjuryAssessment"]
<<Activity>> clm_InjuryAssessment
class clm_LiabilityAssessment["clm:LiabilityAssessment"]
<<Activity>> clm_LiabilityAssessment
class clm_MedicalValuation["clm:MedicalValuation"]
<<Activity>> clm_MedicalValuation
class clm_MedicalTreatment["clm:MedicalTreatment"]
<<Activity>> clm_MedicalTreatment
class clm_MedicalBill["clm:MedicalBill"]
<<InformationEntity>> clm_MedicalBill
class clm_Negotiation["clm:Negotiation"]
<<Activity>> clm_Negotiation
class clm_DemandOffer["clm:DemandOffer"]
<<InformationEntity>> clm_DemandOffer
class clm_Settlement["clm:Settlement"]
<<Agreement>> clm_Settlement
class clm_StructuredSettlement["clm:StructuredSettlement"]
<<Agreement>> clm_StructuredSettlement
class clm_Release["clm:Release"]
<<Agreement>> clm_Release
ins_ClaimComponent --> clm_DamageAssessment : clm:hasDamageAssessment
ins_ClaimComponent --> clm_InjuryAssessment : clm:hasInjuryAssessment
ins_ClaimComponent --> clm_LiabilityAssessment : clm:hasLiabilityAssessment
clm_LiabilityAssessment --> clm_InjuryAssessment : clm:incorporatesInjuryAssessment
clm_MedicalValuation --> clm_InjuryAssessment : clm:valuesInjury
clm_InjuryAssessment --> clm_MedicalTreatment : clm:treatedByMedicalTreatment
clm_MedicalTreatment --> clm_MedicalBill : clm:hasMedicalBill
ins_ClaimComponent --> clm_Negotiation : clm:hasNegotiation
clm_Negotiation --> clm_DemandOffer : clm:hasDemandOffer
clm_DemandOffer --> clm_MedicalValuation : clm:incorporatesMedicalValuation
clm_Negotiation --> clm_Settlement : clm:resultsInSettlement
clm_Settlement --> clm_Release : clm:hasRelease
class vocabulary_clm_injury_type_["code list clm/injury-type/"]
<<ConceptScheme>> vocabulary_clm_injury_type_
clm_InjuryAssessment ..> vocabulary_clm_injury_type_ : clm:hasInjuryType
clm_Settlement <|-- clm_StructuredSettlement
style ins_ClaimComponent fill:#DBEAFE,stroke:#1D4ED8,color:#0F172A
style clm_DamageAssessment fill:#DCFCE7,stroke:#15803D,color:#0F172A
style clm_InjuryAssessment fill:#DCFCE7,stroke:#15803D,color:#0F172A
style clm_LiabilityAssessment fill:#DCFCE7,stroke:#15803D,color:#0F172A
style clm_MedicalValuation fill:#DCFCE7,stroke:#15803D,color:#0F172A
style clm_MedicalTreatment fill:#DCFCE7,stroke:#15803D,color:#0F172A
style clm_MedicalBill fill:#DCFCE7,stroke:#15803D,color:#0F172A
style clm_Negotiation fill:#DCFCE7,stroke:#15803D,color:#0F172A
style clm_DemandOffer fill:#DCFCE7,stroke:#15803D,color:#0F172A
style clm_Settlement fill:#DCFCE7,stroke:#15803D,color:#0F172A
style clm_StructuredSettlement fill:#DCFCE7,stroke:#15803D,color:#0F172A
style clm_Release fill:#DCFCE7,stroke:#15803D,color:#0F172A
style vocabulary_clm_injury_type_ fill:#FEF9C3,stroke:#A16207,color:#0F172A
```

C05 – Investigation and fraud

```
classDiagram
direction LR
class ins_Claim["ins:Claim"]
<<Request>> ins_Claim
class clm_ClaimInvestigation["clm:ClaimInvestigation"]
<<Activity>> clm_ClaimInvestigation
class fnd_Document["fnd:Document"]
<<InformationEntity>> fnd_Document
class clm_RecordedStatement["clm:RecordedStatement"]
<<InformationEntity>> clm_RecordedStatement
class clm_ExpertReport["clm:ExpertReport"]
<<InformationEntity>> clm_ExpertReport
class clm_LiabilityAssessment["clm:LiabilityAssessment"]
<<Activity>> clm_LiabilityAssessment
class clm_FraudAssessment["clm:FraudAssessment"]
<<Activity>> clm_FraudAssessment
class clm_Referral["clm:Referral"]
<<Event>> clm_Referral
class clm_ClaimFraudExaminer["clm:ClaimFraudExaminer"]
<<PartyRole>> clm_ClaimFraudExaminer
class clm_FraudFinding["clm:FraudFinding"]
<<InformationEntity>> clm_FraudFinding
class clm_VelocityAlert["clm:VelocityAlert"]
<<Event>> clm_VelocityAlert
class clm_IndependentMedicalExamination["clm:IndependentMedicalExamination"]
<<Activity>> clm_IndependentMedicalExamination
class clm_InjuryAssessment["clm:InjuryAssessment"]
<<Activity>> clm_InjuryAssessment
class fnd_Party["fnd:Party"]
ins_Claim --> clm_ClaimInvestigation : clm:hasInvestigation
clm_ClaimInvestigation --> fnd_Document : clm:hasEvidence
clm_ClaimInvestigation --> clm_RecordedStatement : clm:hasStatement
clm_ClaimInvestigation --> clm_ExpertReport : clm:hasExpertReport
clm_ClaimInvestigation --> clm_LiabilityAssessment : clm:supportsLiabilityAssessment
```

```
clm_RecordedStatement --> fnd_Party : clm:statementGivenBy
ins_Claim --> clm_FraudAssessment : clm:hasFraudAssessment
clm_FraudAssessment --> clm_Referral : clm:resultsInReferral
clm_Referral --> clm_ClaimFraudExaminer : clm:investigatedBy
ins_Claim --> clm_FraudFinding : clm:hasFraudFinding
ins_Claim --> clm_VelocityAlert : clm:hasVelocityAlert
clm_IndependentMedicalExamination --> ins_Claim : clm:imeOnClaim
clm_IndependentMedicalExamination --> clm_InjuryAssessment : clm:supportsInjuryAssessment
class vocabulary_ins_document_type_["code list ins/document-type/"]
<<ConceptScheme>> vocabulary_ins_document_type_
clm_ClaimInvestigation ..> vocabulary_ins_document_type_ : clm:hasEvidenceType
