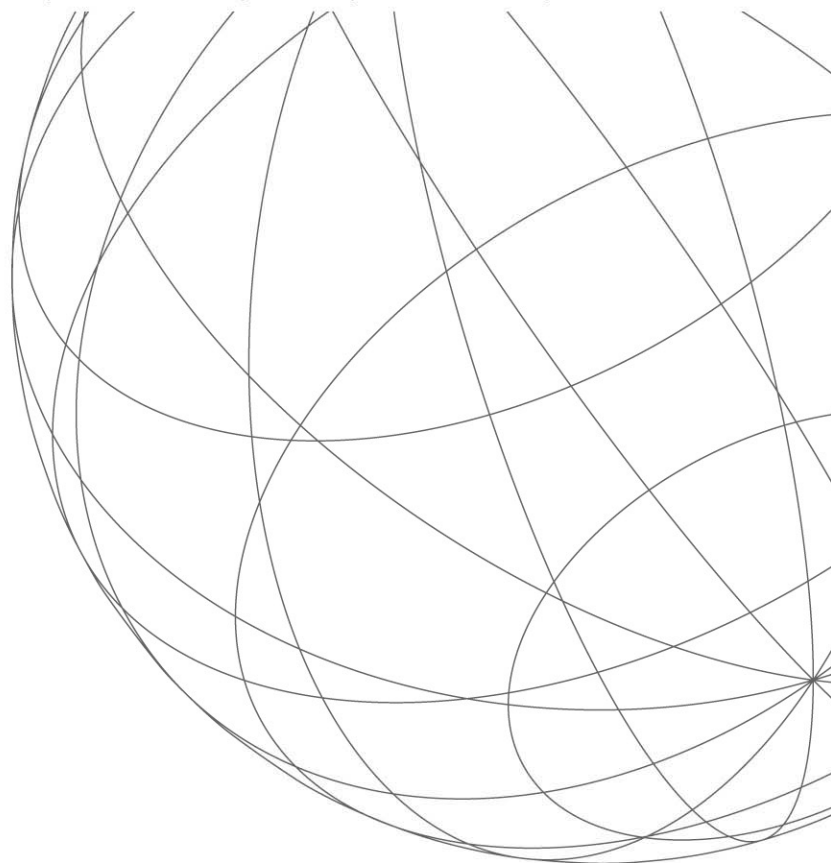Insurance Data Standards
Life & Annuity • P&C • Reinsurance

nonprofit • industry developed • solution provider neutral

ACORD P&C/Surety XML Training
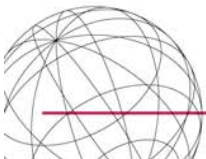
Mark Orlandi

Agenda

- **Who Is ACORD?**
- **Introduction**
- **Business Functions**
- **Definitions**
- **Message Design**
- **Party Design (Persons & Organizations)**
- **Policy Design**
- **Data Types**
- **Naming Conventions**
- **Framework**
- **SPX (Service Provider eXtensions)**
- **Certification+**

Goals

- **Get Programmers and Business Analysts comfortable with the design**
  - **Not to teach XML or SAX/DOM**
- **Describe and define the standard features and layout**
  - **Not to teach how to use the Commercial Auto Business Message**
- **Point out minimal requirements**
  - **Describe the options**
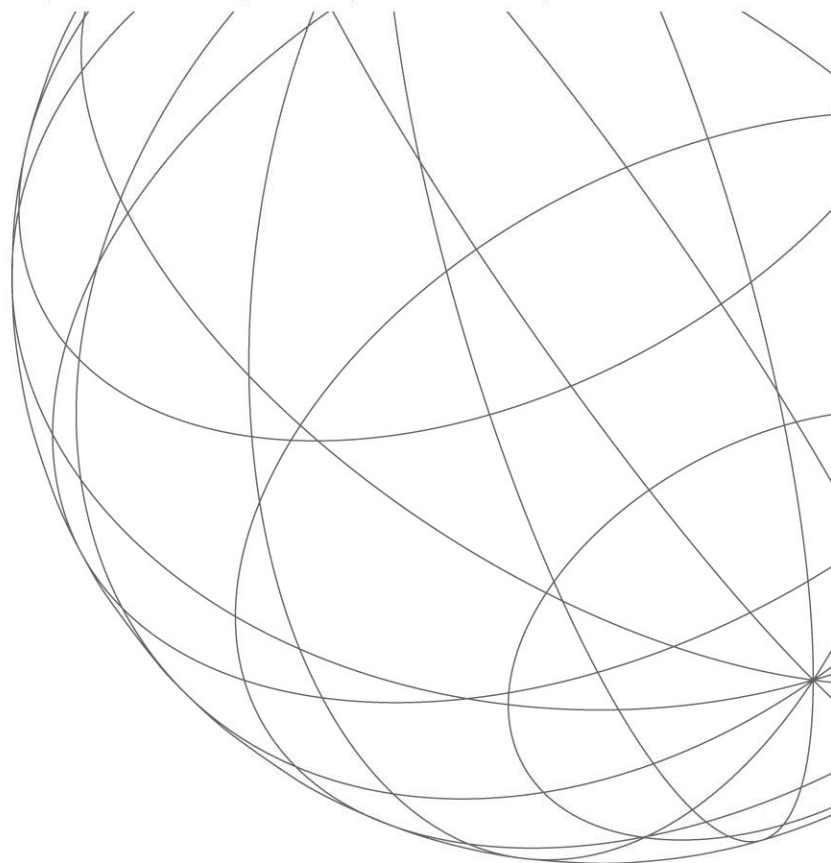 - **Describe the "gotcha's" along the way**

ACORD P&C/Surety XML Who Is ACORD?
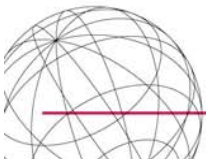
Mark Orlandi

ACORD vs. ACCORD

- **ACORD facilitates Standards <u>development</u> and <u>use</u> for the insurance, reinsurance, surety and related financial services industries.**

- **ACCORD is a vehicle available from Honda ☺**

Who is ACORD?

- **Association for Cooperative Operations Research & Development**

- **Independent and Objective Association**
  - Serving the Industry since 1970
  - Facilitating Industry-Driven Standards (Carriers, Agents, Solution Providers, Associations)
  - Not For-Profit Corporation
  - Anti-trust Exemption

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ACORD Membership

- P&C Insurers
- Life Insurers
- Reinsurers
- Independent Agencies
- Global Brokers
- Suppliers
- Lloyds Syndicates

- Trade Associations
- Rating Bureaus
- Financial Service Orgs
- Risk Managers
- Service Bureaus
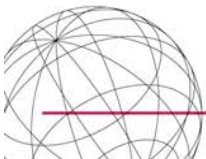- Lab Companies
- Consulting Firms

Plus alliances with numerous industry and standards organizations around the world.

ACORD Members….. Leading the Industry

- **90% of Top 10 and 64% of Top 25 AM Best Life and Annuity**

- **80% of Top 10 and 72% of Top 25 AM Best P&C**

- **70% of Top 10 and 64% of Top 25 Global Reinsurers**

- **Top 5 Brokers representing 80% of the business**

- **Over 15,000 independent agents**

And Growing!!

Alliances and Relationships

Cross-Industry	Property and Casualty Insurance	Life Insurance and Wealth Management
ANSI	CSIO	CLIEDIS
ebXML	eEG7	DTCC
HRXML	IDMA	FUNDSERV
IAA	ISO	LOA
IFX	MISMO	MIB
OMG	POLARIS	NAILBA
UN/EDIFACT	RIMS	LOMA
W3C	WCIO	

See ACORD Standards Atlas for Details

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Evolution of . . .

ACORD Standards

1970's - Forms

1980's - AL3

1990's - AL3 Implementation

1996 - Life Standards
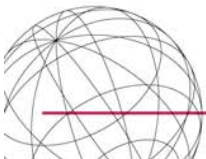
1998 XML (Life)

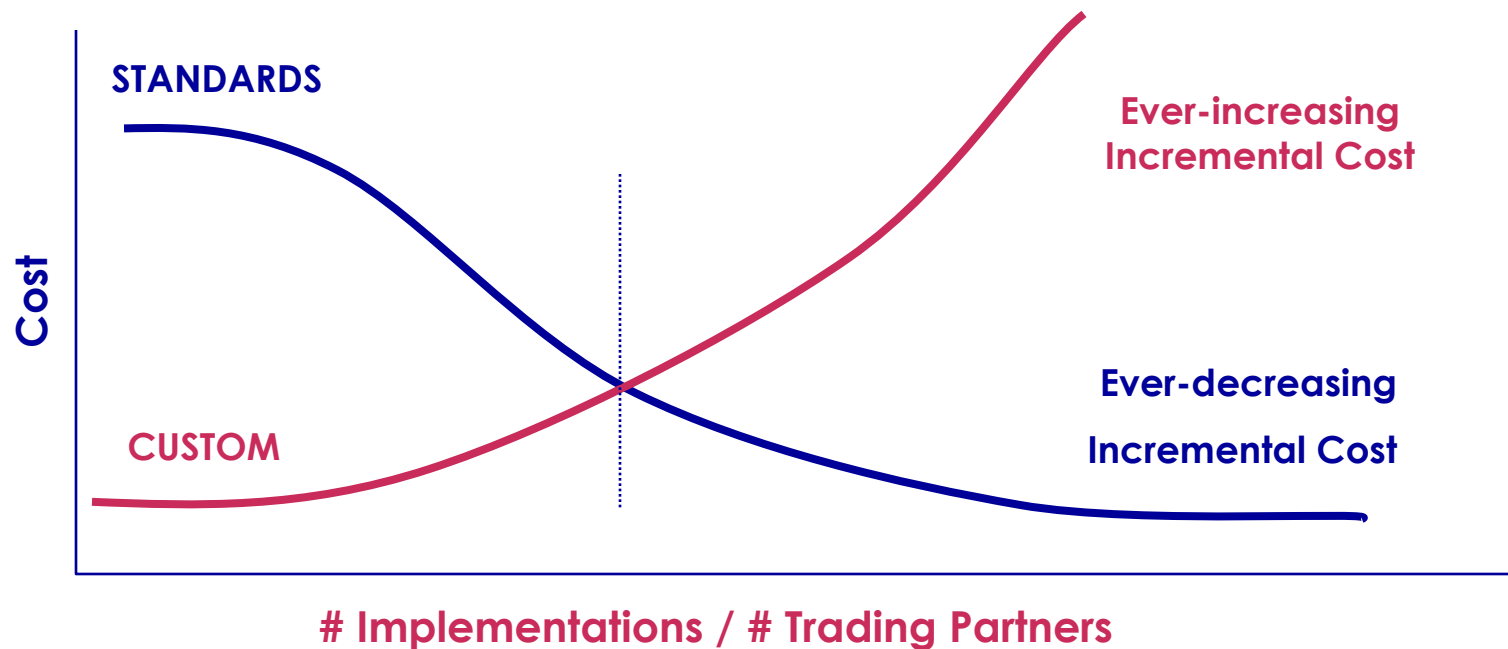2002 + Convergence Life/P&C/RLC

2001 Reinsurance

2001 XML (P&C)

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Why Standards?

- **Decrease Costs**
  - **Reduce time/cost to implement partner interfaces**
  - **Reduce data transaction/translation errors**
  - **Reduce human intervention in routine biz processing**
- **Increase Sales/Revenue**
  - **Make it easier to do business with you**
  - **Decrease time to issue = fewer "not takens"**
- **Improve Service**
  - **Develop "single-view" of disparate systems**
  - **Increase richness of shared information**
  - **Reduce cycle time between upgrades in data share**

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Business Issues

- **Proving Return On Investment (ROI)**
  - Analysts: Celent: $250 million in savings
- **Not a Single Quarter Investment**
  - Initially more expensive/time consuming

STANDARDS

Ever-increasing
Incremental Cost

Cost

CUSTOM

Ever-decreasing

Incremental Cost

Implementations / # Trading Partners

Technical Issues

- **Fear of XML**

- **Move from EDI to XML vocabularies**

- **"Not Invented Here" Syndrome**

  - Generally – anxiety of moving from comfort zone to new techniques, strategies, tools and methods.

  - … but once bridged:

  - Faster integration, less technical grunt work (use tools!), more sophisticated & challenging work, ability to support more partner/internal interfaces, develop richer & more detailed info sharing

Fear, Uncertainty and Doubt

- **XML is a an immature technology**
  - Wrong – Gartner: "64% of all new integration projects are using XML"
- **"ZML" is coming next**
  - There is nothing on the horizon to indicate a new technology any time (Gartner/IBM Report)
- **What about UDDI, WSDL, SOAP, etc.**
  - They are all supporting technologies NOT disruptive technologies. They leverage and build on XML.
  - It all starts with XML!

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Best Practices

- **Team Approach**
  - **Involve a Business Leader, Technologist and Operations Guru**
- **Start with an Internal Project**
  - **Practice on easy, low-hanging fruit**
- **Leverage experience of Standards experienced vendor and/or consultant**
- **Dedicate internal resources to learn & support spec. (at least part-time)**
  - **Find internal XML supporters – ACORD is the vocabulary they are looking for**

Best Practices cont'd

- **Scour web for XML resources**
  - **Microsoft.com, XML.ORG, W3C.org** and much more…

- **Survey your vendors for their plans & resources**

- **Participate in process – ACORD Standards meetings (WG's, Mtgs, etc.)**

- **Get all the WG deliverables, guides and other resources off the ACORD member site area**

- **Support ACORD**
  - **Join with your partners to build "network effect"**

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XML Design Goals

1. <u>XML shall be straightforwardly usable over the Internet.</u>
2. XML shall support a wide variety of applications.
3. XML shall be compatible with SGML.
4. <u>It shall be easy to write programs which process XML documents.</u>
5. The number of optional features in XML is to be kept to the absolute minimum, ideally zero.
6. <u>XML documents should be human-legible and reasonably clear.</u>
7. The XML design should be prepared quickly.
8. The design of XML shall be formal and concise.
9. <u>XML documents shall be easy to create.</u>
10. Terseness in XML markup is of minimal importance.

