Property and Casualty Data Model(s)/
Business Glossary Standards

Initial Submission

OMG Document Number: 2011-02-01
Annex B: Conceptual Model finance/2011-02-03
Annex C: Logical Model finance/2011-02-04
Annex D: Traceability Matrices finance/2011-02-05
Submission Contact Information finance/2011-02-07


Associated Schema files*:

* Original files:
NOTE: These files are the schema files associated with this specification (e.g., IDL, XML, ESD, etc.) If applicable, please add this information.

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Preface

About the Object Management Group OMG

Founded in 1989, the Object Management Group, Inc. (OMG) is an open membership, not-for-profit computer industry standards consortium that produces and maintains computer industry specifications for interoperable, portable and reusable enterprise applications in distributed, heterogeneous environments. Membership includes Information Technology vendors, end users, government agencies, and academia.

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More information on the OMG is available at http://www.omg.org/.

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• UML
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• XMI
• CWM
• OMG SysML™
• Other Profile specifications.

OMG Middleware Specifications

• CORBA/IIOP
• DDS and the DDS Interoperability Protocol, RTPS
• IDL/Language Mappings
• Specialized CORBA specifications
• CORBA Component Model (CCM)
Platform Specific Model and Interface Specifications

- CORBAservices
- CORBAfacilities
- OMG Domain specifications
- OMG Embedded Intelligence specifications
- OMG Security specifications.

All of the OMG’s formal specifications may be downloaded without charge from our website. (Products implementing OMG specifications are available from individual suppliers.) Copies of specifications, available in PostScript and PDF format, may be obtained from the Specifications Catalog cited above or by contacting the Object Management Group, Inc. at:

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Typographical Conventions

The type styles shown below are used in this document to distinguish programming statements from ordinary English. However, these conventions are not used in tables or section headings where no distinction is necessary.

Times/Times New Roman 10 pt.: Standard body text

Helvetica/Arial 10 pt. Bold: OMG Interface Definition Language (OMG IDL) and syntax elements.


Helvetica/Arial 10 pt: Exceptions

Terms that appear in italics are defined in the glossary. Italic text also represents the name of a document, specification, or other publication.

Issues

The reader is encouraged to report any technical or editing issues/problems with this specification to http://www.omg.org/technology/agreement.htm.
1. Scope

This submission responds to a proposal from the Object Modeling Group (OMG) for 'Information Models' to address the data management needs of the Property and Casualty (P&C) insurance community. This submission uses OMG's Model Driven Architecture principles and related standards (http://www.omg.org/mda/). Also, this submission uses existing P&C industry standards (e.g., IBM's IAA) as a source for the proposed P&C Business Glossary and associated models. Both points satisfy requirements found in the OMG's Request for Proposals (RFP) for a P&C industry standard data model.

The scope for this initiative includes the U.S. P&C marketplace for claims data and policy data. In addition data which transcends or is common to these two areas have been incorporated into a core or reference model, e.g. name, address.

This submission does not include initial submission models incorporating billing, agency, reinsurance or other functions within the insurance value chain. These are to be addressed in subsequent releases.

Subsequent iterations of these models (Business Glossary, Conceptual Models, Logical Models) to include Billing Data, Agency Data and Reinsurance are scheduled to commence in June 2011.

2. Conformance

2.1 Logical Relational Data Model Definition

The relational model for database management is a database model based on predicate logic and set theory. It was first formulated and proposed in 1969 by Edgar Codd with aims that included avoiding, without loss of completeness, the need to write computer programs to express database queries and enforce database integrity constraints. “Relation” is a mathematical term for “table”, and thus “relations” roughly means “based on tables”. It does not refer to the links or “keys” between tables, contrary to popular belief.\(^1\)

A logical relational data model defines what an organization knows about things of interest to the business and graphically shows how they relate to each other in an entity relationship (ER) diagram. An entity relationship diagram is an abstract conceptual representation of structured data. It uses standard symbols to denote the things of interest to the business (entities), the relationships between entities and the cardinality and optionality of those relationships. The Logical Relational Data Model, in contrast to the more abstract Conceptual Relational Data Model, contains detailed characteristics of the entities (attributes) and their definitions. It generates the structure of a physical data model which in turn generates a database following Model Driven Architecture principles. It is a result of detailed analysis of the business requirements.