fnd_Document <|-- clm_ExpertReport
fnd_Document <|-- clm_RecordedStatement
style ins_Claim fill:#DBEAFE,stroke:#1D4ED8,color:#0F172A
style clm_ClaimInvestigation fill:#DCFCE7,stroke:#15803D,color:#0F172A
style fnd_Document fill:#EEF2F7,stroke:#475569,color:#0F172A
style clm_RecordedStatement fill:#DCFCE7,stroke:#15803D,color:#0F172A
style clm_ExpertReport fill:#DCFCE7,stroke:#15803D,color:#0F172A
style clm_LiabilityAssessment fill:#DCFCE7,stroke:#15803D,color:#0F172A
style clm_FraudAssessment fill:#DCFCE7,stroke:#15803D,color:#0F172A
style clm_Referral fill:#DCFCE7,stroke:#15803D,color:#0F172A
style clm_ClaimFraudExaminer fill:#DCFCE7,stroke:#15803D,color:#0F172A
style clm_FraudFinding fill:#DCFCE7,stroke:#15803D,color:#0F172A
style clm_VelocityAlert fill:#DCFCE7,stroke:#15803D,color:#0F172A
style clm_IndependentMedicalExamination fill:#DCFCE7,stroke:#15803D,color:#0F172A
style clm_InjuryAssessment fill:#DCFCE7,stroke:#15803D,color:#0F172A
style fnd_Party fill:#EEF2F7,stroke:#475569,color:#0F172A
style vocabulary_ins_document_type_ fill:#FEF9C3,stroke:#A16207,color:#0F172A
```

C06 – Litigation

```
classDiagram
direction LR
class ins_Claim["ins:Claim"]
<<Request>> ins_Claim
class clm_LegalAction["clm:LegalAction"]
<<Activity>> clm_LegalAction
class clm_Court["clm:Court"]
<<Party>> clm_Court
class ins_Attorney["ins:Attorney"]
<<PartyRole>> ins_Attorney
class clm_Judgment["clm:Judgment"]
<<Activity>> clm_Judgment
class clm_LiabilityAssessment["clm:LiabilityAssessment"]
<<Activity>> clm_LiabilityAssessment
class clm_InjuryAssessment["clm:InjuryAssessment"]
<<Activity>> clm_InjuryAssessment
class clm_LegalExpenseInvoice["clm:LegalExpenseInvoice"]
<<InformationEntity>> clm_LegalExpenseInvoice
ins_Claim --> clm_LegalAction : clm:hasLegalAction
clm_LegalAction --> clm_Court : clm:heardIn
clm_LegalAction --> ins_Attorney : clm:involvesAttorney
clm_LegalAction --> ins_Attorney : clm:defendedBy
clm_LegalAction --> clm_Judgment : clm:resultsInJudgment
clm_LegalAction --> clm_LiabilityAssessment : clm:incorporatesLiabilityAssessment
clm_LegalAction --> clm_InjuryAssessment : clm:involvesInjuryAssessment
clm_LegalAction .. clm_LegalExpenseInvoice : MISSING no link yet (OI-09)
style ins_Claim fill:#DBEAFE,stroke:#1D4ED8,color:#0F172A
style clm_LegalAction fill:#DCFCE7,stroke:#15803D,color:#0F172A
style clm_Court fill:#DCFCE7,stroke:#15803D,color:#0F172A
style ins_Attorney fill:#DBEAFE,stroke:#1D4ED8,color:#0F172A
style clm_Judgment fill:#DCFCE7,stroke:#15803D,color:#0F172A
style clm_LiabilityAssessment fill:#DCFCE7,stroke:#15803D,color:#0F172A
style clm_InjuryAssessment fill:#DCFCE7,stroke:#15803D,color:#0F172A
style clm_LegalExpenseInvoice fill:#DCFCE7,stroke:#15803D,color:#0F172A
```

C07 – Insured objects and claim items

```
classDiagram
direction LR
class fnd_PhysicalObject["fnd:PhysicalObject"]
class ins_InsurableObject["ins:InsurableObject"]
<<PhysicalObject>> ins_InsurableObject
class ins_Building["ins:Building"]
<<PhysicalObject>> ins_Building
class ins_Vehicle["ins:Vehicle"]
<<PhysicalObject>> ins_Vehicle
class ins_Equipment["ins:Equipment"]
<<PhysicalObject>> ins_Equipment
class ins_Merchandise["ins:Merchandise"]
<<PhysicalObject>> ins_Merchandise
class ins_ValuableArticle["ins:ValuableArticle"]
<<PhysicalObject>> ins_ValuableArticle
class ins_Watercraft["ins:Watercraft"]
<<PhysicalObject>> ins_Watercraft
class ins_Policy["ins:Policy"]
<<Agreement>> ins_Policy
class ins_ClaimComponent["ins:ClaimComponent"]
<<Request>> ins_ClaimComponent
class clm_ClaimItem["clm:ClaimItem"]
<<InformationEntity>> clm_ClaimItem
class clm_ItemValuation["clm:ItemValuation"]
<<Activity>> clm_ItemValuation
class clm_DamageAssessment["clm:DamageAssessment"]
<<Activity>> clm_DamageAssessment
ins_Policy --> ins_InsurableObject : ins:hasInsurableObject
ins_ClaimComponent --> ins_Vehicle : ins:hasVehicle
ins_ClaimComponent --> ins_Building : ins:hasBuilding
ins_Building --> ins_ValuableArticle : ins:hasValuableArticle
ins_Building --> ins_Merchandise : ins:hasMerchandise
clm_ClaimItem --> clm_ItemValuation : clm:hasItemValuation
clm_ClaimItem --> clm_DamageAssessment : clm:evaluatedByDamageAssessment
fnd_PhysicalObject <|-- ins_InsurableObject
ins_InsurableObject <|-- ins_Building
ins_InsurableObject <|-- ins_Vehicle
```

```
ins_InsurableObject <|-- ins_Equipment
ins_InsurableObject <|-- ins_Merchandise
ins_InsurableObject <|-- ins_ValuableArticle
ins_InsurableObject <|-- ins_Watercraft
style fnd_PhysicalObject fill:#EEF2F7,stroke:#475569,color:#0F172A
style ins_InsurableObject fill:#DBEAFE,stroke:#1D4ED8,color:#0F172A
style ins_Building fill:#DBEAFE,stroke:#1D4ED8,color:#0F172A
style ins_Vehicle fill:#DBEAFE,stroke:#1D4ED8,color:#0F172A
style ins_Equipment fill:#DBEAFE,stroke:#1D4ED8,color:#0F172A
style ins_Merchandise fill:#DBEAFE,stroke:#1D4ED8,color:#0F172A
style ins_ValuableArticle fill:#DBEAFE,stroke:#1D4ED8,color:#0F172A