AL3 (Automation Level 3) Example

5DRV176   F200015BPIF10001   ?   0001CJOSEPH M GALLO
?   ?   OH?   650422M??   ??   19650422

Hard to read

Rigid

Versioning

problems

• All on one line and run together

Ref Name	Description	Data Start	Length
GROUP	Driver Group	000	193
HEADR	Header	001	030
DRVNO	Agency Driver's Number	031	004
DRVNO	Company Driver's Number	035	004
DRVNM	Driver's Name	039	060
SSNO	Social Security Number	099	009
LICNO	Driver's License Number	108	025
STATE	Licensed State	133	002
ZZMOV	Deleted - Date Licensed	135	006
ZZMOV	Deleted - Date of Birth	141	006
SEXCD	Driver Sex Code	147	001
LICCD	License Class Code	148	001
ZZMOV	Deleted - Date Hired	149	006
DRTCD	Driver Type Code	155	001
FIXID	Fixed Identifier	156	005
BIRDT	Date of Birth	161	008
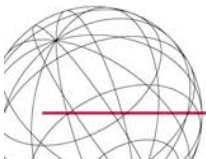
XML Example

Easier to read

Free use of whitespace

Structure can be checked with standard tools and a schema or DTD

```xml
<Party>
    <FullName>Gallo, Joseph M.</FullName>
    <GovtID>303508921</GovtID>
    <Address>
            <TypeCode>Home</TypeCode>
            <StreetLine1>108 Dawson St</StreetLine1>
            <City>Philadelphia</City>
            <State>PA</State>
            <Zip>19130</Zip>
            <Country>USA</Country>
    </Address>
    <Person>

            <GivenName>Joseph</GivenName>
            <OtherGivenName>Michael</OtherGivenName>
            <SurnameName>Gallo</SurnameName>
            <MaritalStatus>Single</MaritalStatus>
            <Gender>Male</Gender>
            <BirthDate>1965-04-22</BirthDate>
    </Person>
</Party>
```
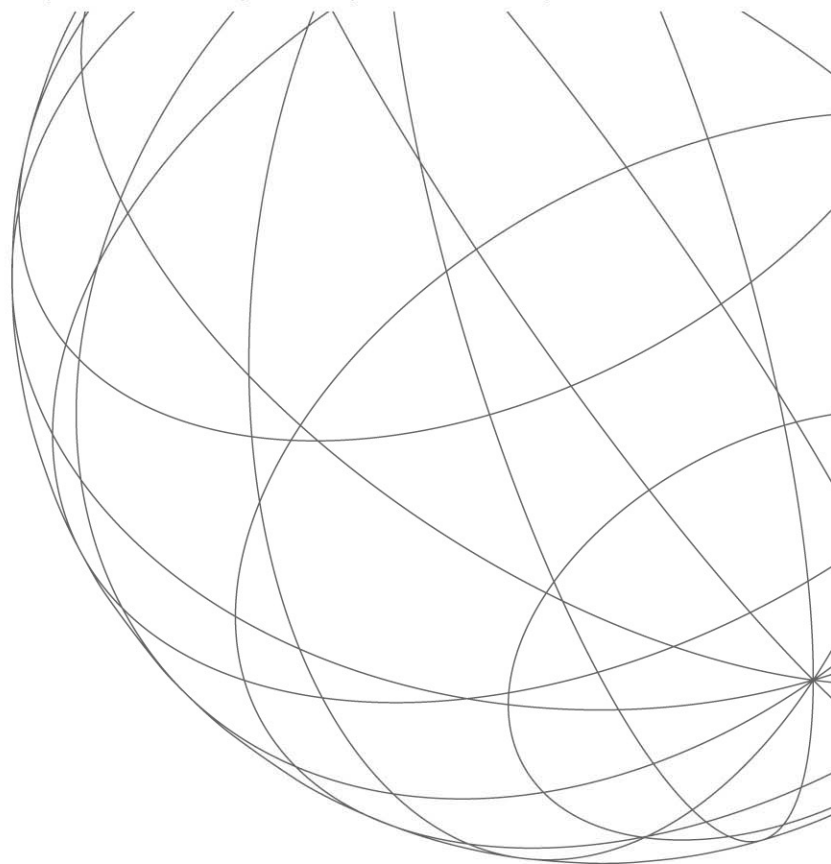
ACORD P&C/Surety XML Introduction

Mark Orlandi

Agenda – Introduction

- **Time-line**

- **Background**

- **The Standard**

- **Public vs. Members Only**

- **Content Organization**

- **Deliverables**

- **XML Messages**

Timeline - ACORD PCS V1.x XML

- **1999**
  - ACORD announced plans to develop an XML Standard for PCS
- **2001**
  - ACORD published PCS XML V1.0.0
- **2006**
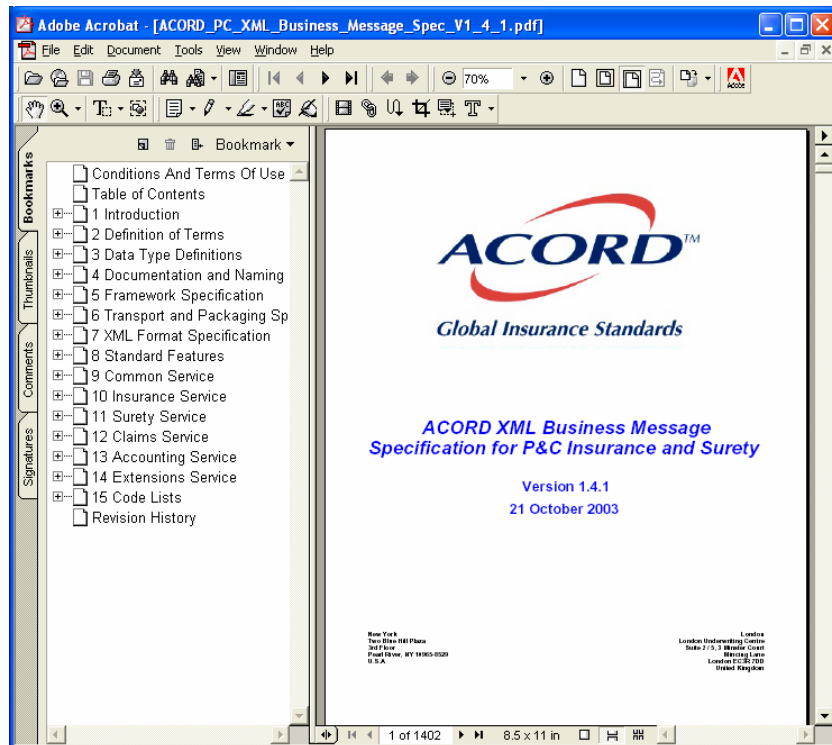 - The V1.x Standard is in daily use by dozens of insurers and vendors and thousands of agents

Background

- **Originally planned as Chapter 9 of IFX http://www.ifxforum.org**

- **Compliance vs. Compatibility**

- **AL3 Data Dictionary**

- **Old and New Influences:**

  - **IFX rules - no attributes**

  - **AL3 - inconsistent code list values**

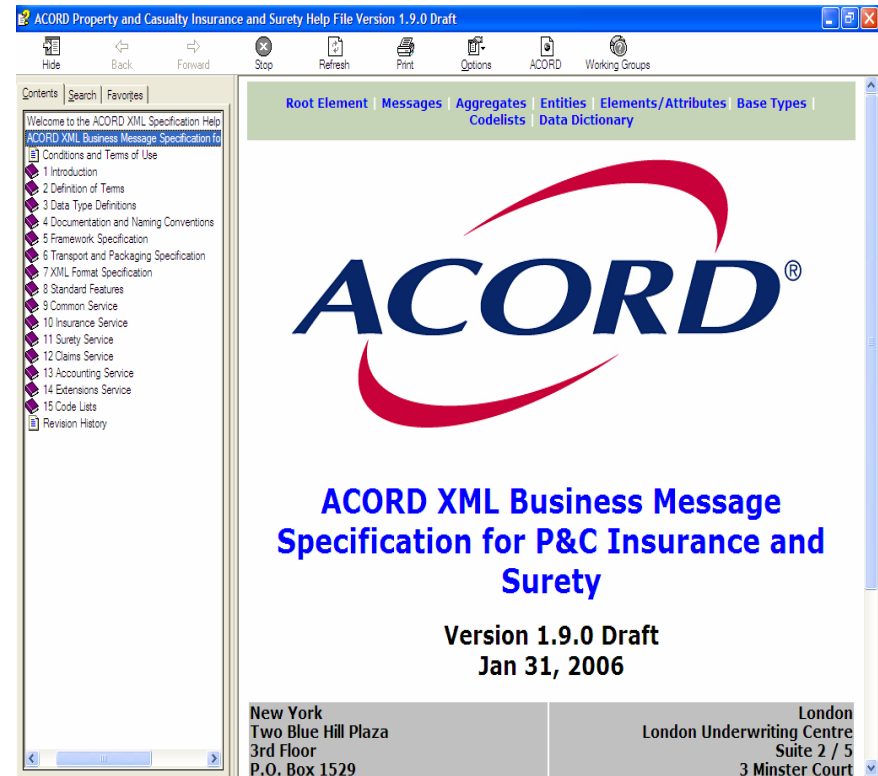 - **W3C - XML and others**

ACORD Specification Release

Public

Spec Document
Adobe (PDF) Format

Members Only*
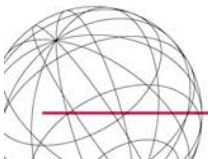
* Includes Public Materials

Spec Document
Help Format

Content: The Basics

- **Ch 1) Introduction - Governing Principles**
- **Ch 2) Definition of Terms**
- **Ch 3) Data Type Definitions**
- **Ch 4) Documentation and Naming Conventions**
- **Ch 5) Framework Specification (IFX)**
- **Ch 6) Transport and Packaging Specification**
- **Ch 7) XML Format Specification**
- **Ch 8) Standard Features**

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Content: Insurance Business Data

- **Ch 9) Common Service**
- **Ch 10) Insurance Service**
- **Ch 11) Surety Service**
- **Ch 12) Claims Service**
- **Ch 13) Accounting Service**
- **Ch 14) Service Provider Extensions Service**
- **Ch 15) Code Lists**
- **Revision History**

Documentation Deliverables

- **The Specification / Standard**
  - Adobe formatted file
  - Windows Help file *

- **DTD**

- **Schemas / 4 Layouts (all draft) ***
  - One set includes TargetNamespace
  - One set omits TargetNamespace

- **Dump Of ACORD database ***
  - Includes DTD for layout

* ACORD
Members
Only

Schemas: 4 Layouts / 2 Sets

Documentation / Tag Descriptions	Code List Data / Code Values	ACORD Delivery
Yes	Yes	ACORD Members
Yes	No	ACORD Members
No	Yes	Public
No	No	Public

One set includes TargetNamespace

One set omits TargetNamespace

Schema "Slicing"

- **Each schema contains the entire spec**

- **Many users implement only one LOB or spec portion and have requested smaller schema files**

- **ACORD can provide you with style-sheets (xsl files) that allow you to output smaller slices of the large schema**

Conclusion

- **Time-line**

- **Background**

- **The Standard**

- **Public vs. Members Only**

- **Content Organization**

- **Deliverables**
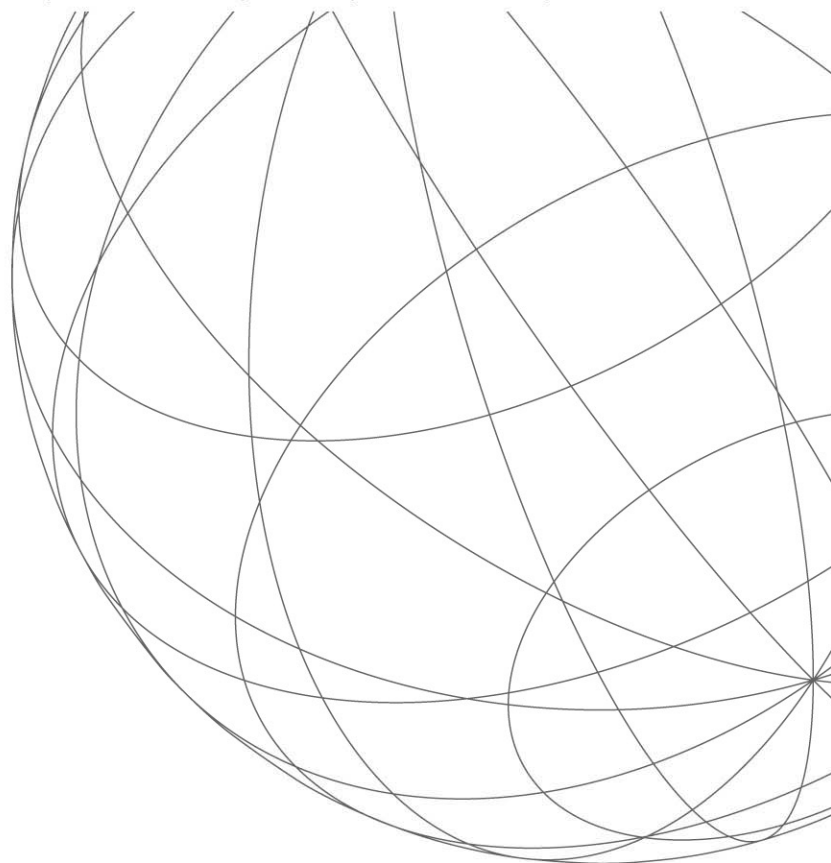
- **XML Messages**

ACORD
P&C/Surety XML
Business Functions

Mark Orlandi

Agenda – Business Functions

- **Service Concept**

- **Business Messages**
  - **Personal Lines**
  - **Commercial Lines**
  - **Commercial Schedules**
  - **Claims**
  - **Surety**
  - **Miscellaneous**
  - **Framework**

- **Conclusion**

Services: Designed to "Group" Messages

- **Base Service – web services oriented**
    - **Pending Response Inquiry Rq/Rs**
    - **Service Profile Inquiry Rq/Rs**
- **Claims Service**
- **Common Service**
- **Insurance Service**
- **Surety Service**
- **Accounting Service**
- **Extensions Service**
    - **Service Provider Extensions (SPX)**

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Personal Lines

- **Auto**
- **Dwelling Fire**
- **Homeowners**
  - **includes mobile home**
- **Inland Marine**
- **Package Policy**
  - **Any combination of the mono-lines**
- **Umbrella**
- **Watercraft**

Commercial Lines

- Auto
- Aviation
- Boiler & Machinery
- Business Owners Policy (BOP)
- Crime
- Directors & Officers (D&O)
- Employers Liability (EPLI)
- Errors & Omissions (E&O)
- General Liability (GL)

- Inland Marine
- Package Policy
  - Any combination of the mono-lines
- Product Liability
- Property
- Umbrella
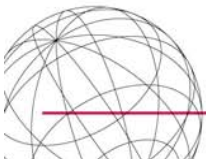- Workers Compensation (including stat reporting)

Commercial Schedule Submit/Respond Pairs

- **Drivers**
- **Named Insured and Locations**
- **Property**
- **Umbrella underlying coverage**
- **Vehicles**
- **General Liability**
- **Workers Compensation**

Claims Message Sets

- **Claims Download**

- **Claims Investigation**

- **Claims Notification (FNOL / FROI)**

    - **First Notice Of Loss**

    - **First Report Of Injury**

- **Claims Subsequent Report**

- **Claims Status Inquiry**

- **Loss Run**

Surety Message Sets

- **Submission / Notify Message Sets**
  - **Mimics Insurance Message Set Design**
    - ‣ **Quote / Add / Mod / Reissue / Renew**
    - ‣ **Partial Image Cancellation**
    - ‣ **Partial Image Reinstatement**
- **Inquiry**
- **Rate Sync**
- **Bond Sync**
- **Report Of Execution**

Insurance - Miscellaneous

- **Certificate Of Insurance**
- **Dwelling Valuation**
- **Farm**
- **Flood (not a line of business)**
- **Lender Replace Mod**
- **Policy Cancellation (partial image)**
- **Policy Reinstatement (partial image)**
- **Policy Finance**
- **Policy Inquiry**
- **Policy Sync**
- **Premium Audit**
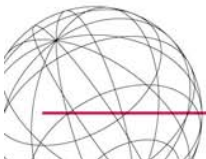
Misc. Business Message Sets

- **Accounting Message Sets**
  - **Billing Inquiry**

- **Common Message Sets**
  - **Account Inquiry**
  - **Activities & Notes Download**
  - **View Inquiry**

- **Service Provider Extensions (SPX)**
  - **SP Extensions Inquiry**
  - **SP Extensions Sync**

Framework Message Sets

- **Sign On**

- **Base Service Message Sets**
  - **Service Profile Inquiry**
  - **Pending Response**
  - **Message Set Request ***
  - **Message Set Response ***