The following illustration shows how the logical model fits into the overall data modeling process:

---

\(^1\) Wikipedia – relational model
Ultimately, the logical relational data model helps to solidify and validate business requirements and delivers stable, flexible data structures that are easily navigated and can answer unanticipated questions.

### 2.2 ER Diagramming Conventions

#### 2.2.1 Modeling Syntax

The recommended notation for models is Information Engineering (IE) – “Crow’s Feet” – because it is easier for users to interpret than the Integration Definition for Information Modeling (IDEF1X) notation.²

#### 2.2.2 Diagramming Layout Guidelines

Orient entities so that the “toes” of a relationship’s crow’s foot always point down. This puts fundamental entities in the top area of the diagram, and positions associative and subtype entities in the lower area of the diagram.

Recommended crow’s feet down convention  Avoid dead crows!

---

² The choice of IE notation will be revisited when the Barker notation becomes more widely available in the modeling tools.
Keep the relationship lines as straight as possible. Avoid unnecessary bends. Too many symbols clutter the diagram and make it confusing to the viewer.

Avoid crossing relationship lines. Crossed lines make it difficult to understand which entities are related.

Relationship names should be placed on the diagram so that the verbs or verb phrases are read in a clockwise direction from one entity to the related entity.

Example:

2.2.3 Normal Forms

Normal Forms provide a way to structure data to eliminate undesirable redundancies, inconsistencies and dependencies. Normalization is a formalized technique for creating the most desirable logical model for the given data and business rules. Completed logical models should be in, at least, Boyce/Codd Normal Form (BCNF)\(^3\). For a model to be in BCNF, every entity in the model must be in BCNF. The normal forms are summarized below:

\(^3\) See Wikipedia Database Normalization: http://en.wikipedia.org/wiki/Database_normalization
First Normal Form (1NF) identifies and eliminates repeating groups and establishes a primary key.

Second Normal Form (2NF) identifies and removes partial-key dependencies. This applies only to tables with composite keys.

Third Normal Form (3NF) identifies and eliminates non-key attributes that are dependent on other non-key attributes.

Boyce/Codd Normal Form (BCNF) identifies and eliminates key attributes that are dependent upon other key attributes in an entity with a composite key.

3. Normative References

The following normative documents contain provisions which, through reference in this text, constitute provisions of this specification. For dated references, subsequent amendments to, or revisions of, any of these publications do not apply.

The normative documentation submitted with this submission consists of the XMI versions of the following models:

- XMI Representation of the Conceptual Data Model
- XMI Representation of the Logical Data Model

4. Terms and Definitions

As part of this submission a Glossary of common Term and Definitions used in the model has been provided. The glossary also contains cross reference information identifying where in the model the term is used.

The Business Glossary document has been given the following document number by OMG:

- finance/20100502 P&C Business Glossary and Entity Cross Reference

5. Symbols

Symbols used in the creation of this model consistent of standard entry-relationship notation supported by the OMG and all commercially available modeling tools.

6. Additional Information

6.1 Changes to Adopted OMG Specifications

<NOT APPLICABLE>
6.2 How to Read this Specification

The rest of this document contains the technical content of this specification. Following are selected details that explain each of the artifacts submitted in this response.

- A glossary of P&C business terms and accompanying meta data, with traceability of P&C business terms to models
- A Conceptual Data Model representing P&C business concepts
- An attributed Logical (ER) Data Model

Each of these artifacts can be found in the Annex (Annexes A - C).

6.3 Acknowledgements

The following companies submitted this specification:
- 21st Century Insurance
- Harleysville Insurance Group
- Penn National Insurance
- IBM

6.3.1 History of Effort

This submission required the dedicated work of many individuals over a significant period of time.

As P&C organizations embarked on data integration, data conversion and data mastery initiatives, these organizations recognized that without a standard data model and standard data dictionary/glossary, they would not have the ability to communicate seamlessly with one another. Also, they experienced significant communication problems internally since many organizations did not have a standard set of concepts defined and accepted.

A number of companies recognized that they did not/do not possess the resources to develop these data management components internally (accepted business concepts, data definitions, modeled entities and attributes, etc.). Furthermore, insurance IT solution providers recognized that building these components independently would not lead to wholesale adoption of their models and would continue to result in a need to expand their efforts in costly and difficult systems integration and conversions.

As a result of these challenges, in late 2004, a number of P&C insurance carriers, IT solution providers and industry associations began discussions on the development of a set of standard P&C data models and a business glossary, specifically targeted to the smaller or medium sized P&C insurance company.