style ins_Watercraft fill:#DBEAFE,stroke:#1D4ED8,color:#0F172A
style ins_Policy fill:#DBEAFE,stroke:#1D4ED8,color:#0F172A
style ins_ClaimComponent fill:#DBEAFE,stroke:#1D4ED8,color:#0F172A
style clm_ClaimItem fill:#DCFCE7,stroke:#15803D,color:#0F172A
style clm_ItemValuation fill:#DCFCE7,stroke:#15803D,color:#0F172A
style clm_DamageAssessment fill:#DCFCE7,stroke:#15803D,color:#0F172A
```

C08 – Documents and communications

```
classDiagram
direction TB
class ins_Claim["ins:Claim"]
<<Request>> ins_Claim
class fnd_Document["fnd:Document"]
<<InformationEntity>> fnd_Document
class clm_ClaimDocument["clm:ClaimDocument"]
<<InformationEntity>> clm_ClaimDocument
class clm_ClaimNote["clm:ClaimNote"]
<<InformationEntity>> clm_ClaimNote
class clm_ReservationOfRights["clm:ReservationOfRights"]
<<InformationEntity>> clm_ReservationOfRights
class clm_ClaimRegulatoryReport["clm:ClaimRegulatoryReport"]
<<InformationEntity>> clm_ClaimRegulatoryReport
class ins_Communication["ins:Communication"]
<<Event>> ins_Communication
class ins_RegulatoryComplaint["ins:RegulatoryComplaint"]
<<Event>> ins_RegulatoryComplaint
class fnd_Party["fnd:Party"]
clm_ClaimDocument --> ins_Claim : clm:attachedToClaim
clm_ClaimNote --> ins_Claim : clm:noteOnClaim
ins_Claim --> ins_Communication : ins:hasCommunication
ins_Communication --> fnd_Party : ins:sentToParty
ins_Communication --> clm_ClaimNote : clm:documentedInClaimNote
ins_Communication --> fnd_Document : ins:hasCorrespondenceAttachment
ins_Claim --> clm_ClaimRegulatoryReport : clm:hasClaimRegulatoryReport
ins_Claim --> ins_RegulatoryComplaint : ins:hasRegulatoryComplaint
class vocabulary_ins_document_type_["code list ins/document-type/"]
<<ConceptScheme>> vocabulary_ins_document_type_
clm_ClaimDocument ..> vocabulary_ins_document_type_ : clm:resolvedToDocumentType
class vocabulary_clm_adjudication_dimension_["code list clm/adjudication-dimension/"]
<<ConceptScheme>> vocabulary_clm_adjudication_dimension_
clm_ClaimDocument ..> vocabulary_clm_adjudication_dimension_ : clm:resolvedToTheme
fnd_Document <|-- clm_ClaimDocument
fnd_Document <|-- clm_ClaimNote
fnd_Document <|-- clm_ReservationOfRights
fnd_Document <|-- clm_ClaimRegulatoryReport
ins_Communication <|-- ins_RegulatoryComplaint
style ins_Claim fill:#DBEAFE,stroke:#1D4ED8,color:#0F172A
style fnd_Document fill:#EEF2F7,stroke:#475569,color:#0F172A
style clm_ClaimDocument fill:#DCFCE7,stroke:#15803D,color:#0F172A
style clm_ClaimNote fill:#DCFCE7,stroke:#15803D,color:#0F172A
style clm_ReservationOfRights fill:#DCFCE7,stroke:#15803D,color:#0F172A
style clm_ClaimRegulatoryReport fill:#DCFCE7,stroke:#15803D,color:#0F172A
style ins_Communication fill:#DBEAFE,stroke:#1D4ED8,color:#0F172A
style ins_RegulatoryComplaint fill:#DBEAFE,stroke:#1D4ED8,color:#0F172A
style fnd_Party fill:#EEF2F7,stroke:#475569,color:#0F172A
style vocabulary_ins_document_type_ fill:#FEF9C3,stroke:#A16207,color:#0F172A
style vocabulary_clm_adjudication_dimension_ fill:#FEF9C3,stroke:#A16207,color:#0F172A
```

C09 – Handling and workflow

```
classDiagram
direction LR
class ins_Claim["ins:Claim"]
<<Request>> ins_Claim
class clm_ClaimTask["clm:ClaimTask"]
<<Activity>> clm_ClaimTask
class clm_ClaimTriage["clm:ClaimTriage"]
<<Activity>> clm_ClaimTriage
class clm_ClaimAssignment["clm:ClaimAssignment"]
<<PartyRole>> clm_ClaimAssignment
class ins_Adjuster["ins:Adjuster"]
<<PartyRole>> ins_Adjuster
class clm_ClaimExaminer["clm:ClaimExaminer"]
<<PartyRole>> clm_ClaimExaminer
class clm_Audit["clm:Audit"]
<<Activity>> clm_Audit
class clm_GuidedAdjudication["clm:GuidedAdjudication"]
<<Activity>> clm_GuidedAdjudication
ins_Claim --> clm_ClaimTask : clm:hasTask
ins_Claim --> clm_ClaimTriage : clm:hasTriage
ins_Claim --> clm_ClaimAssignment : clm:hasClaimAssignment
clm_ClaimAssignment --> ins_Adjuster : clm:assignedAdjuster
clm_ClaimAssignment --> clm_ClaimExaminer : clm:performerIsExaminer
ins_Claim --> clm_Audit : clm:subjectToAudit
clm_GuidedAdjudication --> clm_Audit : clm:hasAudit
class vocabulary_clm_work_queue_["code list clm/work-queue/"]
<<ConceptScheme>> vocabulary_clm_work_queue_
ins_Claim ..> vocabulary_clm_work_queue_ : ins:hasQueue
class vocabulary_clm_special_handling_["code list clm/special-handling/"]
<<ConceptScheme>> vocabulary_clm_special_handling_
ins_Claim ..> vocabulary_clm_special_handling_ : ins:hasSpecialHandling
class vocabulary_clm_task_status_["code list clm/task-status/"]
<<ConceptScheme>> vocabulary_clm_task_status_
```

```
clm_ClaimTask ..> vocabulary_clm_task_status_ : clm:hasTaskStatus
style ins_Claim fill:#DBEAFE,stroke:#1D4ED8,color:#0F172A
style clm_ClaimTask fill:#DCFCE7,stroke:#15803D,color:#0F172A
style clm_ClaimTriage fill:#DCFCE7,stroke:#15803D,color:#0F172A
style clm_ClaimAssignment fill:#DCFCE7,stroke:#15803D,color:#0F172A
style ins_Adjuster fill:#DBEAFE,stroke:#1D4ED8,color:#0F172A
style clm_ClaimExaminer fill:#DCFCE7,stroke:#15803D,color:#0F172A
style clm_Audit fill:#DCFCE7,stroke:#15803D,color:#0F172A