- **Sign Off**

  * Associated with Notify Messages

Conclusion – Business Functions

- **Service Concept**

- **Business Messages**
  - **Personal Lines**
  - **Commercial Lines**
  - **Commercial Schedules**
  - **Claims**
  - **Surety**
  - **Miscellaneous**
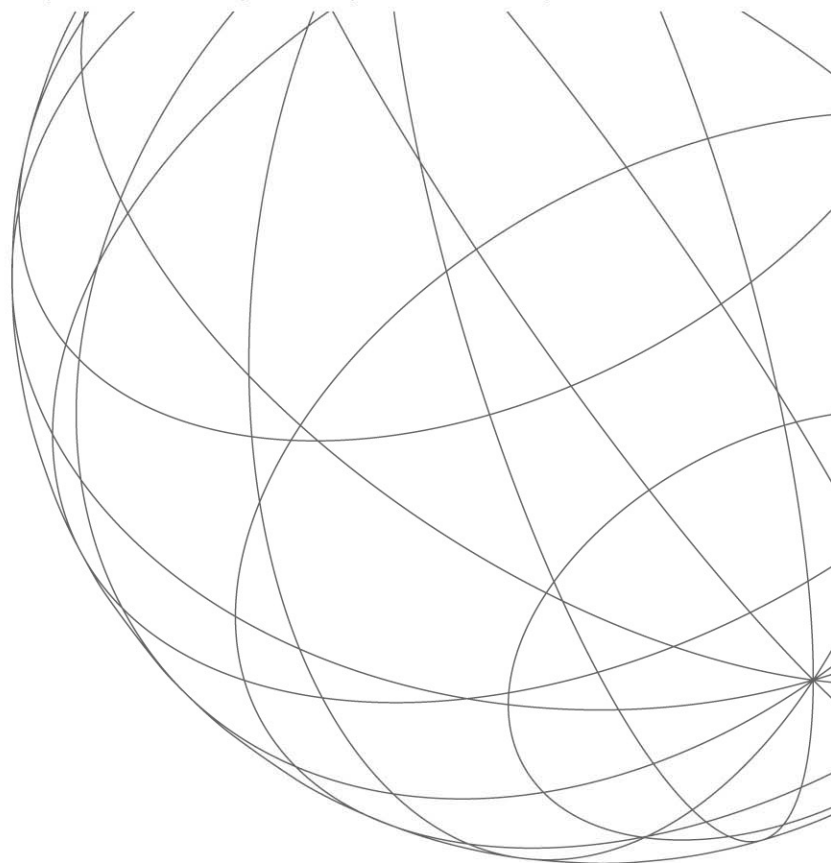 - **Framework**

- **Conclusion**

ACORD P&C/Surety XML Definitions

Mark Orlandi

Agenda – Definitions

- **XML Basics**

- **Definitions - Terms**

- **XML Basics - with Terms**

- **Definitions Sources**

- **Sample Aggregate**

- **Services**

- **Aggregates vs. ENTITIES**

- **Attributes**

- **Empty Elements**

- **Versioning**

XML Basics

<Surname>Shakespeare</Surname>

  start tag   data   end tag

<PersonName>

    <Surname>Shakespeare</Surname>

    <GivenName>William</GivenName>

</PersonName>

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Definitions - Terms

```
<ACORD>
    <Service>
        <Message>
                <Aggregate>
                        <Aggregate>
                        %ENTITYA
                        <Element>
                %ENTITYB
                        <Aggregate>
                        %ENTITYA
                        <Element>
                <Element>
```

XML Basics - with Terms

```
<PersonName>
    <Surname>Shakespeare</Surname>
    <GivenName>William</GivenName>
</PersonName>


<Surname> = element
<PersonName> = aggregate
```

Definitions Sources

| Term:	Source:
<Aggregate>	IFX
%ENTITY	W3C, IFX
@Attribute	W3C, IFX
<Element> or <Tag>	W3C, IFX
Type	IFX
Business Message	IFX
Service	IFX
Document or XML Stream	W3C

Sample Aggregate

9.2.63 Question Answer Aggregate <QuestionAnswer>

The Question and Answer aggregate allows for the additional underwriting questions outside of those found in the line-of-business specific underwriting or supplemental aggregates.

Base Type
(QuestionAnswer_Type)

Tag	Type	Usage	Description
@id	Identifier	Optional	This attribute is an identifier to a specific element.
Start Group: Sequence Required			
<QuestionCd>	ResponseIndicator OpenEnum	Required	A code identifying a specific underwriting question. This element uses the ResponseIndicator code list.
<YesNoCd>	Response OpenEnum	Required	A code representing a yes or no answer. This element uses the Response code list.
<Explanation>	C-255	Optional	A text explanation supporting the answer provided.
End Group: Sequence			
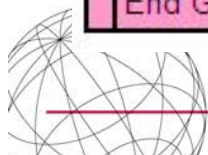
ACORD

Services: Designed to "Group" Messages

- **Base Service – web services oriented**
  - **Pending Response Inquiry Rq/Rs**
  - **Service Profile Inquiry Rq/Rs**
- **Claims Service**
- **Common Service**
- **Insurance Service**
- **Surety Service**
- **Accounting Service**
- **Extensions Service**
  - **Service Provider Extensions (SPX)**

Aggregates vs. ENTITIES

Aggregates Only

`<Name>`
    `<Surname/>`
    `<GivenName/>`
    `<OtherGivenName/>`
`</Name>`

`<Person>`
    `<Name/>`
`</Person>`

`<Person>`
    `<Name>`
        `<Surname/>`
        `<GivenName/>`
        `<OtherGivenName/>`
    `</Name>`
`</Person>`

ENTITY Usage

`%NAMEENTITY;`
`<Surname/>`
`<GivenName/>`
`<OtherGivenName/>`

`<Person>`
        `%NAMEENTITY`
`</Person>`

Note: Entity Name __not__ included
`<Person>`
    `<Surname/>`
    `<GivenName/>`
    `<OtherGivenName/>`
`<Person/>`

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Attributes (Part 1 - W3C)

- **Example:**

  <PersonName gender='female'>

      <Surname>Ross</Surname>

      <GivenName>Elizabeth</GivenName>

      <NickName>Betsy</NickName>

  </PersonName>

- **This is permitted in XML, but _not_ used in this manner in ACORD XML**

Attributes (Part 2 - ACORD)

- **<Location id='L1'>**

- **<PersVeh id ='V1' Location<u>Ref</u>='L1'>**
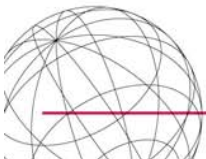
- **The "id's" serve to uniquely identify tags**
    - **(1 id per tag).**

- **The "Ref's" serve as pointers to "id's".**

- **Both documented in spec with "@" symbol.**

ACORD

Referencing Information within the Data

```
<PersVeh LocationRef='L1'>
       <Manufacturer>
       <Model>
       <ModelYear>
</PersVeh>
```
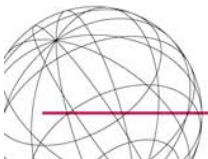
```
<Location id='L1'>
       <Addr>
              <Addr1>
              <City>
              <StateProvCd>
              <PostalCd>
       </Addr>
</Location>
```
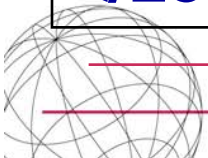
Empty Elements (XML Term)

Not Allowed

<DwellStyleCd></DwellStyleCd>
or
<DwellStyleCd/>

Allowed

- **Tag is defined with data type: Empty**

  Only tag defined as Empty: <SPEditIds>

- **Notify Replacement Messages**

Tag Definitions

- **1:1 ratio (tag name: tag description)**
- **exception: Supplemental Description**
  - **text unique to tag context**
  - **text reads "As used here…"**

Deprecate

- **ACORD term**

- **Element or code exists in the standard, but something has replaced it or is preferred to be used**

- **Description should contain information about the replacing element or code**

Specification Versioning

- **Three level versioning scheme**
    - <u>version</u> <u>2</u>.0.0 - defined as breaking backwards compatibility
    - <u>release</u> 1.<u>1</u>.0 - voted upon changes, backward compatible
    - <u>maintenance</u> 1.0.<u>1</u> - minor changes like documentation cleanup
- **Minimum Requirement**
    - Version 1.x lived for 18 months or longer
    - Requirement exceeded

Conclusion

- **XML Basics**
- **Definitions - Terms**
- **XML Basics - with Terms**
- **Definitions Sources**
- **Sample Aggregate**
- **Services**
- **Aggregates vs. ENTITIES**
- **Attributes**
- **Empty Elements**
- **Versioning**

ACORD
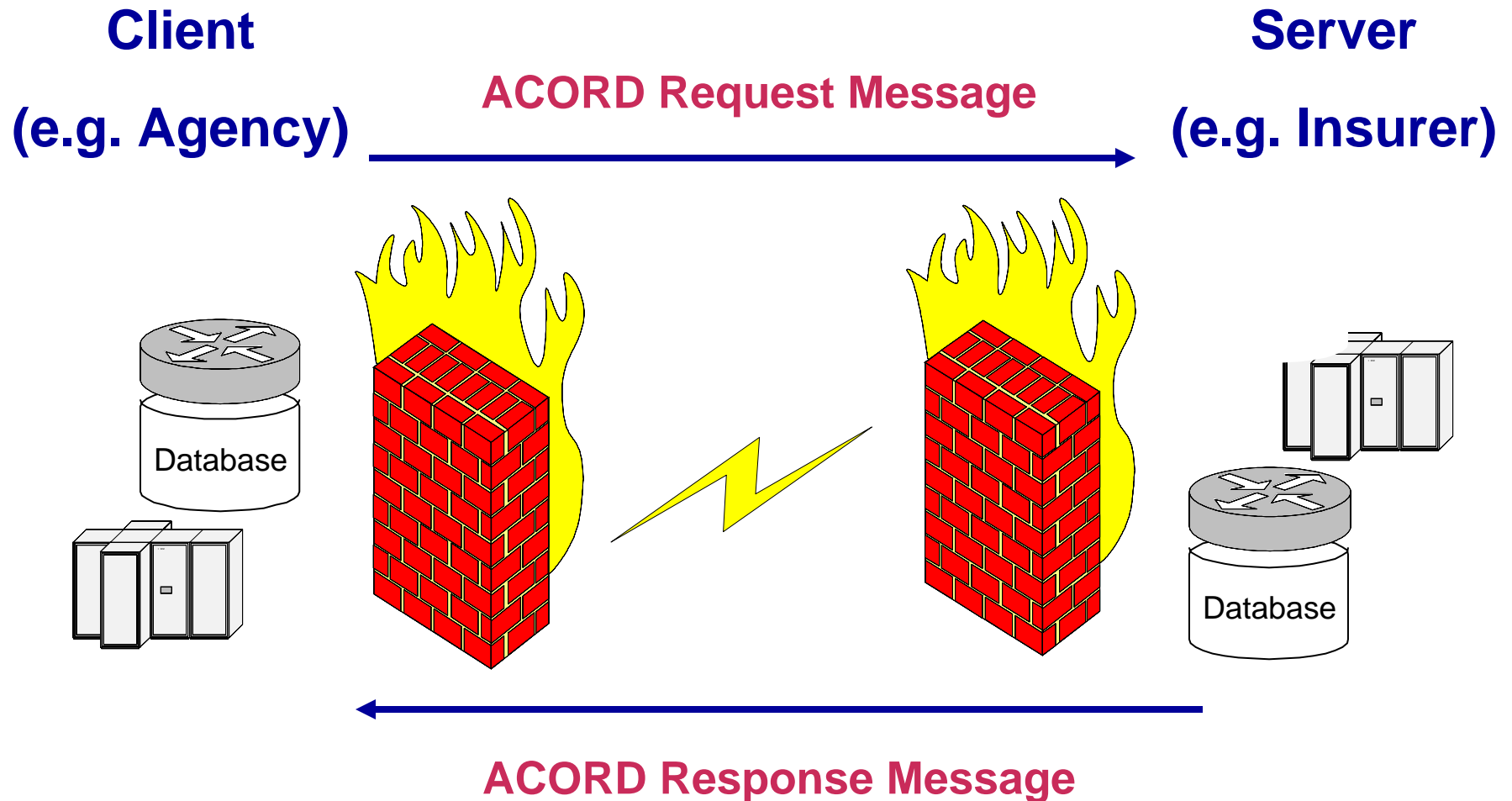# P&C/Surety XML
Message Design

Mark Orlandi

Agenda – Message Design

- **Processing Environment**

- **Services**

- **Messages Inventory (Scope)**

- **Message Design**

  - **Line Of Business**

  - **Quote, New Business, etc.**

Processing Environment

Client

(e.g. Agency)

ACORD Request Message

Server

(e.g. Insurer)

Database

Database

ACORD Response Message

Messages Are Contained within Services

- **Accounting Service**
  - **Accounting Messages**
- **Claims Service**
  - **Claims Messages**   **<Service>**
- **Common Service**   **<Messages/>**
  - **Common Messages**   **<Service/>**
- **Insurance Service**
  - **Insurance Messages**
- **Surety Service**
  - **Surety Messages**

Messages Inventory (Scope)

- **Personal Lines**

- **Commercial Lines**

- **Commercial Schedules**

- **Claims**

- **Surety**

- **Miscellaneous**

- **Framework**

Insurance (Typical LOB Message Sets)

- **Lines Of Business**
  - **Commercial**
    - **ex. Commercial Auto**
  - **Farm**
  - **Personal**
- **Transaction Type**
  - **Quote**
  - **Add (new business)**
  - **Mod (modification - policy change)**
  - **Reinstate (overrides a cancellation)**
  - **Renew**
  - **Reissue (correction to a previous issue)**

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Insurance Messages

- **Typical LOB Message Sets**
  - **Submission Message Sets**
    - **Quote / Add / Mod / Reinstate / Reissue / Renew (6)**
  - **Notification Message Sets**
    - **Update Message Sets**
      - Add / Mod / Reissue / Renew / Reinstate (5)
    - **Replace Message Sets**
      - Add / Mod / Reissue / Renew / Reinstate (5)

  - **6 + 5 + 5 = 16 Message Sets (transactions)**
  - **16 x 2 = 32 individual messages**
    - **1 set of requests / 1 set of responses**

Basic Message Design - Insurance

Request Message

<*LineOfBusinessRq>

%MSGRQINFO	Required
%*POLINFO	Required

Response Message

<*LineOfBusinessRs>

%MSGRSINFO	Required
%*POLINFO	Optional Echo
<PolicySummaryInfo>	Optional

- **Represented by actual Line Of Business**
- **Surety, Commercial Schedules, Dwelling Valuation, and Package Policies are different designs**
- **%PERSAUTOPOLINFO <PersAutoPolicyQuoteInqRq>**
  - **Inconsistency due to administrative error**
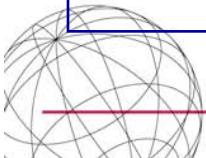
Basic Message Design - Insurance

10.3.3.5.1.1 Request <PersAutoPolicyAddRq>
Personal Auto Application Submission Request
Base Type: (PersAutoPolicyAddRq_Type)

| Tag	Type	Usage	Description
(%MSGRQINFO;)	Entity	Required	Message Request Information Entity Revision History: MR2907
<RqUID>	UUID_NoID	Required	Request Identifier. Sent by a client as a universally unique identifier for the message. Used to correlate responses with requests. Revision History: MR2907
<TransactionRequestDt>	DateTime	Required	The date/time the request was created. This is the client date. Revision History: MR2907
<TransactionEffectiveDt>	DateTime	Optional	The date on which this transaction takes effect. Revision History: MR2907
<CurCd>	OpenEnum	Required	Currency Code. The applicable codes are defined by International Standards Organization (ISO-4217). Revision History: MR2907

Refer to Specification

ACORD®
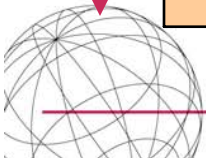
Insurance – Message Level LOB Entities

%*POLINFO Entity (*Actual Line of Business)

<Producer>	**Optional Repeating**
<InsuredOrPrincipal>	**Required Repeating**
<*Policy> **<CommlPolicy> or <PersPolicy>**	**Required**
<Location>	**Required Repeating**
<*LineBusiness> *** Actual Line of Business**	**Required**
<RemarkText>	**Optional Repeating**
<FileAttachmentInfo>	**Optional Repeating**

Comml. Lines has exceptions to this design due to handling of Location Data
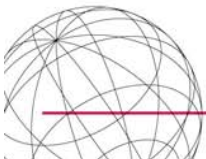
Conclusion

- **Processing Environment**

- **Services**

- **Messages Inventory (Scope)**

- **Message Design**

  - **Line Of Business**

  - **Quote, New Business, etc.**

ACORD P&C/Surety XML Party Design

Mark Orlandi

Agenda – Party Design

- **Philosophy: Tags vs. Codes**

- **Party Design basics**

- **General Party Information**

- **Miscellaneous Parties**

Parties (individuals or organizations)