In late 2006, a number of these organizations approached OMG to institute a forum for the development of these standard models and business glossaries. The working group agreed to initially develop these deliverables for the US P&C market; with the hope these information models would be extensible to other insurance domains (e.g. Europe, life insurance, reinsurance, etc.) This group wished to leverage OMG’s modeling expertise as well as OMG’s relationships with other industries (e.g. the health care industry, auto industry, etc.).

In June, 2007, OMG issued a Request for Proposal (RFP) for the effort to develop an industry standard model for the Property and Casualty insurance domain. The working group was formalized in late 2007, with 35 organizations participating in the development of this submission as creators and/or reviewers.

Certain members of this group also donated a number of artifacts which were used as a means to accelerate the effort. Furthermore, several IT tool vendors volunteered the use of their respective tool sets to manage and facilitate the development of the models and glossary.
Certain artifacts donated to this effort included:

- IBM’s Business Glossary
- Microsoft’s Capability models
- Penn National Insurance’s logical models
- Maike Associates conceptual models

The following IT solution firms donated data management tool sets for the development and management of the deliverables:

- ER Studio – Embarcadero
- Metadata Repository – Adaptive
- Business Semantics – SBVR Tool

7. Submission

7.1 Overview

This submission contains the following mandatory and optional items (Dimensional Models), as indicated in the OMG’s RFP (P&C RPF.doc): dated June 2007 and modified

- A Glossary of P&C Business Terms and accompanying meta data (source, version, format as well as Party, Party Role, Address for example).
- An attributed Logical (ER) Data Model with appropriate identifiers, logical data types and relationships as appropriate.
- Traceability of P&C Business Terms to models (and model elements) listed above as well as valid semantic variations where applicable (synonyms, geographical variations etc.)
- Dimensional model representing key dimensions or metrics used by insurers to measure company results. This was an optional deliverable under the original OMG submission document.

These submitted artifacts are viewed as the first set of deliverables from this OMG working group. These deliverables represent three (3) business models for the major lines of Property and Casualty business in the United States geographic territory:

- A reference or core model representing common data entities transcending all or most P&C insurance business processes (e.g., party, claims, name, address).
- A model referencing the data entities used for P&C insurance claims processing.
- A policy model referencing the data entities used for P&C insurance policy processing.
- A dimensional model representing the key dimensions needed by insurers for the development of a data warehouse

The group plans to extend these models on an iterative basis beyond the above process models, e.g. Agency, billing, reinsurance and beyond the P&C US market into other domains such as life and reinsurance and other geographies.

Furthermore, the group also expects to capitalize on work done by OMG across multiple industries that intersect with insurance and financial services, such as auto, retail and healthcare providing a cohesive data and process integration among industries. This will provide added value to the P&C industry and avoid data inconsistencies.
7.2 Methodology

These models and associated content have been developed by a team of P&C insurance industry professionals, representing both business and IT perspectives. The submission and review teams have included insurance companies, solution vendor and insurance association representatives. These volunteers have leveraged their knowledge and experience with industry terms and their uses, including skills in data modeling and meta data management. This team has collaborated over the course of 3 plus years to produce a series of artifacts that have been validated by experts in both P&C insurance and in enterprise information management for completeness, accuracy, and clarity. Part of the validation process has been piloting of the models by a group of insurers and solution vendors, the glossary developed has been synthesized with the model several times as an example.

7.2.1 Business Glossary

The effort to develop a standard business glossary for the US property and casualty insurance market followed the approach of initially putting into place a standard business glossary for insurance business terms / concepts, including their meaning and uses (metadata). Said metadata was developed with input and consensus of the OMG P&C workgroup. The building block for this effort was the donation from IBM of the Insurance Application Architecture (IAA) business glossary.

Below is the depiction of this glossary’s “Producers and Consumers.”
The Business Glossary typically contains:

- The Business Term (Customer, Product, Premium…)
- A formal definition
- Aliases: Synonyms, Acronyms
- Unique identifier
- A verb phrase identifying relationships
- Other identified business rules

7.2.2 Conceptual Model(s)

The developed P&C Business Glossary was used as the basis for the development of the Conceptual Models deliverables.

The conceptual models donated by Maike and Associates and Penn National Insurance were used in concert with the developed P&C Business Glossary to create the applicable conceptual models.