style clm_GuidedAdjudication fill:#DCFCE7,stroke:#15803D,color:#0F172A
style vocabulary_clm_work_queue_ fill:#FEF9C3,stroke:#A16207,color:#0F172A
style vocabulary_clm_special_handling_ fill:#FEF9C3,stroke:#A16207,color:#0F172A
style vocabulary_clm_task_status_ fill:#FEF9C3,stroke:#A16207,color:#0F172A
```

C10 – How a department extends the enterprise claim ontology (example)

```
flowchart LR
  subgraph ENT["Enterprise claim ontology (imported, never edited)"]
  direction TB
  ins_ClaimComponent["ins:ClaimComponent"]:::ins
  fnd_PartyRole["fnd:PartyRole"]:::fnd
  clm_Valuation["clm:Valuation"]:::clm
  clm_ClaimRuleSet["clm:ClaimRuleSet"]:::clm
  ins_Coverage["ins:Coverage"]:::ins
  end
  subgraph DEPT["Department module — example — Workers' Compensation claims"]
  direction TB
  dept_IndemnityBenefitComponent["dept:IndemnityBenefitComponent"]:::dept
  dept_NurseCaseManager["dept:NurseCaseManager"]:::dept
  dept_WageLossValuation["dept:WageLossValuation"]:::dept
  dept_WCRuleSetNY["dept:WCRuleSetNY"]:::dept
  dept_EmployersLiabilityCoverage["dept:EmployersLiabilityCoverage"]:::dept
  dcode(["feature-type value: Indemnity Benefit (skos:broadMatch to enterprise value)"]):::code
  dshape["dept SHACL shape: sh:minCount 1 on ins:isClaimedUnder"]:::dept
  end
  dept_IndemnityBenefitComponent -->|"rdfs:subClassOf"| ins_ClaimComponent
  dept_NurseCaseManager -->|"rdfs:subClassOf"| fnd_PartyRole
  dept_WageLossValuation -->|"rdfs:subClassOf"| clm_Valuation
  dept_WCRuleSetNY -->|"rdf:type"| clm_ClaimRuleSet
  dept_EmployersLiabilityCoverage -->|"rdfs:subClassOf"| ins_Coverage
  classDef fnd fill:#EEF2F7,stroke:#475569,color:#0F172A
  classDef ins fill:#DBEAFE,stroke:#1D4ED8,color:#0F172A
  classDef clm fill:#DCFCE7,stroke:#15803D,color:#0F172A
  classDef uw fill:#FFEDD5,stroke:#C2410C,color:#0F172A
  classDef code fill:#FEF9C3,stroke:#A16207,color:#0F172A
  classDef ext fill:#F3E8FF,stroke:#7E22CE,color:#0F172A
  classDef dept fill:#FCE7F3,stroke:#BE185D,color:#0F172A,stroke-dasharray:5 3
  classDef gap fill:#FFFFFF,stroke:#DC2626,color:#991B1B,stroke-dasharray:4 3
```

Appendix B – Standards evidence cited

Evidence id	Document · section	Verbatim	URL
W3C-OWL2-SYN-9.1.3	OWL 2 Structural Specification – 9.1.3 Disjoint Classes	“A disjoint classes axiom DisjointClasses(CE1 ... CEn) states that all of the class expressions CEi, 1 ≤ i ≤ n, are pairwise disjoint …”	https://www.w3.org/TR/owl2-syntax/#Disjoint_Classes
FIBO-GUIDE-GenusDifferentia	FIBO – Definitions	“ISO 704 suggests a "genus / differentia" structure for definitions ... Definitions must not be circular, i.e., the class, property, or individual name must not be used in the definition itself.”	https://raw.githubusercontent.com/edmcouncil/fibo/master/ONTOLOGY_GUIDE.md
GIST-About	gist – About gist	“gist is Semantic Arts' minimalist upper ontology for the enterprise.”	https://raw.githubusercontent.com/semanticarts/gist/v14.1.0/README.md
OOPS-P11	OOPS! pitfall catalogue – P11. Missing domain or range in properties	“Object and/or datatype properties without domain or range (or none of them) are included in the ontology.”	https://oops.linkeddata.es/catalogue.jsp#panelsStayOpen-heading10
OMG-PC-Claim-Def	OMG P&C Data Model (PC) 1.0 – 8.3 Entity Definitions - Claim	“Claim is a request for indemnification by an insurance company for loss incurred from an insured peril or hazard.”	https://www.omg.org/spec/PC/1.0/PDF
NAIC-Glossary-Claim	NAIC Glossary of Insurance Terms – Claim	“a request made by the insured for insurer remittance of payment due to loss incurred and covered under the policy agreement.”	https://content.naic.org/glossary-insurance-terms
ORACLE-OIDF-Claim-Def	Oracle Insurance Data Foundation (OIDF) 8.1.1 – About Insurance Claims	“An insurance claim is a formal request to an Insurance Company for coverage or compensation for a covered loss or policy event.”	https://docs.oracle.com/cd/E92918_01/PDF/8.1.x.x/8.1.1.0.0/OIDF_HTML/811/UG
FIBO-FND-ARR-Request	FIBO – FND/Arrangements/Reporting (ontology maturity: Release)	“event in which some party asks another party for something at some point in time”	https://spec.edmcouncil.org/fibo/ontology/master/2026Q3/FND/Arrangements/Re
ACORD-IM-2026-ClaimActivity	ACORD Information Model / Data Model (July 2026 release) – News Detail	“Claim Activity subtypes, to represent the claim-related tasks that may be performed by humans, AI agents, or both within the claim lifecycle.”	https://www.acord.org/news-detail/2026/07/30/latest-acord-reference-archite enabled-insurance-processes
IBM-IIW-BDM-ElementaryClaim	IBM Insurance Information Warehouse 8.9.2 (Business Data Model) – Entities used	“Elementary Claim - an entity that is a subtype of Claim that represents the smallest unit of a claim and is the bottom level of the claim decomposition that corresponds to the coverages in the insurance policy.”	https://www.ibm.com/docs/en/iiw/8.9.2?topic=scenarios-relating-claim-insura