- **<Producer>**

- **<InsuredOrPrincipal>**

- **<AdditionalInterest>**

- **<CommlDriver>, <PersDriver>**
  - %PCBASICDRIVER

- **<MiscParty>**

*All contain <GeneralPartyInfo>

Producer <Producer>

- **Item ID Info**
- **General Party Info**
- **Producer Info**
    - Contract number
    - Placing Office
    - License Info
    - Role Code

ACORD®

Producer
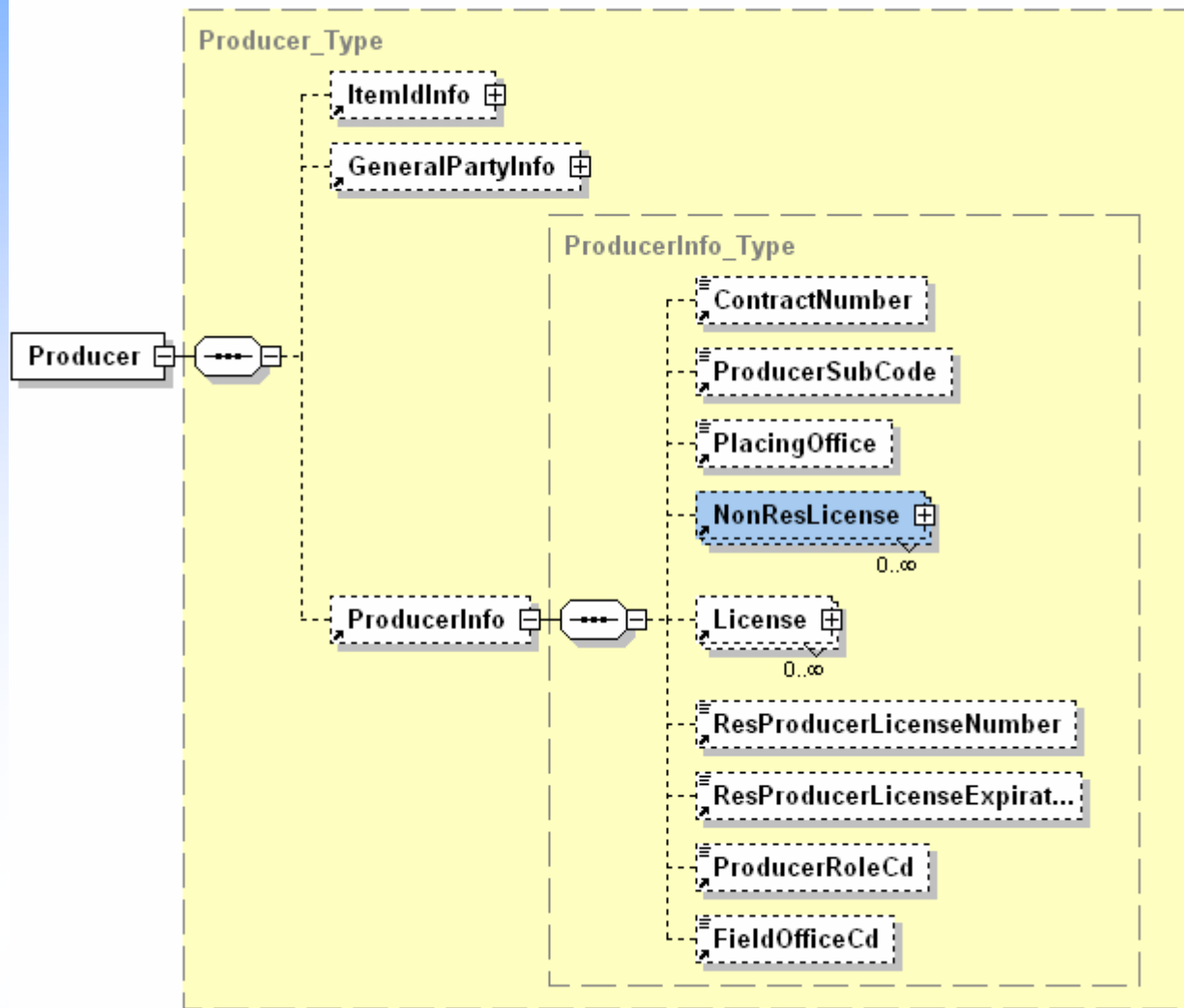
Item ID Information <ItemIdInfo>

- **Agency ID Information**
- **Insurer or Carrier ID Information**
- **System UUID**
- **Other Identifiers**
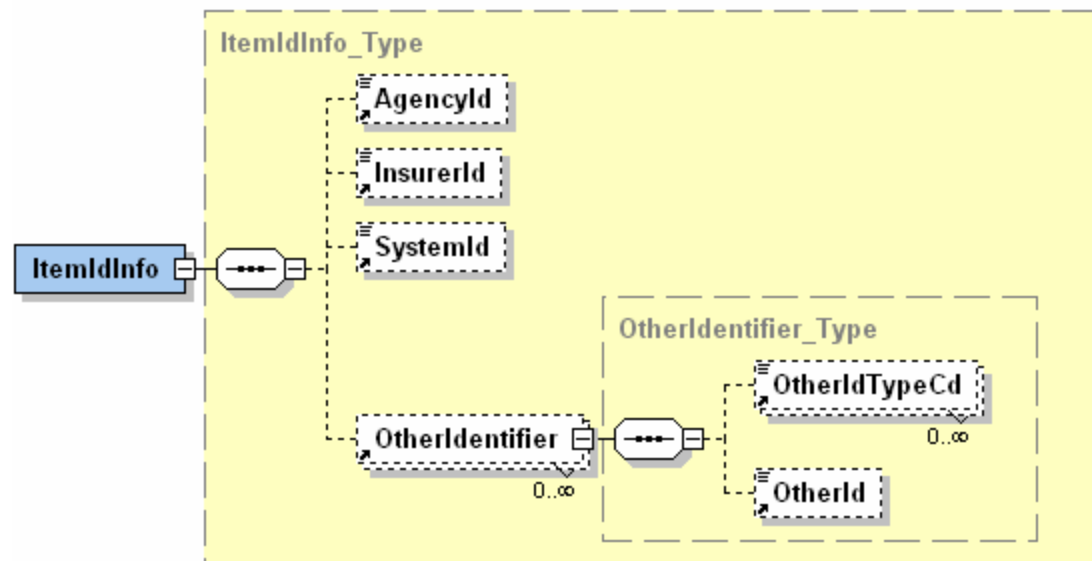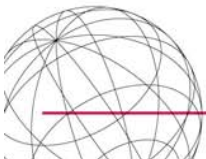


```
<ItemIdInfo>
    <AgencyId>3701234</AgencyId>
    <InsurerId>987654</InsurerId>
</ItemIdInfo>
```
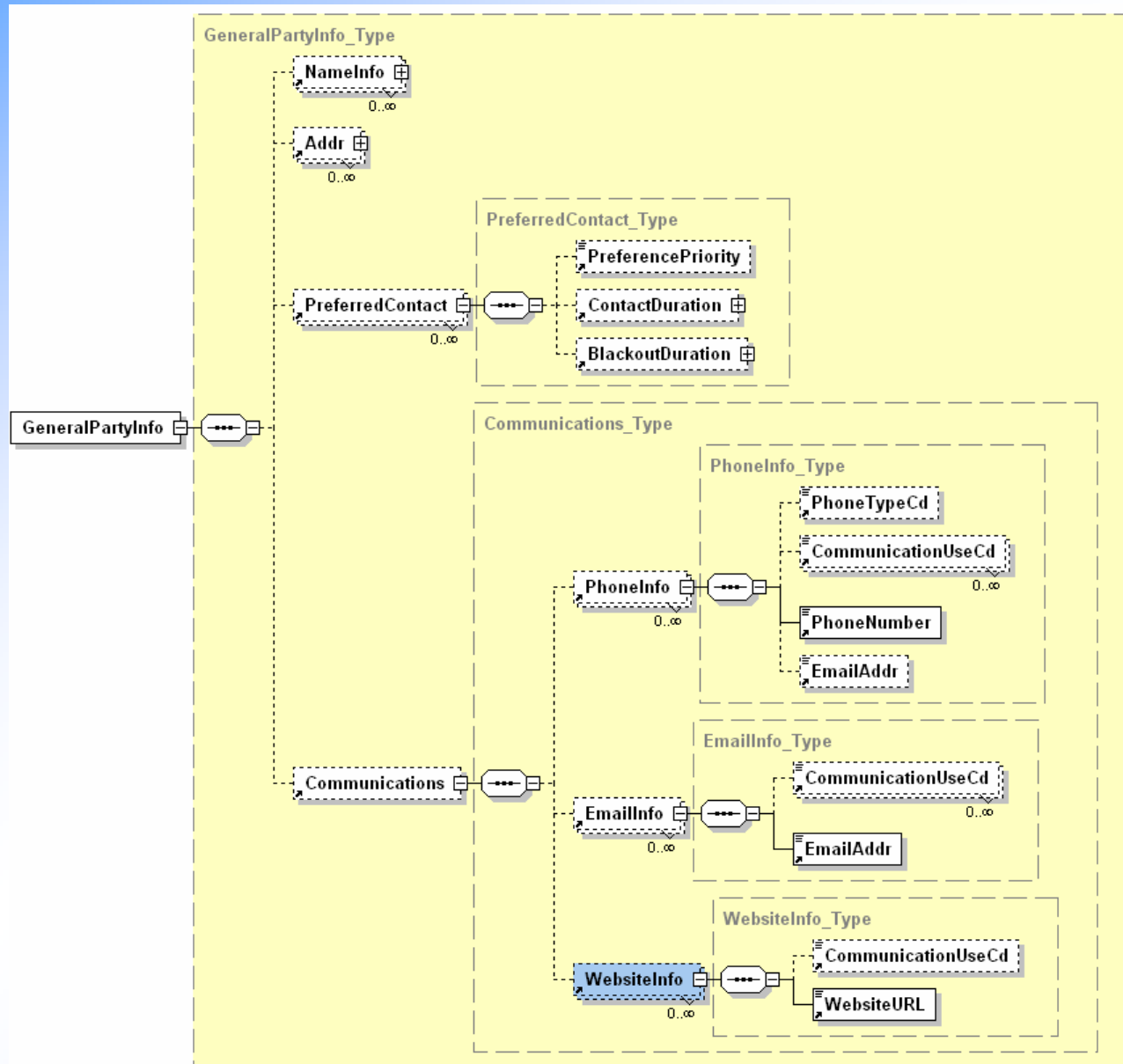
General Party Information <GeneralPartyInfo>

- **Name Information**

- **Address**

- **Preferred Contact Times and Methods**

- **Communications (Phone, email, mail)**
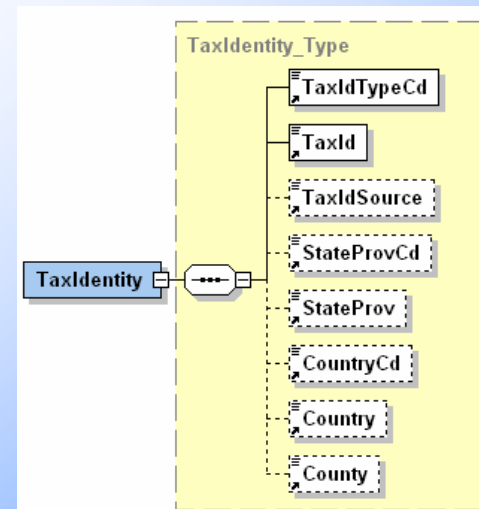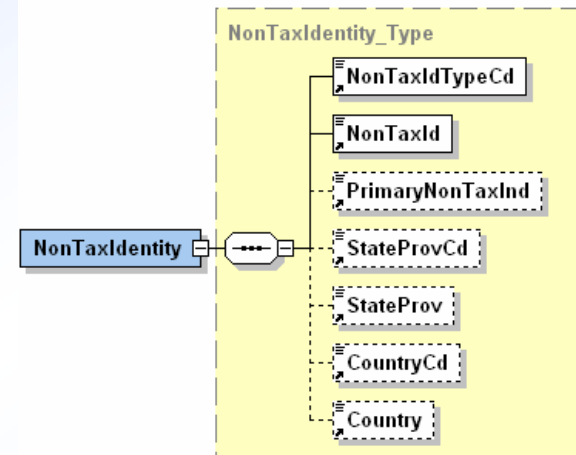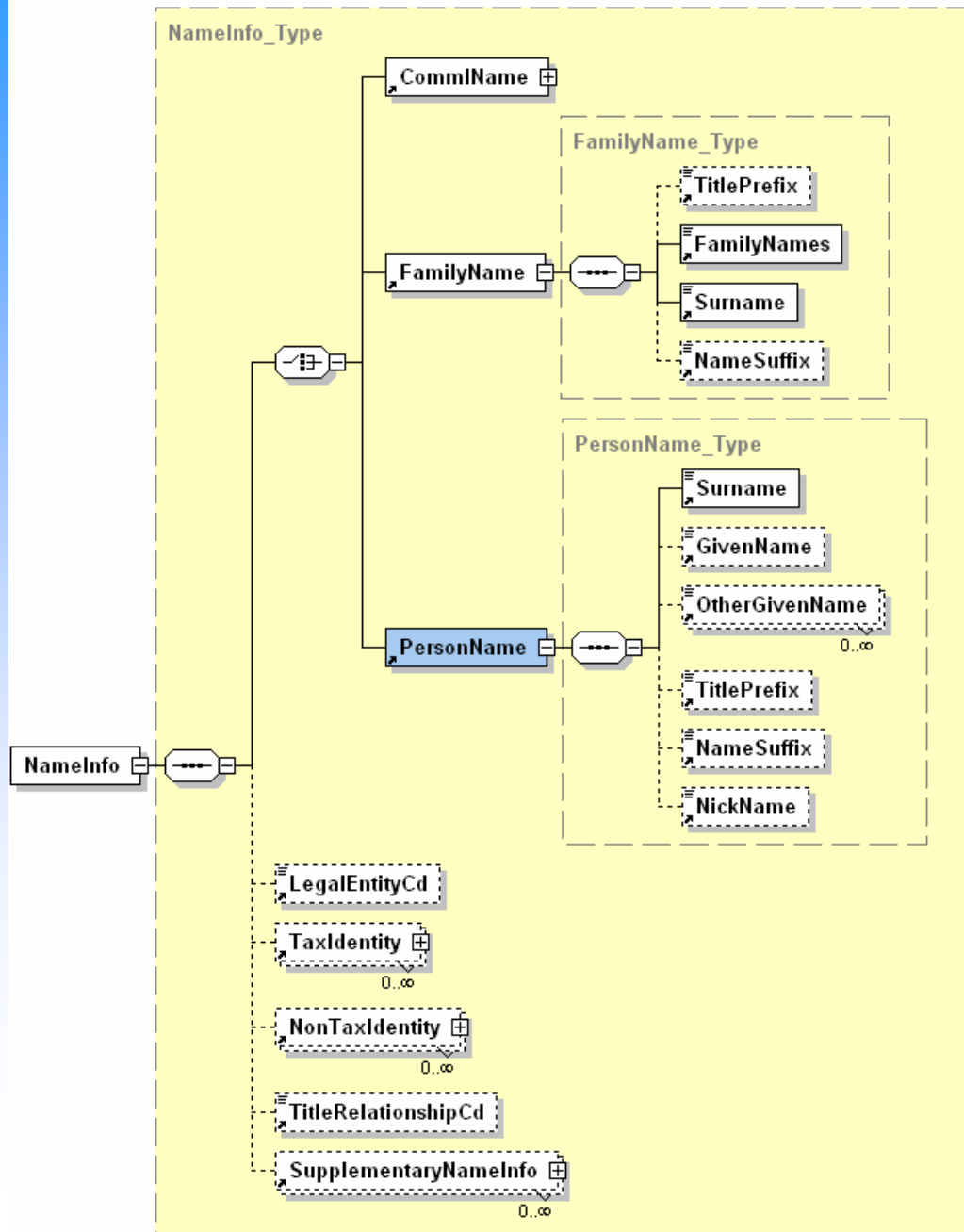
General Party Info