A Conceptual Data Model is a high level model representing information entities of interest to the business and their relationships to one another.

- Shows how the business sees information
- A picture of information requirements of the organization without detail (not a normalized model)
- Depicts what the business requirements are, not how they are implemented, stored or processed
- The basis for developing the logical model
7.2.3 Logical Model

The P&C Workgroup then used the developed P&C Business Glossary and Conceptual Models to create the applicable logical models, A.K.A. Entity Relationship Diagram – ERD.

- Further refines the Conceptual Data Model by identifying all attributes (characteristics/definitions) for all entities (a set of persons, things or concepts important to the business) needed to support the business

- A graphical representation of the information requirements of a business area – it is linked to the business/driven by the business experts

- Groups data in a subject-oriented way, i.e., all data elements which describe a business object are grouped under that business object
  - Example: All Customer related data found in the Customer file, the Customer Credit file, the Policy Sales file, the Account file, etc. would be stored in one and only one business object or entity named CUSTOMER

- Is independent of any technology or storage devices

- Combines the two most important components of application development:
  - Business Requirements
  - Data Structure
7.2.4 Dimensional Model

The developed dimensional model was created as one review presentation of a way to view typical P&C measures on dimension. Organizations can create multiple type dimensions/measures in which to review historical operational data.

A Dimensional Model (also referred to as ‘Star Schema’) is typically developed to support Analysis of Historical data (Data Warehouse/Data Mart)

- Consists of ‘Fact Tables’ and ‘Dimensions’
  - Facts Table contains some ‘Measure’ (how much?, how many?) of interest
  - Dimensions (Qualifiers) can be Time, Geography, Customer, Product . . .

- A dimensional database is optimized for data retrieval and analysis
7.3 Benefits of Industry Standard Models

Industry surveys, research papers, and industry publications report that most organizations today are either underway or embarking on enterprise data management, data integration or data conversion efforts. Data is viewed, especially in the insurance industry, as a strategic asset. There is a legitimate need for organizations to embrace and use Service Oriented Architecture (SOA) for the rapid development and deployment of business solutions.

The foundation of SOA is standardized business processes based on standardized data and semantics. There is a lack of standardized data definitions across the insurance industry, even though all insurance companies employ many of the same concepts (Party, Location, Transaction, etc.) This lack of standards hampers the development of SOA initiatives for the insurance industry, and contributes to the difficulty of rationalizing data across companies for industry-level comparisons.

Many industry leaders (insurance carriers, third party partners, etc.) and OMG (Object Management Group) have agreed that a standardized industry-wide P&C data dictionary is beneficial for both small/medium companies, as well as for large multi-line carriers. They recognize that the common, inherent complexities of the property and casualty insurance business and the intersection with other industries make modeling a very difficult endeavor for those companies whose size will not support a large and dedicated data modeling / data management staff. Having the opportunity to leverage an industry standard model can accelerate these companies’ development of a data management approach to application development and information sharing. In addition, the availability of standard models/glossary assists third part solution providers in their respective development efforts.

An enterprise data model helps establish a common framework and language within an organization and across the industry, improving communications and expediting the development, integration and enhancement of applications and their quality. In addition, having a common framework and language within the industry improves communication across partner organizations, and ultimately saves time and money by eliminating the need to build and use “translators” across all communicating parties. A standard data dictionary and data model is the basis of this communication that also allows organizations to control and track the language of data (meta data).

Industry standard models that have been developed by industry participants provide many tangible and strategic benefits over those developed by individual vendors, including:

1. Accurate and common representation and exchange of information and internal and external business rules, based on accepted knowledge of industry concepts. This will further contribute to a better alignment of the business and IT.

2. Consistency across applications and improved accuracy of information, providing users with repeatable, reliable results and a higher level of data quality. These benefits enable the development of Service Oriented Architectures (SOA) and to standardization for terms and meanings (meta data).
3. Reduced data redundancies and increased data sharing, making the application development process more efficient and faster.

4. Information sharing across multiple vendor products thereby facilitating interoperability and flexibility of choice. Also, standard models provide for more rapid access to data and commonly used definitions and other meta data.

5. Fewer redundant applications and reduced development of needless interdependent processes, thereby preventing efforts to build multiple interfaces/translators. Benefits include more efficient processing for new business approaches or data requests.

6. Fewer redundant data stores since the use of a standard model provides a single source of validated data across the organization.