CMNS-PTS-PartyRole	OMG Commons – Commons 1.3 spec section 8.16 'Ontology: Parties and Situations' (p. 94); module PartiesAndSituations	“role played by an organization or individual that may be time bound”	https://www.omg.org/spec/Commons/PartiesAndSituations.rdf

CMNS-RLCMP-isPlayedBy	OMG Commons – Commons 1.3 spec section 8.20 'Ontology: Roles and Compositions' (p. 130); module RolesAndCompositions	“indicates something or someone, such as a person, organization, or other thing filling a role”	https://www.omg.org/spec/Commons/RolesAndCompositions.rdf
OMG-PC-ClaimPartyRole	OMG P&C Data Model – Clause 8.3 Entity Definitions, p. 42	“Claim Party Role defines any Party’s involvement or role in a Claim. Examples: claimant, adjuster, victim. ... Claim Role is a subtype of Party Role that organizes the roles specific to Claim.”	https://www.omg.org/spec/PC/1.0/PDF
ACAD-ONTOCLEAN-ANTIRIGID-SUBSUMPTION	OntoClean – Essence and Rigidity (unnumbered section)	“One of these constraints is that anti-rigid properties cannot subsume rigid properties. For example, the class student cannot subsume the class person if the former is anti-rigid and the latter is rigid.”	https://doi.org/10.1145/503124.503150
ODP-AgentRole	ODP content pattern: AgentRole – General description: Intent / Consequences	“This CP allows designers to make assertions on roles played by agents without involving the agents that play that roles, and vice versa. It does not allow to express temporariness of roles.”	http://ontologydesignpatterns.org/index.php/Submissions:AgentRole
ACORD-IM-PartyRole-Context	ACORD Information Model v2.x – Slide 'Party Role → Context' (6iYbH7mWAvm)	“Party → Party Role → Context; Party Role In Agreement; Party Role In Claim; Claimant; Witness; Insured; Beneficiary” **(inferred – not verified)**	https://www.acord.org/staticfiles/reference_architecture/information_model/
FIBO-FND-AGR-Agreement	FIBO – FND/Agreements/Agreements (ontology maturity: Release)	“negotiated understanding between two or more parties, reflecting the offer and acceptance of commitments on the part of either party”	https://spec.edmcouncil.org/fibo/ontology/master/2026Q3/FND/Agreements/Agre
FIBO-FND-AGR-Commitment	FIBO – FND/Agreements/Agreements (ontology maturity: Release)	“promise made by some party to act or refrain from acting in some manner”	https://spec.edmcouncil.org/fibo/ontology/master/2026Q3/FND/Agreements/Agre
GIST-Commitment	gist – gistCore	“A promise made by a single party to one or more parties to do or not do something or act in a particular way.”	https://w3id.org/semanticarts/ontology/gistCore14.1.0
OMG-PC-Coverage	OMG P&C Data Model – Clause 8.3 Entity Definitions, p. 43	“Coverage is the definition of the risks being provided indemnification, and the level of indemnification being provided under an insurance policy.”	https://www.omg.org/spec/PC/1.0/PDF
IBM-IIW-CoverageComponent	IBM Insurance Information Warehouse 8.9.2 (Business Data Model) – Entities used	“The Coverage Component entity is an agreement component that details the circumstances under which a benefit (money or services) will be paid.”	https://www.ibm.com/docs/en/iiw/8.9.2?topic=scenarios-relating-claim-insura

ISO-CGL-InsuringAgreement	ISO Commercial General Liability Coverage Form CG 00 01 04 13 – Section I - Coverage A, 1. Insuring Agreement, a.	“We may, at our discretion, investigate any "occurrence" and settle any claim or "suit" that may result.”	https://www.argogroup.com/wp-content/uploads/2020/07/Ascend-With-Argo-_-The
FIBO-FND-ACC-MonetaryAmount	FIBO – FND/Accounting/CurrencyAmount (ontology maturity: Release)	“measure that is an amount of money specified in monetary units”	https://spec.edmcouncil.org/fibo/ontology/master/2026Q3/FND/Accounting/Curr
FIBO-FND-ACC-hasCurrency	FIBO – FND/Accounting/CurrencyAmount (ontology maturity: Release)	“specifies the medium of exchange value in which something, such as a monetary amount is denominated”	https://spec.edmcouncil.org/fibo/ontology/master/2026Q3/FND/Accounting/Curr
IBM-IIW-MoneyProvision	IBM IIW Business Data Model – Packages - Money Provision (p.17)	“Identifies monetary amounts outside the context of billing and accounting that are likely to become payable to or by the insurer.”	https://public.dhe.ibm.com/software/data/sw-library/industry-models/brochures/IBM_Insurance_Information_Warehouse_GIMv85.pdf
IBM-IIW-FinancialTransaction	IBM IIW Business Data Model – Packages - Financial Transaction (p.16)	“Outbound payments (for example, the payment of a claim to a customer) result from the accounts payable”	https://public.dhe.ibm.com/software/data/sw-library/industry-models/brochures/IBM_Insurance_Information_Warehouse_GIMv85.pdf
OMG-PC-ClaimReserve	OMG P&C Data Model – Clause 8.3 Entity Definitions, pp. 42 and 47	“Claim Reserve is the amount of expected loss over the life of the Claim. ... Loss Reserve is the amount set aside for expected loss over the life of the Claim.”	https://www.omg.org/spec/PC/1.0/PDF