Name Information <NameInfo>

- **Commercial Name**
- **Person Name**   **}** XOR'd
- **Family Name**

- **Legal Entity Code**
- **Government Tax Identifiers**
- **Non-Tax Identifiers**

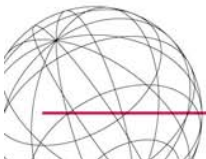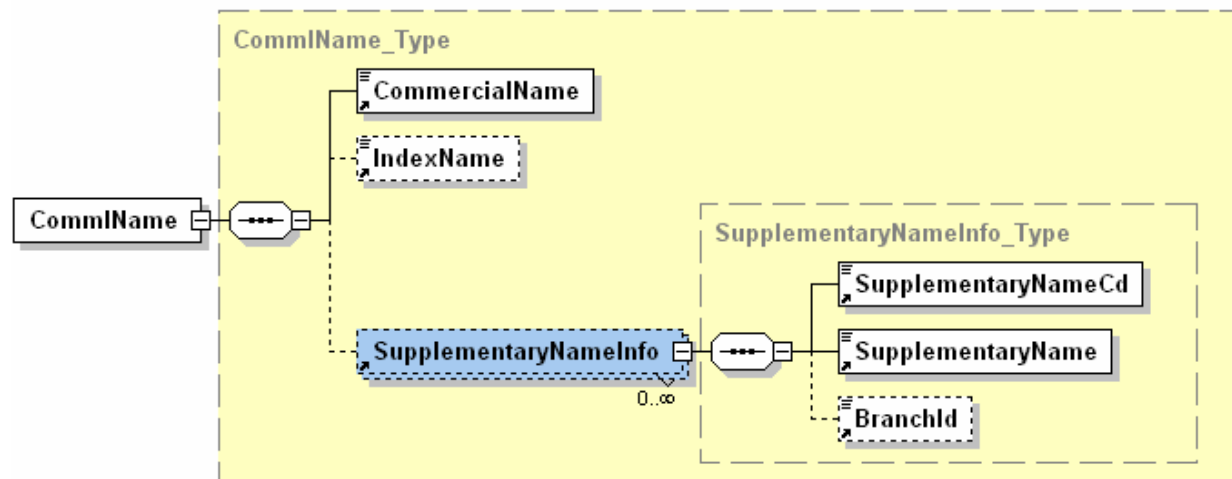# Name Info

<CommlName>

- **Probably would have been better named "<TextName>"**

- **May be used for commercial names or individuals.**

- **Trading Partner issues:**
  - **Driver Names OK in this format?**

Address <Addr>

- **Type Code**
- **4 address/street lines**
  - **<Addr1>**
  - **<DetailAddr>**

  } XOR'd (9-11 reporting issues)

- **City, State and Postal Code**
- **Codes or strings for State and Country**
- **Longitude and Latitude**

Address
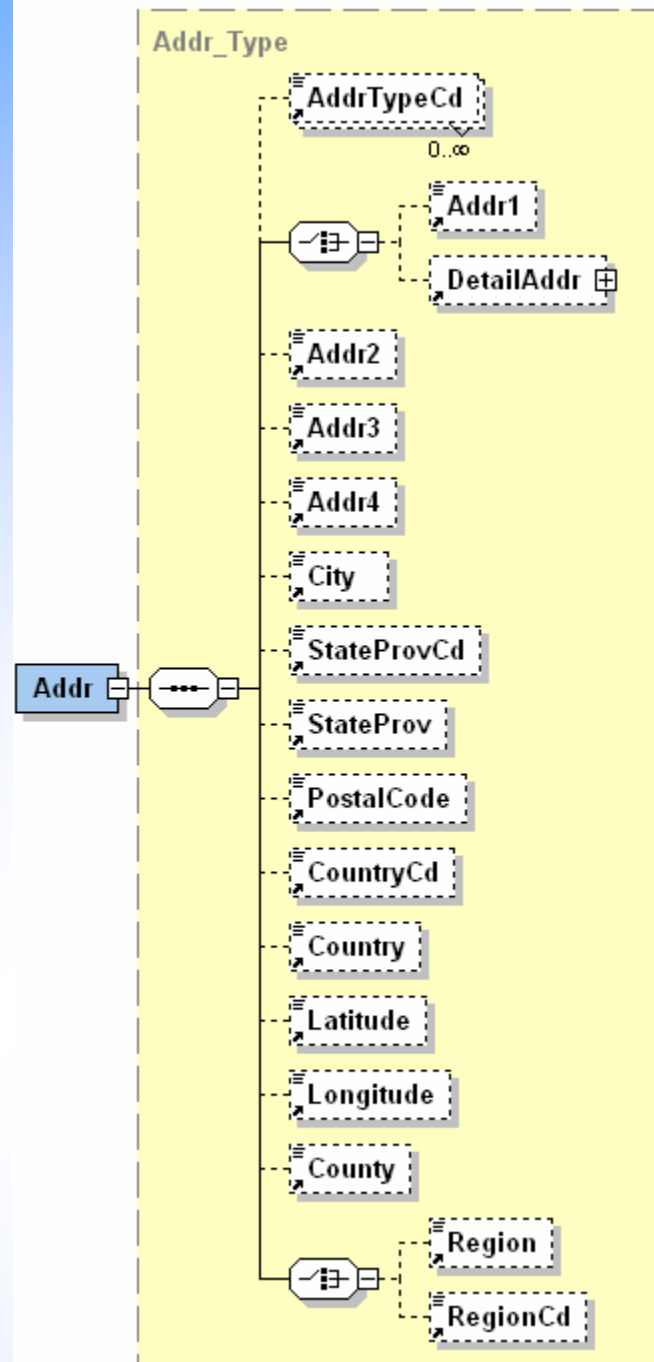
General Party Example

```
<GeneralPartyInfo>
    <NameInfo>
        <CommlName>
            <CommercialName>Joshua Tree Agency</CommercialName>
        </CommlName>
        <TaxIdentity>
            <TaxIdTypeCd>FEIN</TaxIdTypeCd>
            <TaxId>35-9348745</TaxId>
            <CountryCd>USA</CountryCd>
        </TaxIdentity>
    </NameInfo>
    <NameInfo>
        <PersonName>
            <Surname>Small</Surname>
            <GivenName>Irving</GivenName>
        </PersonName>
    </NameInfo>
    <Addr>
        <AddrTypeCd>StreetAddress</AddrTypeCd>
        <Addr1>5275 Franklin St</Addr1>
        <City>Philadelphia</City>
        <StateProvCd>PA</StateProvCd>
        <PostalCode>19106</PostalCode>
    </Addr>
    <Communications>
        <PhoneInfo>
            <PhoneNumber>+1-518-5559876</PhoneNumber>
        </PhoneInfo>
    </Communications>
</GeneralPartyInfo>
```
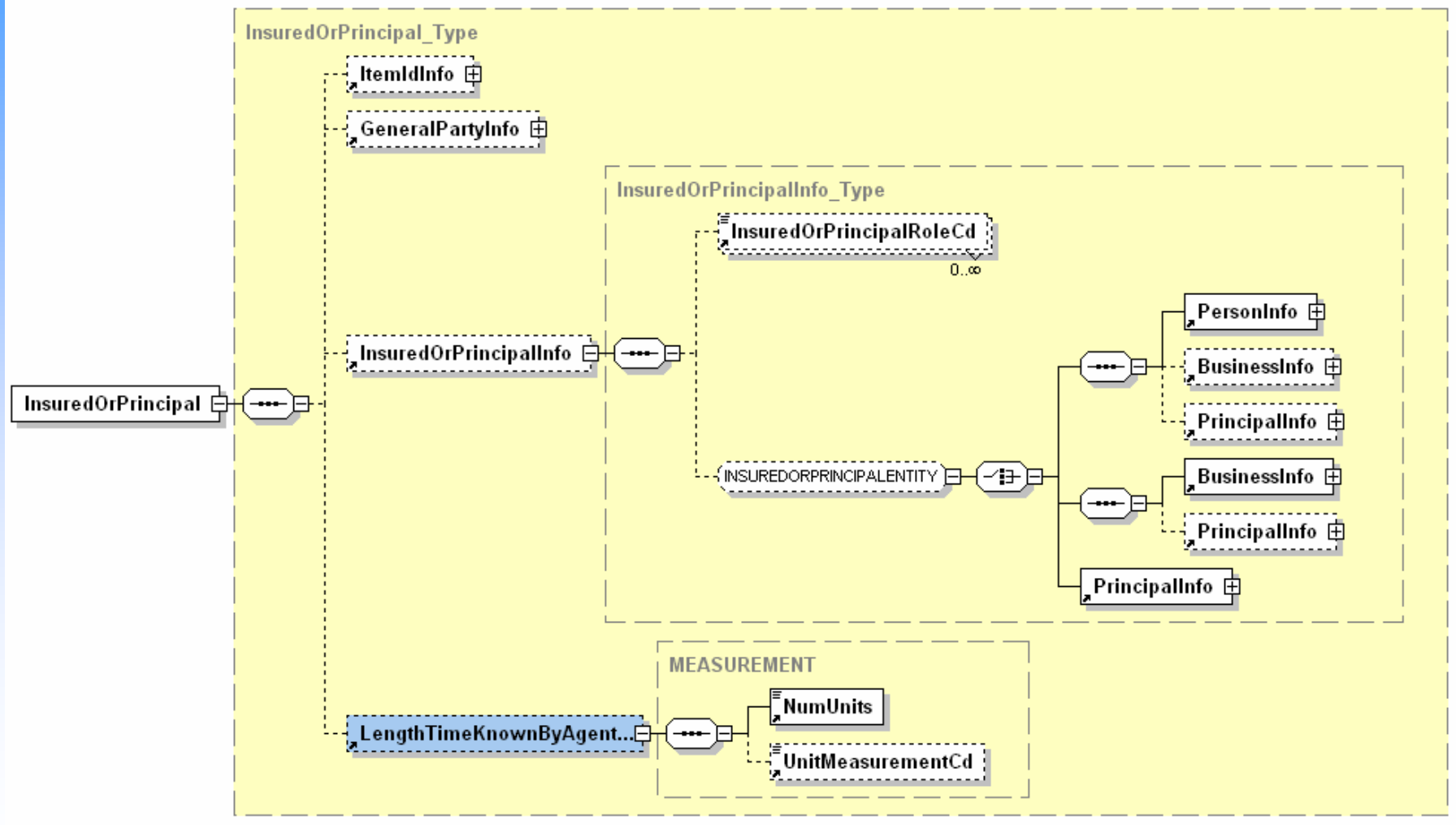
Insured or Principal <InsuredOrPrincipal>

- **Item ID Information**
- **General Party Information**
- **Insured or Principal Information**
  - **Role Code**
  - **Person Info**
  - **Business Information**
  - **Principal Information**
- **Time known by Agent**

Insured or Principal

Business Info

Person Info

Principal Info

Insured or Principal Example

```
<InsuredOrPrincipal>
  <ItemIdInfo>
    <AgencyId>123-45-6789</AgencyId>
  </ItemIdInfo>
  <GeneralPartyInfo>
    <NameInfo>
      <PersonName>
        <Surname>Ross</Surname>
        <GivenName>Elizabeth</GivenName>
        <OtherGivenName>
              Griscom</OtherGivenName>
        <TitlePrefix>Ms.</TitlePrefix>
        <NickName>Betsy</NickName>
      </PersonName>
      <TaxIdentity>
        <TaxIdTypeCd>SSN</TaxIdTypeCd>
        <TaxId>123-45-6789</TaxId>
      </TaxIdentity>
    </NameInfo>
    <Addr>
        <AddrTypeCd>
            MailingAddress
        </AddrTypeCd>
        <Addr1>239 Arch Street</Addr1>
        <City>Philadelphia</City>
        <StateProvCd>PA</StateProvCd>
        <PostalCode>19106</PostalCode>
    </Addr>

    <Addr>
        <AddrTypeCd>
            BillingAddress
        </AddrTypeCd>
        <Addr1>PO Box 123</Addr1>
        <City>Philadelphia</City>
        <StateProvCd>PA</StateProvCd>
        <PostalCode>19106</PostalCode>
    </Addr>
    <Communications>
        <PhoneInfo>
            <PhoneNumber>
                +1-215-6275343
            </PhoneNumber>
        </PhoneInfo>
    </Communications>
  </GeneralPartyInfo>
  <InsuredOrPrincipalInfo>
      …
  </InsuredOrPrincipalInfo>
</InsuredOrPrincipal>
```
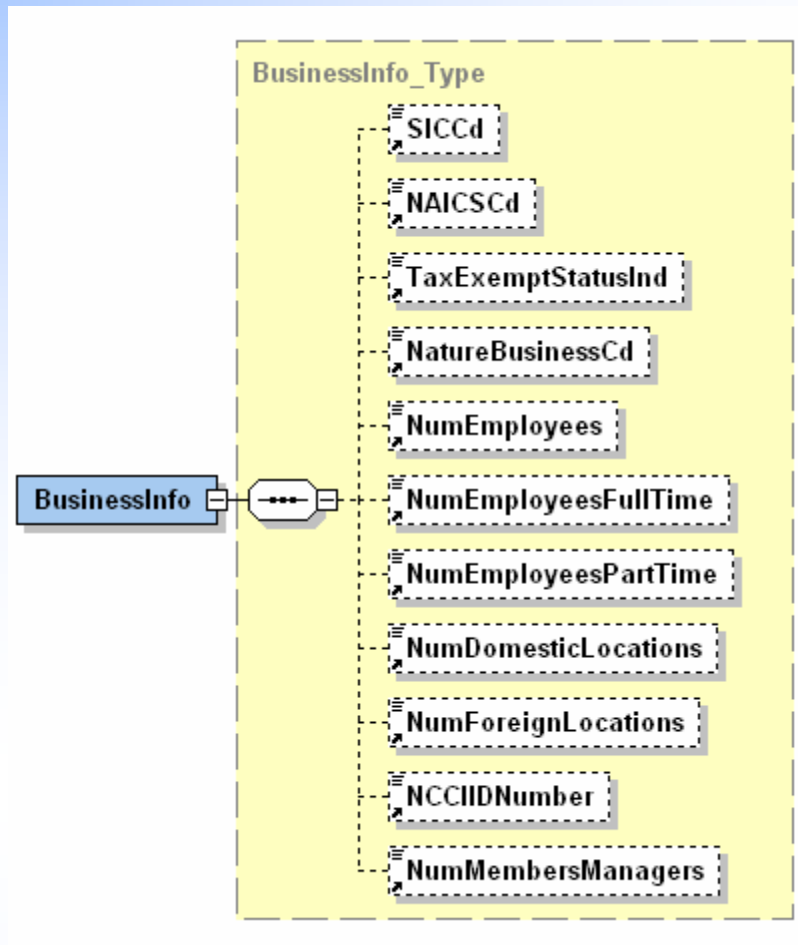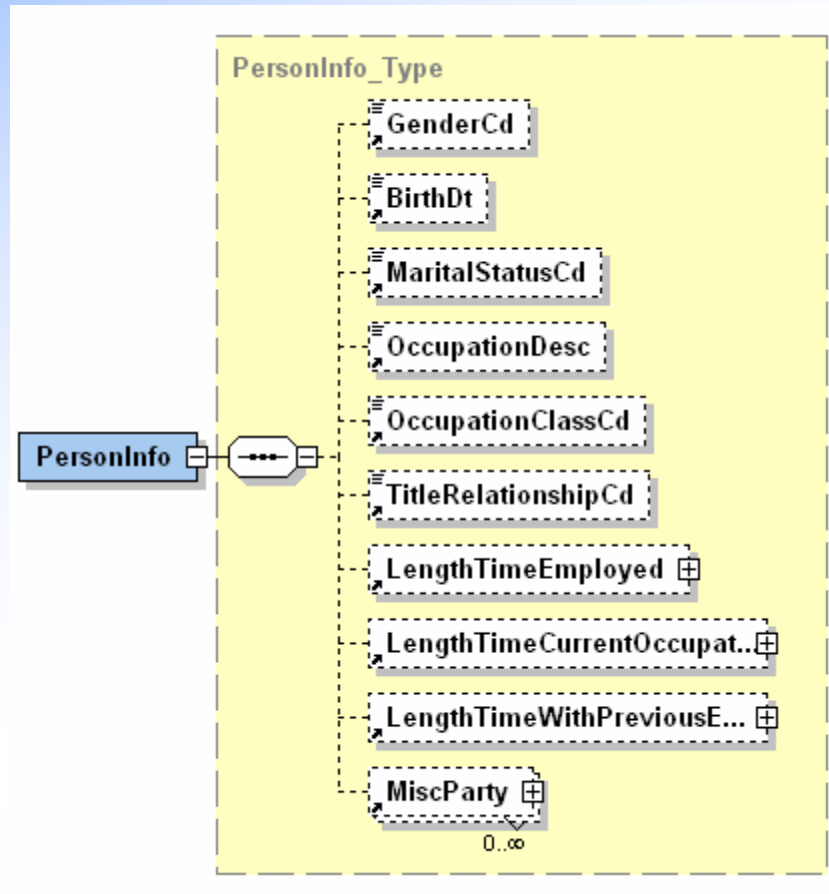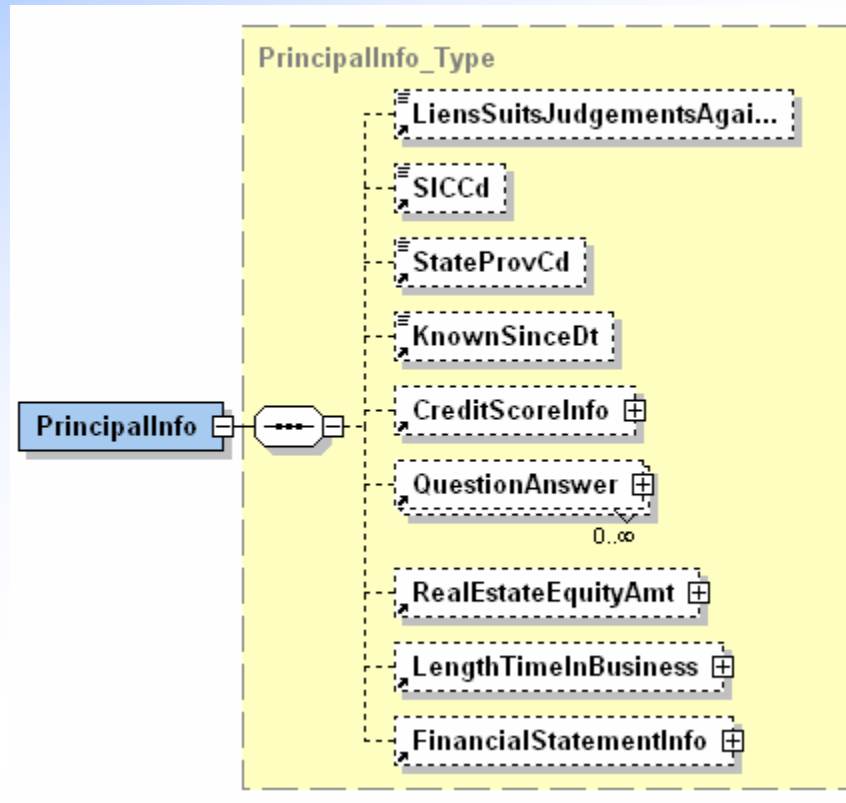
<InsuredOrPrincipal>