7. Increased resiliency to platform changes by having the flexibility to deploy the same model on a new platform of choice with minimal change(s). This benefit enables flexibility in integrating operations from a merger or acquisition (M&A); also this capability provides the opportunity to allow work to be done by outside resources (operational outsourcing).

8. More efficient and smaller investment in time for educating new design and development staff or consultants.

9. Even when not applied in its entirety, a standard model can facilitate or serve as a reference for any data modeling / application development or enhancement effort.

10. An industry standard, open-source data model provides a more efficient, low-cost solution versus purchased or membership based industry models that are proprietary to a vendor or dependent upon a particular technical solution.

All of these benefits are encapsulated in this submission of an industry standard set of models for the Property and Casualty (P&C) insurance industry.

7.4 Use of P&C Group Business Glossary and Associated Data Modules

Sections of this submission provide an overview of the business glossary and associated business models developed by the P&C work group and the benefits of making available a common or standard of these artifacts to the industry. Plainly speaking, the majority of P&C insurance companies today make decisions on the data they possess and access, they struggle with fully understanding their data assets, and are seeking ways to create a consistent view of data across the organization.

Without a clear understanding of the meaning of and rules around data, business decisions can be negatively affected. A common data model is a time proven method for understanding data, its interrelationships and its rules. A common data model, as developed by the OMG P&C work group allows for the bridging between different meanings from various data sources (internal and external) into a common model. Thus, a common data model provides consistent understanding of Insurance business concepts and rules while enabling data interoperability between various applications/ systems.

In practical terms this means one can use the common data model as the basis for building data services as part of one’s SOA (Service Oriented Architecture) environment, use this common model to replace or augment one’s MDM (Master Data Management) system, enable the data migration or ETL (Extract, Transform and Load) process as well assist/jump start system development efforts and data warehousing efforts either as a reference to existing efforts or helping in redesign efforts (better data structure design).

While the above are important drivers for organizations, there are other important issues in the implementation and use of common data models and a common business glossary. These are noted below:

- Better Design
- Need business focus
- Improve data quality
- Consolidate reporting
- Risk Mitigation
- Single view of customer
- Aligning data with business processes
The OMG P&C work group has developed a standard Business Glossary, Reference or Core Model, Conceptual Model, Logical Model and Dimensional Model for basic insurance entities and attributes (core model) Policy and Claims.

The OMG P&C work group plan is to add to these initial artifacts as future iterations as outlined in the P&C Work Group Roadmap included in this submission.

Below is a description of each of these concepts:

1. P&C Business Vocabulary/concepts/definitions/terms/Business Glossary:
   Business level concepts written in “English” that allow Business People to understand. These business concepts captured in MS Word or Excel or advanced vocabulary management tools can be exported to a metadata repository or other data management tools. In addition, relevant business rules and contextually relevant information can be documented to provide a rich business vocabulary that can be used by IT community as well. Industry standards such as Semantics of Business Vocabulary and Rules (SBVR) and compliant tools are under development that in the future will allow transformation of business vocabularies to ‘first-cut’ of conceptual data models. This will accelerate the development and accuracy of data models. A not so elegant example will be:

   Customer is someone who buys some product or service from us (may be defined at the enterprise level while LOB level variations in “what is a customer” may exist).

   For example:

   A Policy is a written Agreement between Involved Parties that may play a role of an Insurer and Insured. In Financial Services, an Agreement is also referred to as an Arrangement that results in movement of money between Involved Parties.

   A financial Trade is an example of movement of money.

   A Policy is in-force if it has an effective date and a termination date.

   In P&C an Agreement is a Policy while for an Annuity it is a Contract and in some countries a P&C Policy is also referred to as a Contract.

2. P&C Conceptual model:
   a.k.a. business object model, computation independent model (CIM) or a platform independent model (PIM – OMG speak) or a reference model (like the one for “Services” developed by OASIS to describe the concepts in SOA). In the data modeling world, a conceptual model is a high level model with relationships that again the business person defines and understands. The concepts described (in plain English) in the business vocabulary are the precursor of the conceptual model (essentially represented in a diagram with some standard notation to indicate nature of relationships). For example, a Party buys a Policy from another Party and can only buy 5 policies of a given type in the state of NJ (just making this up). A Conceptual model typically does not have any unique identifiers. In other words, a conceptual model is a representation of the things of interest to the business and their Associations to each other, a technique for analyzing the business and depicting it graphically with some std. notation.