NAIC-SSAP55-Para4-Recognition	SSAP No. 55 – Summary Conclusion, para. 4	“the covered or insured event is the occurrence of an incident which gives rise to a claim or the incurring of costs. For claims-made type policies, the covered or insured event is the reporting to the entity of the incident”	https://www.actuary.org/wp-content/uploads/2017/11/055_RRQQ.pdf
ACORD-XML-Amt-CurCd	ACORD P&C XML (currency amount pattern) – ProbableIncurredAmt (Aggregate, DataType CURRENCY) with child elements Amt and CurCd	“The estimated total amount of a claim. This field is used only when the claim has not been completely settled, a.k.a. incurred.”	https://modelviewers.pilotfishtechnology.com/modelviewers/ACORD-PCS/model/P
DMN-5.3.1-Decision	DMN – Clause 5.3.1 Decision requirements level, p. 14	“a decision is the act of determining an output value (the chosen option), from a number of input values, using logic defining how the output is determined from the inputs.”	https://www.omg.org/spec/DMN/1.6/PDF
DMN-6.3.7-DecisionOutput	DMN – Clause 6.3.7 Decision metamodel, Table 11 'Decision attributes and model associations', p. 39	“In addition, a Decision defines an InformationItem representing its output. ... variable: InformationItem The instance of InformationItem that stores the result of this Decision.”	https://www.omg.org/spec/DMN/1.6/PDF
GIST-Determination	gist – gistCore	“An event whose purpose is to establish a specific result, value, or outcome, usually by research, measuring, evaluating, or calculating.”	https://w3id.org/semanticarts/ontology/gistCore14.1.0

W3C-PROVO-Entity	PROV-O – 4.1 Starting Point Terms: (1) Class: prov:Entity	“An entity is a physical, digital, conceptual, or other kind of thing with some fixed aspects; entities may be real or imaginary.”	https://www.w3.org/TR/prov-o/#Entity
BPMN-10.3-Activity	BPMN – Clause 10.3 Activities, p. 149	“An Activity is work that is performed within a Business Process. An Activity can be atomic or non-atomic (compound).”	https://www.omg.org/spec/BPMN/2.0.2/PDF
OMG-PC-Assessment	OMG P&C Data Model – Clause 8.3 Entity Definitions, p. 40	“Assessment is a formal evaluation of a particular person, organization, or thing that enables business decisions to be made. ... An Assessment Result is the outcome of the assessment.”	https://www.omg.org/spec/PC/1.0/PDF
OMG-PC-ClaimAssessment	OMG P&C Data Model – Clause 8.3 Entity Definitions, p. 41	“Claim Assessment is an associative entity that relates a Claim to an Assessment. ... Claim Evaluation Result is the outcome of a Claim Assessment.”	https://www.omg.org/spec/PC/1.0/PDF
IBM-IIW-AssessmentCondition	IBM IIW Business Data Model – Packages - Assessment and Condition (p.16)	“Condition is the state of a place, a physical object or an activity occurrence existing at a given point in time.”	https://public.dhe.ibm.com/software/data/sw-library/industry-models/brochures/IBM_Insurance_Information_Warehouse_GIMv85.pdf
W3C-SKOS-REF-4.3	SKOS Reference – 4.3. Class & Property Definitions (in 4. Concept Schemes)	“S7 skos:topConceptOf is a sub-property of skos:inScheme. S8 skos:topConceptOf is owl:inverseOf the property skos:hasTopConcept.”	https://www.w3.org/TR/skos-reference/#L8421
W3C-SKOS-PRIMER-4.6	SKOS Primer – 4.6 Notations	“The first, preferred technique is to use the skos:notation property. This property allows a concept to be attached to an RDF typed literal—a literal with an explicit datatype [RDF-PRIMER].”	https://www.w3.org/TR/skos-primer/#secnotations
W3C-SHACL-4.1.1	SHACL – 4.1.1 sh:class	“The condition specified by sh:class is that each value node is a SHACL instance of a given type.”	https://www.w3.org/TR/shacl/#ClassConstraintComponent
GIST-Category-ClassVsCategory	gist – gistCore	“Often a type can be modeled either as an owl:Class or as a gist:Category. Use the latter if you don't care much about the formal structure of the different types, or if there is a whole hierarchy of ...”	https://w3id.org/semanticarts/ontology/gistCore14.1.0
ACORD-IMT-CodeLists	ACORD Information Model v2.x – Slide 'Stereotype/Metadata (Cont'd)' (5ZgIoI2eSnr)	“Code List = Enumeration; Code Values = Enumeration Literals; Code List (Superset); Code List (Subset); Coverage = Cover”	https://www.acord.org/staticfiles/reference_architecture/information_model/

FIBO-GUIDE-DomainRange	FIBO – Conceptual Modeling Approach > Overarching Principles (item 2)	“we attempt to define properties at the highest level in the property hierarchy where they may be applicable and limit the use of the domain and range restrictions.”	https://raw.githubusercontent.com/edmcouncil/fibo/master/ONTOLOGY_GUIDE.md
W3C-RDFS-3.4	RDF Schema 1.1 – 3.4 rdfs:subClassOf	“The property rdfs:subClassOf is an instance of rdf:Property that is used to state that all the instances of one class are instances of another.”	https://www.w3.org/TR/rdf-schema/#ch_subclassof