- **Can accommodate:**
  - **Multiple Names w/one address**
    - ▸ **Within one instance of <GeneralPartyInfo>, <NameInfo> repeats for each and there would be one instance of <Addr>**
  - **One or More Names w/multiple addresses**
    - ▸ **repeat <InsuredOrPrincipal> for each name/address pair.**

Miscellaneous Party <MiscParty>

- **Item ID Info**
- **General Party Info**
- **Miscellaneous Party Info**
  - **Role code**
  - **Sub-role code**
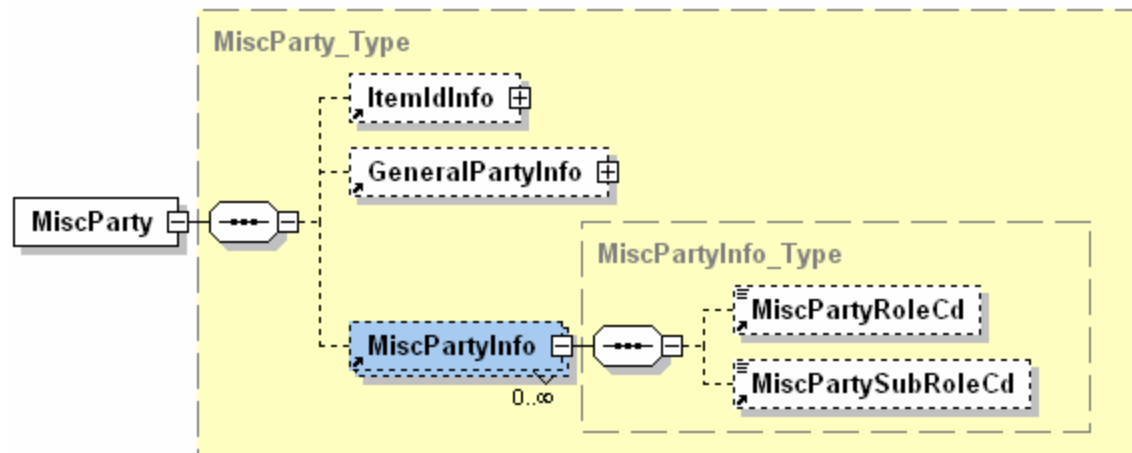
Conclusion – Party Design

- **Philosophy: Tags vs. Codes**

- **Party Design basics**

- **General Party Information**

- **Miscellaneous Parties**

ACORD P&C/Surety XML Policy Design

Mark Orlandi
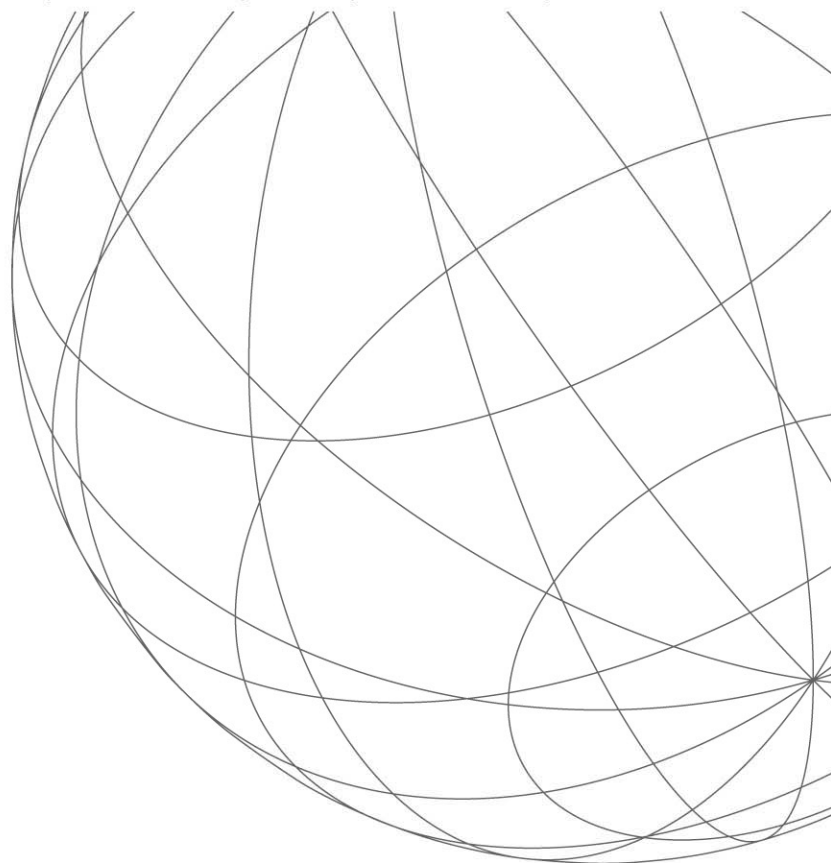
Agenda – Policy Design

- **Common Policy Data**

- **Commercial vs. Personal Lines**

- **Line Of Business**

- **Underwriting Questions**

- **Coverages**

- **File Attachments**

Policy Information

- **<CommlPolicy>**
- **<PersPolicy>**

* Both begin with single occurrence of %PCPOLICY
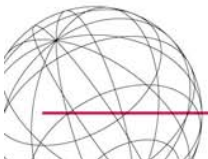
Property Casualty Policy (PCPOLICY)

- **Quote Information**
- **Additional Interests**
- **Miscellaneous Party**
- **Underwriting Questions and Answers**
- **Personal or Commercial Application Info**
- **Accident, Violation, driver information for Personal Auto uses**

- **Policy Number and Version**
- **Product Code**
- **Billing Information**
- **Credit Score Info**
- **Renewal Information**
- **Binder**
- **Form**
- **Previous Loss Line of Business Info**

Personal Policy - pt 1

- **Policy Information**
- **Codes**
- **Contract Information**
- **Billing Information**
- **Renewal Information**

PersPolicy_Type

- PolicyNumber
- PolicyVersion
- CompanyProductCd
- LOBCd
- LOBSubCd
- NAICCd
- ControllingStateProvCd
- ContractTerm ⊞
- BillingAccountNumber
- BillingMethodCd
- CurrentTermAmt ⊞
- CustomerServicingCd
- SignedDt
- GroupId
- LanguageCd
- MailingResponsibiltyCd
- OriginalInceptionDt
- OtherInsuranceWithCompa...
- PayorCd
- PrintedDocumentsRequeste...
- RateEffectiveDt
- RenewalBillingMethodCd
- RenewalPayorCd
- RenewalTerm ⊞
- ShortTermPremiumMethodCd

Personal Policy - pt 2

- Form Information
- Loss Information
- Payment Information
- Quote Information
- Binding Information
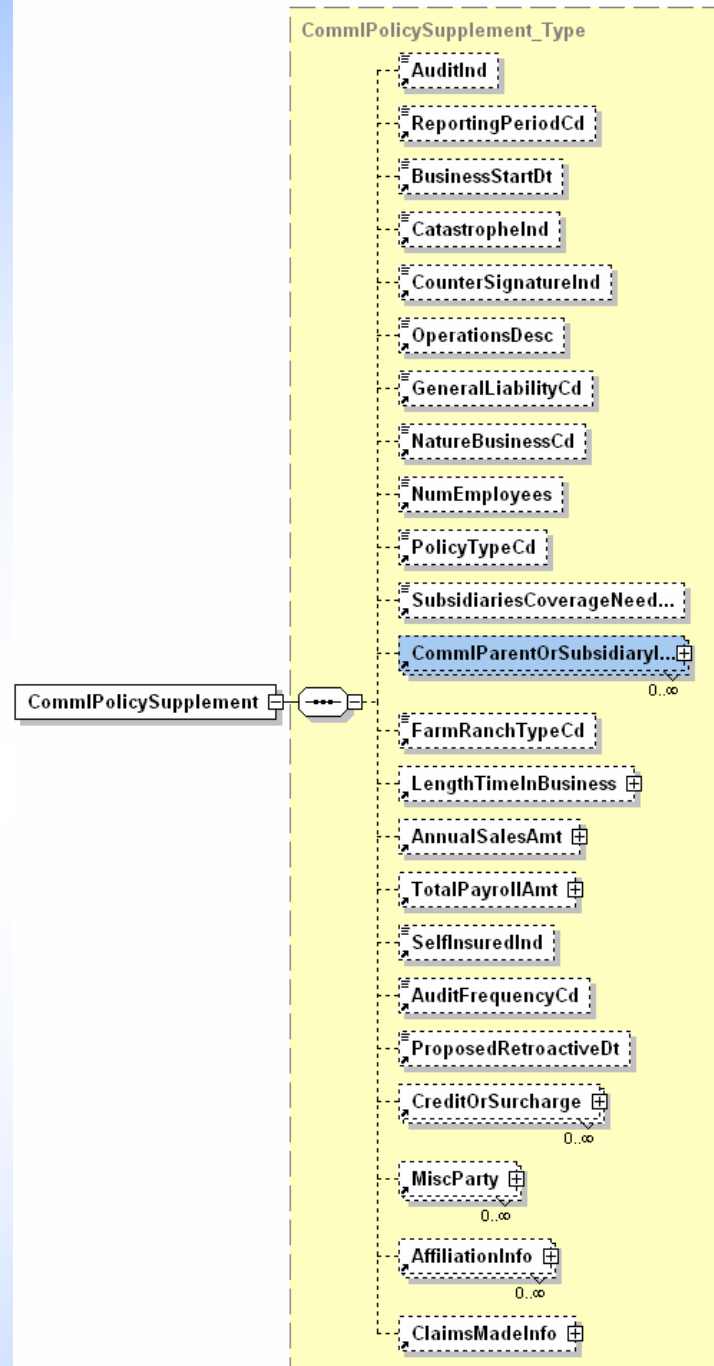- Additional Interests
- Underwriting Questions
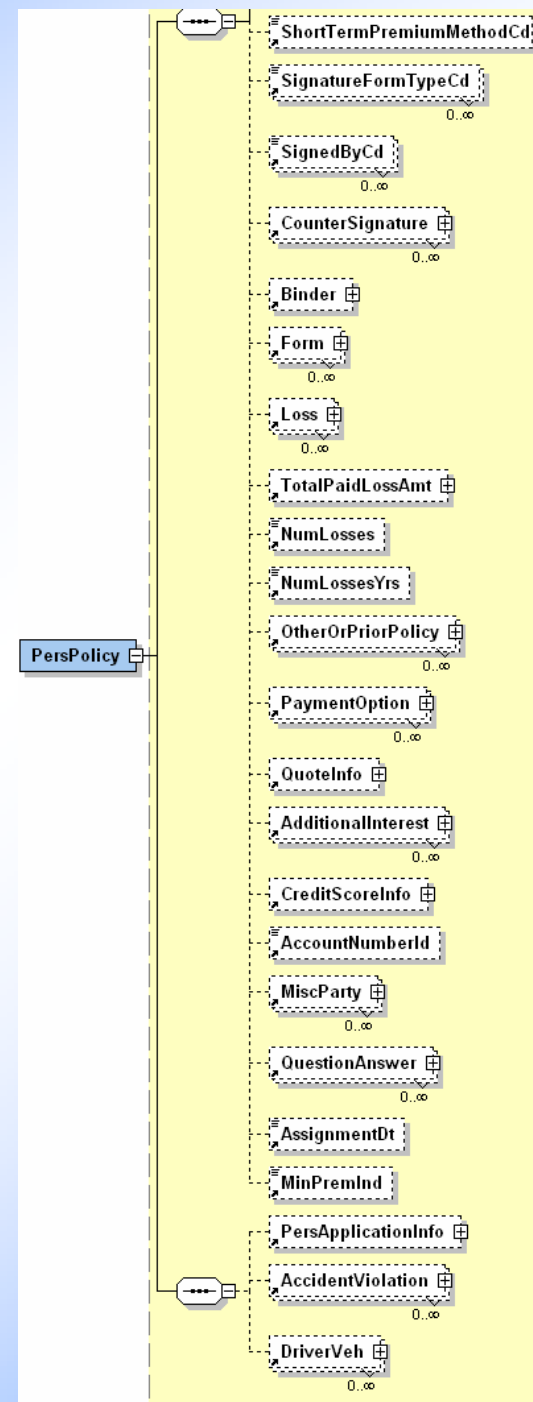
Personal Policy - pt 3
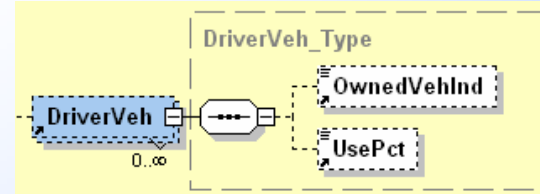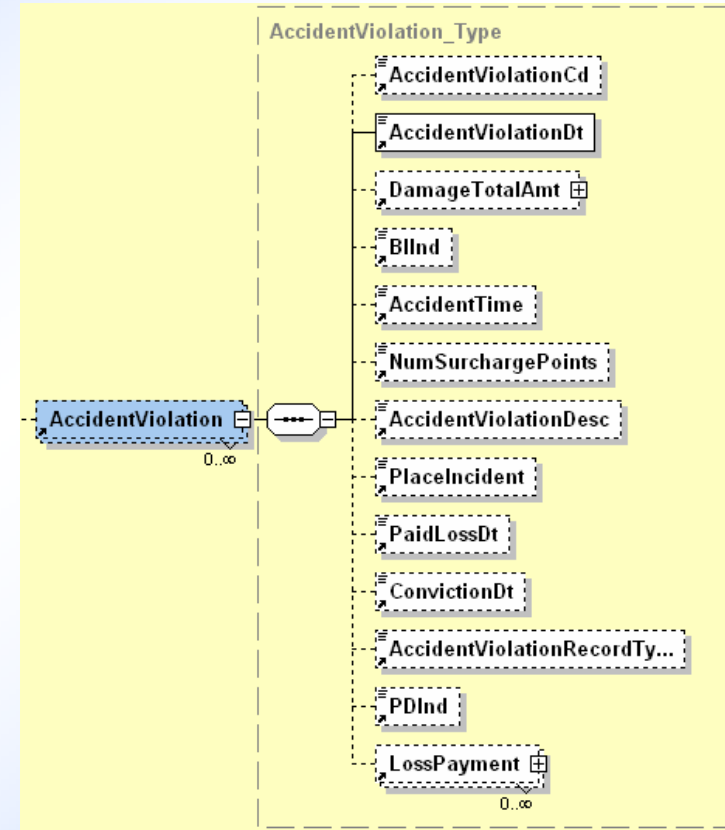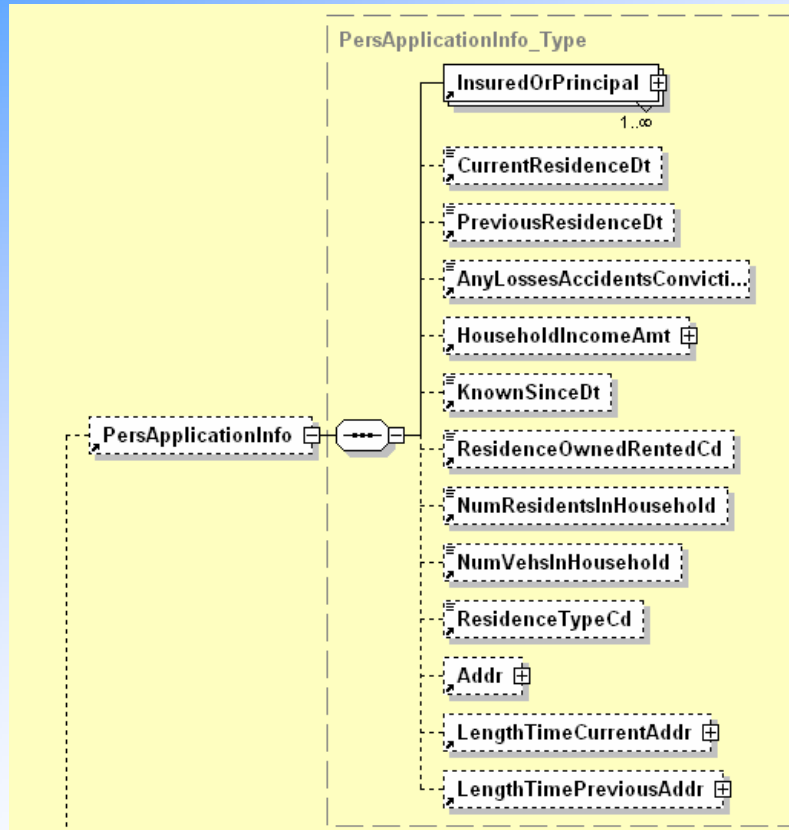
Commercial Policy Supplement
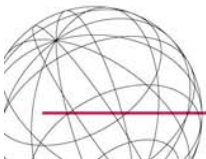
- **Business Information**
- **Coverage Requirements**