3. P&C Logical data model
   A more detailed version of the conceptual model with unique identifiers (Primary keys) and fully attributed but still showing how entities/concepts relate to each other in a logical manner (not paying any attention to the platform i.e. RDBMS they’ll be instantiated on). A good logical data model has keywords/domains etc., standardized naming conventions is also modularized (subject areas).

4. P&C Dimensional Model
   A view of how a typical P&C organizations measure operation and goals. Organizations can create multiple views based on multiple dimensions/measures.
A dimensional model (also referred to as “star schema”) is typically developed to support analysis of historical data and consists of:
- Fact tables – measures such as how much? how many? of area of interest
- Dimensions (Qualifiers) categories of measures, e.g. time, geography, customer, products.

A dimensional model is optimized for data retrieval and analysis.

The dimensional models developed, Annex E, are “generic” dimensional models and represent the types of information gathered in a policy data model that could populate one of these dimensional models.

5. P&C Business Services
A Business Service – “Auto Claim Processing” may be made up of:
- A formally defined business process (that graphically depicts a flow using Business Process Modeling Notation-BPMN) – ‘Information Payload(s) along with inputs/outputs, identifiers etc. A ‘payload’ is the data being delivered in a Service (a Service can be granular web service or a composite Service made up of several services).
- Web Service Definition Language (WSDL) essentially to facilitate the development and deployment of web services – P&C Transactions (Request and Response message structures) transactions like “member update” or “party search”…

The submitted models have been developed by performing the following tasks, several are briefly described below. They were and will be going forward, performed in an iterative manner.

- Identify entity types
- Identify attributes
- Apply naming conventions
- Identify relationships types and relationships
- Apply data model patterns
- Assign keys for uniqueness of records
- Normalize to reduce data redundancy
- De-normalize to improve performance

Identify Entity Types
An entity type, also simply called entity (not exactly accurate terminology, but very common in practice), is similar conceptually to object-orientation’s concept of a class – an entity type represents a collection of similar objects. An entity type could represent a collection of people, places, things, events or concepts. Examples of entities in an order entry system would include Customer, Address, and Claim…entity types is just data.

Identify Attributes
Each entity type will have one or more data attributes. For example,

Attributes should also be cohesive from the point of view of a domain, something that is often a judgment call – as an example, people have both first and last names instead of just a name (e.g. “Scott” and “Ambler” vs. “Scott Ambler”) whereas we did not distinguish between the sections of an American zip code (e.g. 90210-1234-5678).

Apply Data Naming Conventions
These models provide standard naming conventions for these models are focused on human readability.
The basic idea is that users should agree to and follow a common set of modeling standards on a software project. Just like there is value in following common coding conventions, clean code that follows your chosen coding guidelines is easier to understand and evolve than code that doesn’t, there is similar value in following common modeling conventions.

Identify Relationships Types and Relationships

In the real world entities have relationships with other entities. For example, customers PLACE orders, customers LIVE AT addresses, and line items ARE PART OF orders. Place, live at, and are part of are all terms that define relationships between entities. The models have been designed to reflect such relationships are so noted.

Technical Benefits:

Studies have indicated technical savings in using common models in the development phases of data warehouse development on average of 30 to 40 percent from the consistency of terms and definitions thereby providing a standard and consistent approach in modeling.4 The use of models also helped IT to identify interdependencies between lines of business which is critical in getting a cross-enterprise view. Additional benefits are noted below:

- Framework of Terms provide a standard approach and design – data is consistent across the data sources, e.g. data warehouse, data marts, BI reports.

- Standardization and Consistency of terminology in requirements – facilitates gathering and collaboration between IT and the business in development of business requirements. Increases the use of consistent terminology in requirements phase of projects; helps bridge the language gap between IT and the business. Helps IT to formulate more direct questions to business.

- Data Warehouse is more flexible as a result of increased granularity of information – allows the drilling down into information about a particular insurance activity thereby providing flexibility in analysts and reporting, i.e. offer more sophisticated reports.

Business Benefits:

- Data Repositories/Data Warehouse aligned with business needs. The models show how different parts of the business are connected together. This helps IT understand what the business needs and it can use the information from the models to better understand the needs of the business. It also helps the business see the interconnectivity between various business lines, which can be “overlooked” without such a “connection”.