CMNS-PTS-hasPartyRole	OMG Commons – Commons 1.3 spec section 8.16 'Ontology: Parties and Situations' (p. 94); module PartiesAndSituations	“identifies a specific role played by some person or organization as related to a situation, agreement, contract, policy, regulation, activity or other relationship”	https://www.omg.org/spec/Commons/PartiesAndSituations.rdf
CMNS-ID-Identifier	OMG Commons – Commons 1.3 spec section 8.11 'Ontology: Identifiers' (p. 66); module Identifiers	“sequence of characters uniquely identifying that with which it is associated”	https://www.omg.org/spec/Commons/Identifiers.rdf
W3C-OWL2-SYN-4	OWL 2 Structural Specification – 4 Datatype Maps	“The rest of this section defines a particular datatype map called the OWL 2 datatype map, which lists the datatypes that can be used in OWL 2 ontologies.”	https://www.w3.org/TR/owl2-syntax/#Datatype_Maps
W3C-XSD11-3.3.9	XSD 1.1 Part 2: Datatypes – 3.3.9 date	“[Definition:] date represents top-open intervals of exactly one day in length on the timelines of dateTime, beginning on the beginning moment of each day, up to but not including the beginning moment of the next day).”	https://www.w3.org/TR/xmlschema11-2/#date
W3C-PROVO-wasGeneratedBy	PROV-O – 4.1 Starting Point Terms: (4) Property: prov:wasGeneratedBy	“Generation is the completion of production of a new entity by an activity. This entity did not exist before generation and becomes available for usage after this generation.”	https://www.w3.org/TR/prov-o/#wasGeneratedBy
W3C-R2RML-ABSTRACT	R2RML – Abstract	“Such mappings provide the ability to view existing relational data in the RDF data model, expressed in a structure and target vocabulary of the mapping author's choice.”	https://www.w3.org/TR/r2rml/#abstract
W3C-ANNO-4.2	Web Annotation Data Model – 4.2 Selectors	“A Selector is used to describe how to determine the Segment from within the Source resource.”	https://www.w3.org/TR/annotation-model/#h-selectors

OMG-PC-7.2-ClaimLinks	OMG P&C Data Model – Clause 7.2 Conceptual Data Models, p. 21	“Policy Coverage Detail is a key link among Policy, Claim, and Reinsurance. ... Claim is tied to Policy through Policy Coverage Detail. ... Claim is tied to Party, Insurable Object, Policy Coverage Detail, and Reinsurance.”	https://www.omg.org/spec/PC/1.0/PDF
OMG-PC-ClaimEvent-Occurrence	OMG P&C Data Model (PC) 1.0 – 8.3 Entity Definitions - Claim Event; Occurrence	“Claim Event is a subtype of Event that identifies and describes the accident or occurrence that triggered the claim.”	https://www.omg.org/spec/PC/1.0/PDF
ACORD-IM-Claim-Hierarchy	ACORD Information Model v2.x – Slide 'Claim' (63cHYw8BuxP) with legend from slide 'Inheritance' (6c5YrnjomLg)	“Grey line(s) = Inheritance; Red line = Association; Claim Base; Claim; Claim Component; Claim Grouping; Claim Offer” **(inferred – not verified)**	https://www.acord.org/staticfiles/reference_architecture/information_model/
IBM-IIW-Claim-Structure	IBM IIW Business Data Model – Packages - Claim (p.16)	“The definition of a claim in the context of the model involves the structure of a claim (the splitting of a claim into smaller claims parts)”	https://public.dhe.ibm.com/software/data/sw-library/industry-models/brochures/IBM_Insurance_Information_Warehouse_GIMv85.pdf
Q-OccurrenceVsClaim	Cross-standard comparison (ACORD, IBM, Oracle, OMG, NAIC) – see cited entries	“A code identifying if this is notice of an occurrence or a claim.”	https://modelviewers.pilotfishtechnology.com/modelviewers/ACORD-PCS/model/C
OMG-PC-ClaimMoney	OMG P&C Data Model (PC) 1.0 – 8.3 Entity Definitions - Claim Amount; Claim Reserve; Claim Payment	“Claim Amount is the money being paid or collected for settling a claim and paying the claimants, reinsurers, other insurers, and other interested parties.”	https://www.omg.org/spec/PC/1.0/PDF
OMG-PC-ClaimPayment	OMG P&C Data Model – Clause 8.3 Entity Definitions, p. 42	“Claim Payment is the amount paid for loss or expense to settle a claim in whole or in part.”	https://www.omg.org/spec/PC/1.0/PDF
ACORD-XML-ReserveChangeInfo	ACORD P&C XML – ReserveChangeInfo (Aggregate) and ReservePositionTypeCd	“This aggregate contains information about a claim reserve.”	https://modelviewers.pilotfishtechnology.com/modelviewers/ACORD-PCS/model/R
NAIC-Glossary-Subrogation	NAIC Glossary of Insurance Terms – Subrogation	“situation where an insurer, on behalf of the insured, has a legal right to bring a liability suit against a third party who caused losses to the insured.”	https://content.naic.org/glossary-insurance-terms
NAIC-SSAP55-SalvageSubrogation	SSAP No. 55 – General, para. 14	“If a reporting entity chooses to anticipate salvage and subrogation recoverables”	https://www.actuary.org/wp-content/uploads/2017/11/055_RRQQ.pdf