Line of Business

- **Coverage Information**
- **Additional LOB Information**
  - **Auto**
    - ‣ **Driver**
    - ‣ **Vehicle**
    - ‣ **Specific Underwriting Questions**
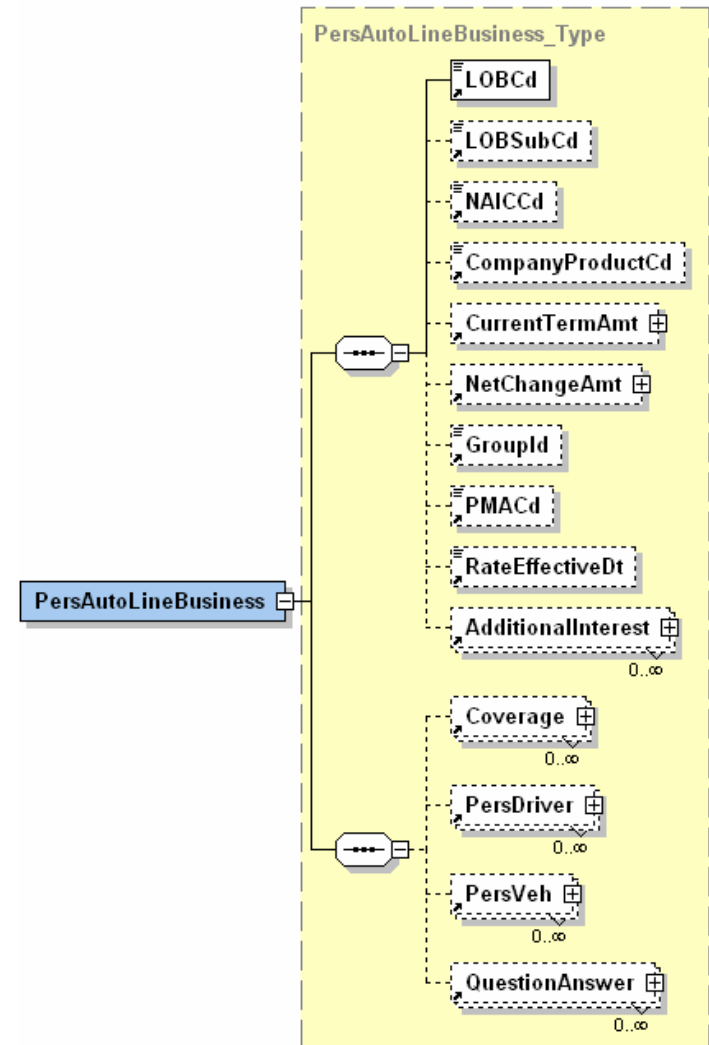
Underwriting Questions

- ## QuestionAnswer Aggregate
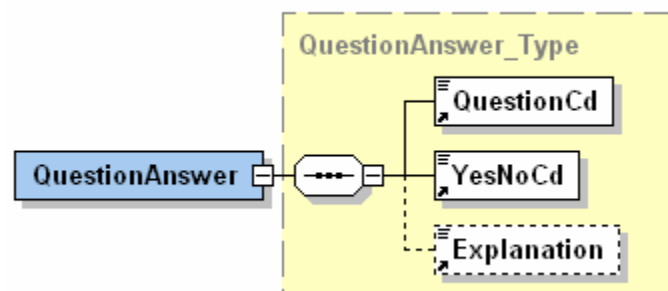
Response

Code Value	Code Description
NA	Not Applicable
NO	No
NOTANS	Not Answered
YES	Yes

1.1 ResponseIndicator

Code Value	Code Description
AGLIA01	Independent contractors hired to perform any farming operations?
AGLIA02	Any part of farm used or leased for organized recreational use?
AGLIA03	Does Applicant Build, Repair or Design Machinery, Equipment or Systems for Anyone at a Charge or Fee?
AGLIA04	Does Applicant Mix, Process, Slaughter, Butcher or Otherwise Prepare for Any "End Consumer" His or Any Other Grower's Product?
AGLIA05	Does Applicant Handle any Product, such as Seed, Fertilizer, Sprays, etc. for Resale?
AGLIA06	Are Any Contract or Service Operations Performed for Others such as Snow Removal, Tilling, Excavating, or Ditching?
AGLIA07	Are the Farm Premises Open to the Public for Activities such as, Road Side Stands, "U-Pick", recreational, "Rent-a-Garden", auction, sales, show, food, etc.?
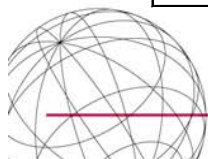
Coverage Information

- **Coverage Code - Coverages list**

- **Coverage Option Code**

  - **Option type code - Option Benefit list**

  - **Option code - Coverage Option list**

  - **Option value - number of or Y/N indicator**

- **Limits**

- **Deductibles**

- **Form Information**

- **Coverage Matrix Implementation Guide**

Coverage Matrix Implementation Guide

- **Lists data requirements associated with each coverage code and XML handling**

- **Critical Code Lists:**

  - **Coverages List**
  - **CoverageOption List**

- **Data Requirements:**

  - **Option Types / Codes**
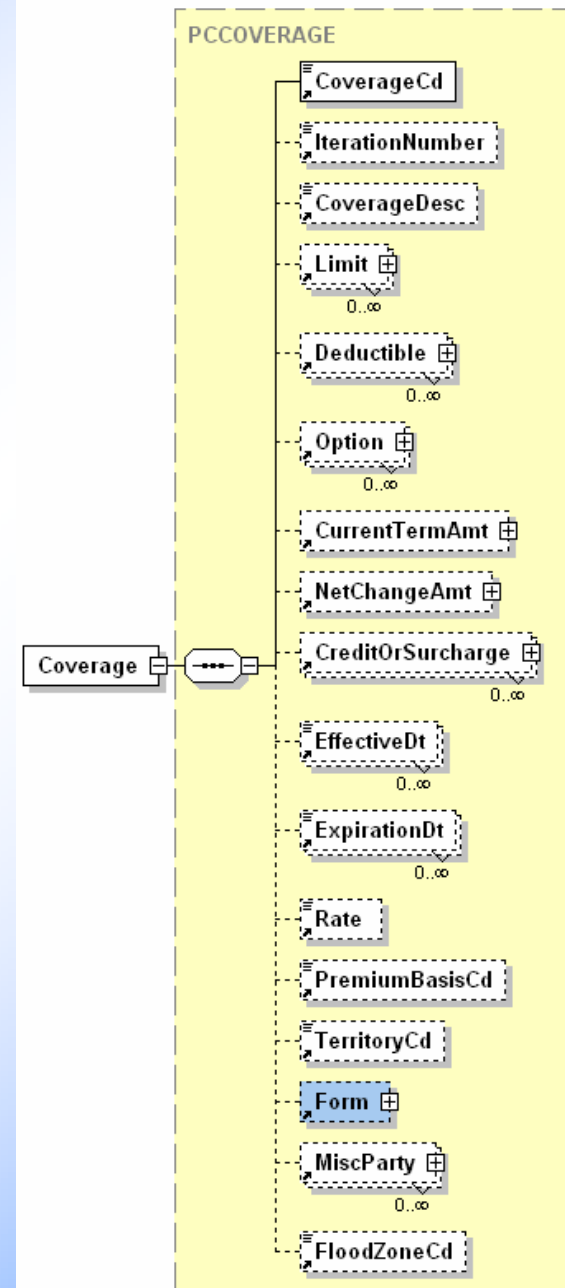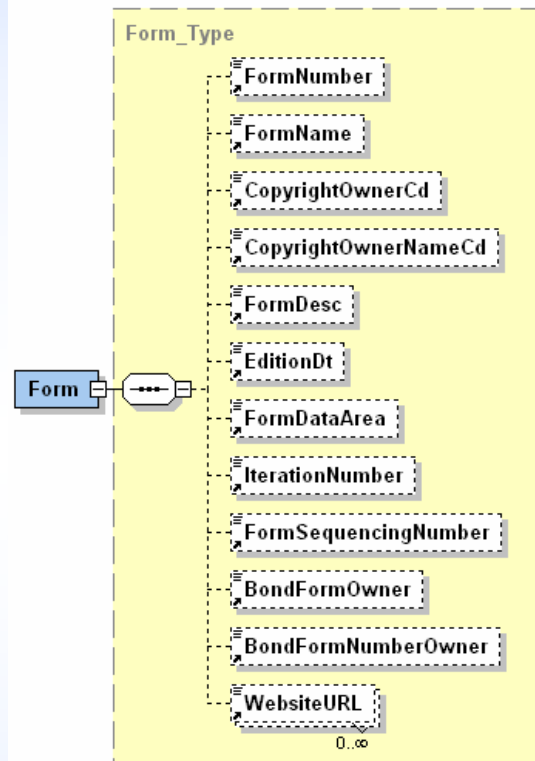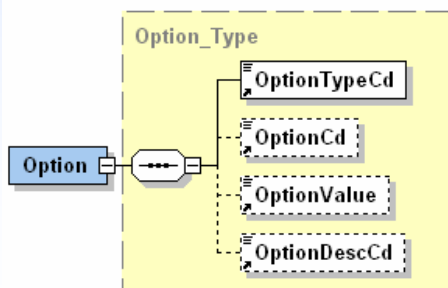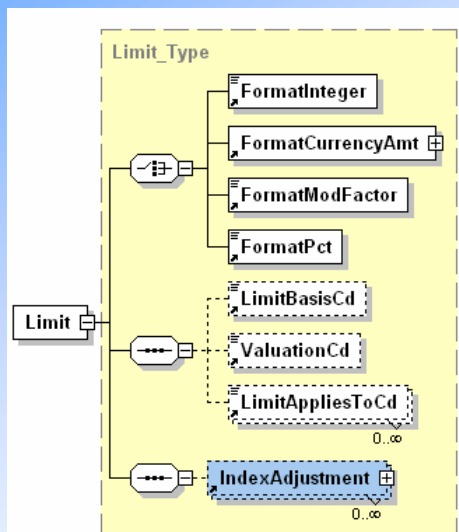 - **Limit Data ("Types" and "Applies To")**
  - **Deductible Data ("Types" and "Applies To")**

- **Refer to Guide for detailed examples**

Coverage

Coverage and Option Codes

Coverages

Sublist	Code Value	Code Description
Personal Lines - Property - Homeowner and Dwelling Fire Coverages List	**ALARM**	**Premises Alarm**
Personal Lines - Property - Homeowner and Dwelling Fire Coverages List	ALC	Assisted Living Care Coverage
Personal Lines - Property - Homeowner and Dwelling Fire Coverages List	APMP	Additional for Policy Minimum Premium
Personal Lines - Property - Homeowner and Dwelling Fire Coverages List	APP	Additional Personal Property Secondary Residence
Personal Lines - Property - Homeowner and Dwelling Fire Coverages List	APPAW	Additional Amt. of Pers. Prop. Away From Premises
Personal Lines - Property - Homeowner and Dwelling Fire Coverages List	BAA	Building Additions & Alterations (HO4 or 4A)