- Data Quality – use of uniform business definitions/meanings reduces redundancies, confusion, hence leading to high quality data.

- Cost Savings – Seventy five percent of the aforementioned study indicated that the use of a common model helped decrease costs associated with building a data warehouse. On average, cost savings resulting from the common model use were 15-25%. It was also noted that the companies involved in this survey felt that cost savings would increase as their familiarity with the model grew.

- Productivity Improvements – Sixty-seven percent of the survey respondents said their developer productivity increased because of the common models. A 70% productivity increase was cited.

- Faster Time to Market – More than 50% of the survey’s respondents cited that the deployment of their data warehouse was faster to market thus providing much faster use and improvement of decision making.

Many organizations have developed application-level data models since the introduction of the relational model in the early 1990s.

### 7.5 Selected Value Propositions (Testimonials of Use) for the P&C Standard Model

Below are several testimonials /value propositions concerning the use of the available artifacts today:

#### 7.5.1 Penn National OMG Value Proposition

At Penn National Insurance, we've recently began a project to globalize our customer data among various disparate, internal systems; each of them generating their own unique customer ID's. At the beginning of the project, we spent a full week attempting to develop a data model for our centralized customer information. Needless to say, we didn't get very far after a full week. Each of the team members had their own idea of how the data model should look (which is often what happens from company to company without a standard model in place). After looking at the OMG model, we scrapped our original design and decided to use the OMG data model as a template for building our customer data repository. We studied the model to see what pieces we could incorporate now to satisfy our requirements without deviating from the OMG Model. Thus, we decided to use the "Party" object (and all associated child nodes) for our client data. In doing this, we saved at least 6 weeks of design time. In addition, the OMG model prevented us from "reinventing the wheel". As we move forward expanding the scope of our project, we will continue to utilize the OMG Model as a basis (template) and will only deviate when our business requires it.

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#### 7.5.2 Harleysville Insurance Company OMG Value Proposition

At Harleysville Insurance we are looking at this industry specific data model as an enterprise level reference tool. The gatekeepers of this information will be the Business Information Systems team, who is responsible for overall business intelligence applications, data modeling, data quality and metadata management. Our primary usage will be populating the enterprise metadata repository, especially with business definitions of data elements a definitive one doesn't exist internally. The glossary information from this model will be used to stimulate discussion with business information consumers.

From a data model development perspective, this model will serve as a starting point for new initiatives by providing a starting point that fits the P&C business model. It will also be used as a "sounding board" for existing data models to ascertain completeness and applicability for the business.

James Danner
Harleysville Insurance Company

#### 7.5.3 Major International Insurance Carrier OMG Value Proposition

The data model will become a reference point from which we can develop a logical enterprise view of our organization without
going through the pain points associated with starting from a blank sheet. It will serve as a basis for many of our smaller data base initiatives as well as provide us with a basis for our Metadata and Master Data Management initiatives which are just getting underway. It can also serve as a conduit to enhance the communication between the varied business units within our organization through the use of standardized framework and language within our organization.

8. P&C WG Roadmap

As previously noted, the P&C workgroup has scheduled the development of the next iteration of these models to include billing data, agency data, and reinsurance data. These will include separate conceptual and logical models and these new models will be used to augment the existing Core/Reference Model and Business Glossary.

This OMG P&C workgroup plan or Roadmap is attached.

OMG P&C WG Roadmap

Data Stewardship Officer

Annex A: P&C Business Glossary
This submission includes a Business Glossary of terms used in the associated data models. The glossary also contains cross reference information identifying where in the model the term is used.

The Business Glossary document has been given the following document number by OMG:

- finance/20110202 P&C Business Glossary and Entity Cross Reference
Annex B: Conceptual Data Model

The Conceptual Data Model has been provided as an OMG UML 1.x XMI 1.x format. Please see:

- finance/20110203 Conceptual Data Model
Annex C: Logical Data Model

The Logical Data Model has been provided as an OMG UML 1.x XMI 1.x format. Please see:

• finance/20110204 Logical Data Model
Annex D: Traceability Matrix

The Traceability Matrix has been incorporated into the Business Glossary. Please see:

• finance/20110205 P&C Business Glossary and Entity Cross Reference
Annex E P&C Dimensional Model

This submission includes a Dimensional Model for policy data and is provided as an OMG UML 1.x XMI 1.x format. Please see:

- finance/20110206 Dimensional Model
Annex F: Submission Contact Information

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