CMMN-6.15-ClaimsManagementExample	CMMN – Clause 6.15 Examples, Figure 6.73, p. 82	“The following illustration shows a combination of various elements, by means of a small example, which is about claims management. ... Figure 6.73 - Claims Management Example”	https://www.omg.org/spec/CMMN/1.1/PDF

OMG-PC-ClaimOffer	OMG P&C Data Model – Clause 8.3 Entity Definitions, p. 42	“A Claim Offer is a proposal made by an insurer to a claimant or third party in order to settle a claim.”	https://www.omg.org/spec/PC/1.0/PDF
ACAD-ONTOCLEAN-RIGIDITY	OntoClean – Essence and Rigidity (unnumbered section)	“A special form of essence is rigidity: a property is rigid if it is essential to all its instances.”	https://doi.org/10.1145/503124.503150
IBM-IIW-LegalAction	IBM IIW Business Data Model – Packages - Legal Action (p.17)	“Disputes can arise for different reasons, but often are related to claims; for example, when the liability of a claim is disputed, when a subrogation is issued”	https://public.dhe.ibm.com/software/data/sw-library/industry-models/brochures/IBM_Insurance_Information_Warehouse_GIMv85.pdf
CMNS-RGA-Jurisdiction	OMG Commons – Commons 1.3 spec section 8.19 'Ontology: Regulatory Agencies' (p. 126); module RegulatoryAgencies	“power of a court or regulatory agency to adjudicate cases, issue orders, and interpret and apply the law with respect to some specific geographic area”	https://www.omg.org/spec/Commons/RegulatoryAgencies.rdf
OMG-PC-InsurableObject	OMG P&C Data Model – Clause 8.3 Entity Definitions, p. 46	“An Insurable Object is an item which may be included or excluded from an insurance coverage or policy, either as the object for which possible damages of the object or loss of the object is insured ...”	https://www.omg.org/spec/PC/1.0/PDF
IBM-IIW-PhysicalObject-Place	IBM IIW Business Data Model – Packages - Physical Object and Place (p.17)	“All physical objects that can be covered by an insurance policy, excluded from insurance or involved in a claim, are represented in the model.”	https://public.dhe.ibm.com/software/data/sw-library/industry-models/brochures/IBM_Insurance_Information_Warehouse_GIMv85.pdf
FIBO-FND-OAC-PhysicalAsset	FIBO – FND/OwnershipAndControl/Ownership (ontology maturity: Release)	“tangible asset that has a material form, such as property, equipment, and inventory”	https://spec.edmcouncil.org/fibo/ontology/master/2026Q3/FND/OwnershipAndCon
CMNS-DOC-Document	OMG Commons – Commons 1.3 spec section 8.10 'Ontology: Documents' (p. 59); module Documents	“unitary expression of some realization of an intellectual or artistic work”	https://www.omg.org/spec/Commons/Documents.rdf
CMNS-DOC-Record	OMG Commons – Commons 1.3 spec section 8.10 'Ontology: Documents' (p. 59); module Documents	“memorialization and objective evidence of activities performed, events occurred, results achieved, or statements made, regardless of its characteristics, media, physical form, or the manner in which it is recorded or stored”	https://www.omg.org/spec/Commons/Documents.rdf
CMNS-DOC-Notice	OMG Commons – Commons 1.3 spec section 8.10 'Ontology: Documents' (p. 59); module Documents	“announcement, communication, intimation, or advance warning of something, usually, but not necessarily, to allow preparations to be made”	https://www.omg.org/spec/Commons/Documents.rdf

OMG-PC-ClaimFolder	OMG P&C Data Model – Clause 8.3 Entity Definitions, p. 41	“A Claim Folder is the physical file in which all claim documents are maintained. ... Claim Folder Document is written information such as agreements, financial statements, offers, proposals, etc.”	https://www.omg.org/spec/PC/1.0/PDF
CMMN-4.1-Case	CMMN – Clause 4.1 General Concept, p. 5	“A Case is a proceeding that involves actions taken regarding a subject in a particular situation to achieve a desired outcome.”	https://www.omg.org/spec/CMMN/1.1/PDF
OMG-PC-ClaimAdministrator	OMG P&C Data Model – Clause 8.3 Entity Definitions, p. 41	“Claim Administrator is a Role played by a Party who is designated by the insurance company, to manage the administration and handling of a claim.”	https://www.omg.org/spec/PC/1.0/PDF
FIBO-GUIDE-NoUpperOntology	FIBO – Conceptual Modeling Approach > Overarching Principles (item 4)	“We have not integrated FIBO with any existing 'upper' ontology, and are increasingly limiting the number of philosophically-grounded concepts at our highest levels.”	https://raw.githubusercontent.com/edmcouncil/fibo/master/ONTOLOGY_GUIDE.md
W3C-SKOS-REF-10.1-CLOSE	SKOS Reference – 10.1. Preamble (in 10. Mapping Properties)	“The property skos:closeMatch is used to link two concepts that are sufficiently similar that they can be used interchangeably in some information retrieval applications.”	https://www.w3.org/TR/skos-reference/#L4307
W3C-SHACL-2.1.4	SHACL – 2.1.4 Declaring the Severity of a Shape	“The specific values of sh:severity have no impact on the validation, but MAY be used by user interface tools to categorize validation results.”	https://www.w3.org/TR/shacl/#severity