CoverageOption

Sublist	Code Value	Code Description
Alarm Type Codes List	**C**	Central Alarm
Alarm Type Codes List	**CC**	Combination burglar alarm and fire alarm that includes a central option (used in Texas)
Alarm Type Codes List	**CO**	Combination burglar alarm and fire alarm alarm that includes a local (used in Texas)
Alarm Type Codes List	**CR**	Combination burglar alarm and fire alarm that includes a remote option (used in Texas)
Alarm Type Codes List	**L**	Local Alarm
Alarm Type Codes List	**P**	Police Alarm (not used in Texas)
Alarm Type Codes List	**R**	Remote Alarm (Texas only)
Anti-Lock Braking System Type List	02	2 Wheel anti-lock braking system
Anti-Lock Braking System Type List	04	4 wheel anti-lock braking system
Business Automobile and Truckers List	FG	Full Glass
Business Automobile and Truckers List	MI1	Michigan Municipal Volunteer coverage included

Coverage Example

```xml
<PersVeh RatedDriverRef="D100" id="V100">
    <Coverage>
        <CoverageCd>COLL</CoverageCd> <!--'Collision' -->
        <Deductible>
            <FormatCurrencyAmt>
                <Amt>500</Amt>
            </FormatCurrencyAmt>
            <DeductibleTypeCd>FL</DeductibleTypeCd> <!--'Flat' -->
        </Deductible>
    </Coverage>
    <Coverage>
        <CoverageCd>COMP</CoverageCd> <!-- Comprehensive -->
        <Deductible>
            <FormatCurrencyAmt>
                <Amt>100</Amt>
            </FormatCurrencyAmt>
            <DeductibleTypeCd>FL</DeductibleTypeCd> <!-- Flat -->
        </Deductible>
                <!-- In this instance, Comprehensive coverage includes
                        an option for "Full Glass". -->
        <Option>
            <OptionCd>G</OptionCd> <!-- Full Glass applies -->
        </Option>
    </Coverage>
....
</PersVeh>
```

File Attachment Information <FileAttachmentInfo>

- **Additional Document sent in support of an application**

- **Generally an image of a form, certificate, photo, or receipt**

- **Item ID Info**

- **Description and Type Code**

- **Responsibility Code**

- **MIME Content type and Encoding**

- **File name**

File Attachment
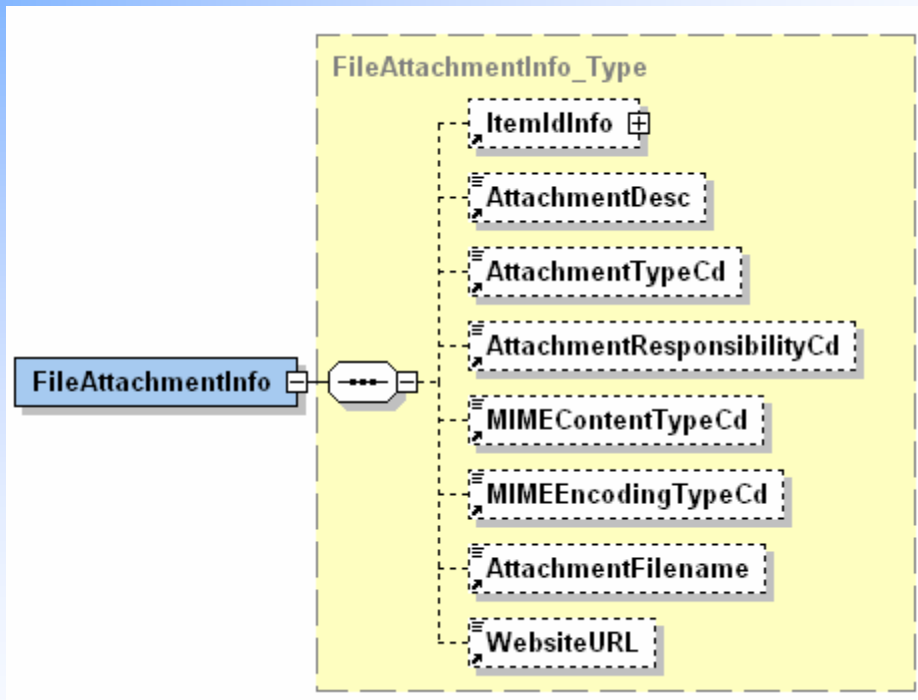
AttachmentType

Code Value	Code Description
040	ACORD Residential Property Valuation Survey
041	ACORD Residential Property Replacement Cost Worksheet Boeckh Square Foot Method
042	ACORD Residential Property Replacement Cost Information Supplement
610	Premium Payment Supplement
AER	Accepted Endorsement/Rider
APP	Appraisal/Bill of Sale
APR	Appraisal
ARP	Agings of Receivables/Payables
ATD	Anti-Theft Device Certificate
BCL	Bank Credit Line Agreement
BFA	Burglar/Fire Alarm Certificate
BLT	Bank Letter
BOS	Bill of Sale
CAB	Condo Association by Law's

File Attachment Example

```
<FileAttachmentInfo>
    <ItemIdInfo>
            <AgencyId>DV-12345-09102000.jpg</AgencyId>
    </ItemIdInfo>
    <AttachmentDesc>Appraisal for restored 1968 Shelby Cobra
    </AttachmentDesc>
                    <!-- Appraisal -->
    <AttachmentTypeCd>APP</AttachmentTypeCd>
                    <!-- AG agent COR company -->
    <AttachmentResponsibilityCd>AG</AttachmentResponsibilityCd>
    <MIMEContentTypeCd>image/jpeg</MIMEContentTypeCd>
    <AttachmentFilename>canon7.jpg</AttachmentFilename>
</FileAttachmentInfo>
```

XML and Attachments

canon7.jpg

```
<?xml version="1.0"?>
<!DOCTYPE ACORD SYSTEM "ACORD_PC_XML_V1_0_0.dtd">
<ACORD>
 <SignonRq>
            ....
 </SignonRq>
 <InsuranceSvcRq>
      <RqUID>f81d4fae-7dec-11d0-a765-00a0c91e6bf6</RqUID>
      <PersAutoPolicyQuoteInqRq>
        <RqUID>f81d4fae-7dec-11d0-a765-01a0c61f6bd5</RqUID>
            ...
      <FileAttachmentInfo>
         <ItemIdInfo>
             <AgencyId>Foo Fighter</AgencyId>
         </ItemIdInfo>
         <MIMEContentTypeCd>image/jpeg</MIMEContentTypeCd>
         <AttachmentFilename>canon7.jpg</AttachmentFilename>
      </FileAttachmentInfo>
      </PersAutoPolicyQuoteInqRq>
 </InsuranceSvcRq>
</ACORD>
```

**In memory or an XML file
AutoQuote.xml**

Conclusion – Policy Design

- **Common Policy Data**

- **Commercial vs. Personal Lines**

- **Line Of Business**

- **Underwriting Questions**

- **Coverages**

- **File Attachments**

ACORD P&C/Surety XML Data Types

Mark Orlandi
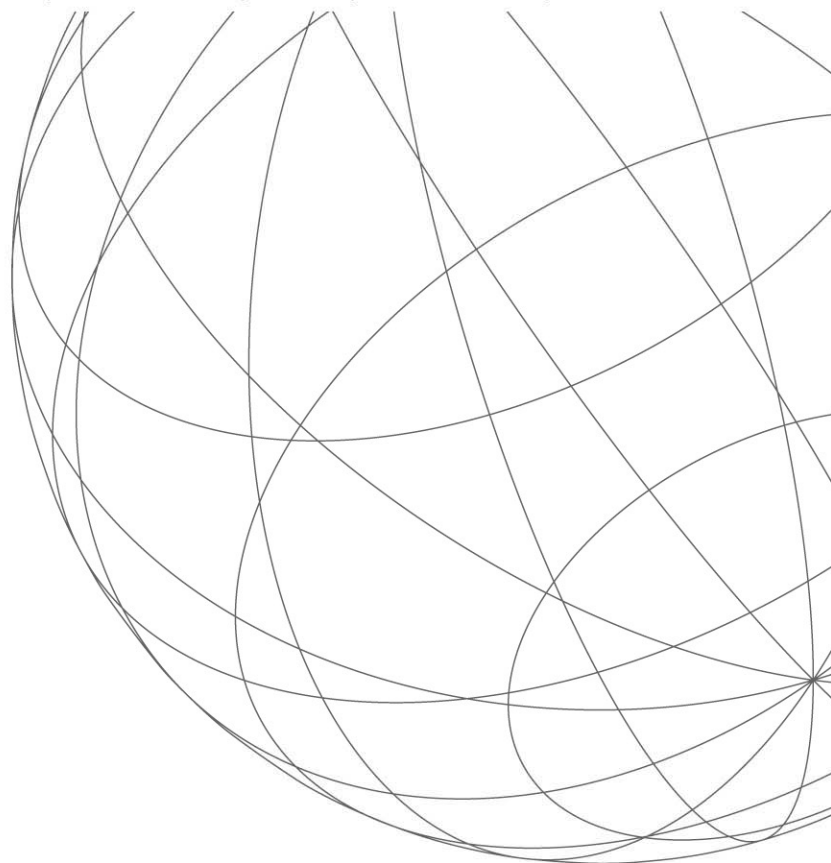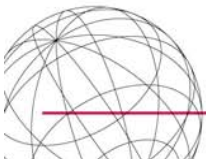
Agenda – Data Types

- **Simple Data Types**

- **Complex Data Types**

- **Measurement**

- **Currency**

- **<CodeList>**

Chapter 3 - Simple Data Types

- **C-xx - character - various string lengths**
  - Unicode Characters, can contain § Æ Ç à ŕ £ etc.
  - < and & need to be escaped < and &
- **NC-xx - narrow character, various string lengths**
  - ASCII characters
- **Boolean - (true/false)**
  - 1 or 0 the only allowed values
  - "not answered" is value if not provided
- **Long - 32 bit positive or negative integer (whole number)**
  - -2147483648 to +2147483647
- **Decimal - 15 digits excluding the sign or decimal**
- **Percentages – value must be divided by 100 before use**
  - PercentLong – integer values
  - PercentDecimal – integer or decimal values

Chapter 3 - Complex Data Types

- **Date and Time - Gregorian Calendar, 24hr clock**
  - **Year = 2002**
  - **YrMon = 2001-02**
  - **Date = 2001-02-05**
  - **Time = HH:mm:ss.ffffff±HH:mm**
  - **DateTime = YYYY-MM-DDTHH:mm:ss.ffffff±HH:mm**
  - **Timestamp - same format as DateTime, but no intended business meaning**

- **Enumerated Types - code list values**
  - **Closed Enum - specific values only allowed**
  - **Open Enum - specific values but other values allowed as well**

Chapter 3 - Complex Data Types - cont

- **Phone Number - 32 narrow characters**
  - **+1-800-5556789+739**

- **URL - up to 1024 narrow characters**
  - **contains a protocol identifier (http:)**
  - **need to watch for Internationalized URLs (IURL) that allow Unicode characters**

Chapter 3 - Complex Data Types - cont

- **Identifiers**
    - **Assigned Identifier - use <ItemIdInfo> or other elements as defined**
    - **Universally Unique Identifier - (UUID or GUID) - 36 narrow character string - system generated**
        - **f81d4fae-7dec-11d0-a765-00a0c91e6bf6**
        - **Dashes are required**
    - **Transient Identifier - used in the XML stream not reusable outside the stream - must be unique in stream**
        - **Must start with a letter, and must be unique in data stream**
        - **Based upon the XML ID attribute type - virtually every element in the Business Message can have ID - see sec 3.9.2**
        - **Create only if used in stream**
        - **<PersonName id = 'P1'>**

Chapter 3 - Complex Data Types - cont

- **Identifier References - Reference to a transient identifier (ID attribute)**
  - **Identifier Reference**
    - XML IDREF type - single value
    - ID value referenced must exist in data stream
    - <DriverVeh id = 'P1' DriverRef="d1" VehRef="v1">
  - **Multiple Identifier References**
    - XML IDREFS type - multiple values separated by whitespace
    - ID values referenced must exist in data stream
    - <LitigationInfo id="Lit1" PlantiffRefs="D1 P1 D2">

Chapter 3 - Complex Data Types - cont

- ## XML ID attribute values:

  - Must start with: _ letter :

  - Follow by one or more: letter digits .-_: and Unicode values

Valid ID values

v1
vehicle1
:1
_1
vehicleÇß

Invalid ID values

Çßvehicle
1v
-v1

Very Complex Data Types

- **Entities as data types - Complex types**
  - **%DURATION**
    - **<BlackoutDuration>, <BondTerm>, <ContactDuration>, <LeaseTerm>**
  - **%CURRENCY**
    - **<LiquidatedDamagesAmt>, <LossPaymentAmt>, <MarketValueAmt>, <NetAmt>**
  - **%MEASUREMENT**
    - **<Distance>, <AreaOccupied>, <BasementArea>**
  - **%FORMATTEDNUMBER**
    - **<NumericValue>**
  - **%BINARY**
    - **<Certificate>, <EncryptedPswd>**

Entities used as Data Types

8.2.3 Duration Entity (%DURATION)

This entity captures either a generic or specific time period. It can be as generic as 15 days, or as specific as a start and end date.

Tag	Type	Usage	Description
<EffectiveDt>	Date	Optional	This is an effective date, the explicit meaning of which is implied by its parent or its usage.
<ExpirationDt>	Date	Optional	This is an expiration or termination date, the explicit meaning of which is implied by its parent or its usage.
<StartTime>	Time	Optional	This is a start time, the explicit meaning of which is implied by its parent or its usage. As used here, this would apply only when the <EffectiveDt> is not used.
<EndTime>	Time	Optional	This is an end time, the explicit meaning of which is implied by its parent or its usage. As used here, this would apply only when the <ExpirationDt> is not used.
<LocalStandardTimeInd>	Boolean	Optional	This indicates that the inception date is Local Standard Time (often also referred to as Local Time). This may be applicable to the policy, binder, coverage, etc. based on the context applicable to the element's use.
<DurationPeriod>	%MEASUREMENT	Optional	The length of time spanning from start date to end date measured in specific units.
<ContinuousInd>	Boolean	Optional	An indicator to show whether the duration is continuous or non-continuous.
<Description>	C-255	Optional	A text description the explicit meaning of which is implied by its usage. As used here, to describe a duration of a contract, policy, coverage, etc.
<GB.BothDaysInclusiveInd>	Boolean	Optional	This indicator is used to indicate that the policy period is defined in the policy as 'both days inclusive'. The only currently identified use for this tag is on professional liability policies applicable in Great Britain (GB).

Entities as Data Types - cont

8.2.2 Currency Entity (%CURRENCY)

The currency entity is used for all currencies within this business message specification.

Tag	Type	Usage	Description
@ConversionRateRef	Identifier Reference	Optional	This attribute is an identifier reference to a conversion rate.
<Amt>	Decimal	Required	The amount of money
<CurCd>	Open Enum	Optional	Currency Code. The applicable codes are defined by International Standards Organization (ISO-4217). As used here, this is the currency code in which this amount of money is indicated. When not indicated, the currency code is the specified default currency code for the business message. Revision History:

8.2.6 Measurement Entity (%MEASUREMENT)

The %MEASUREMENT entity is used to capture both a measurement and the unit of measurement for all tags with this data type. For instance, <BasementArea> would use this to show that the area is 250 square feet.

Tag	Type	Usage	Description
@ConversionRateRef	Identifier Reference	Optional	This attribute is an identifier reference to a conversion rate.
<NumUnits>	Decimal	Required	The number of units, the meaning of which is implied by its usage.
<UnitMeasurementCd>	Open Enum	Optional	This specifies the unit of measure for the number of units indicated above. This can hold such values as miles, miles per hour, horsepower, CC, inches, feet, meters, kilometers, etc. The code list used for values is owned by UNCEFACT (http://www.unece.org/cefact/rec/add2a.htm).

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Entities as Data Types - cont

8.2.4 Formatted Number Entity (%FORMATTEDNUMBER)

The %FORMATTEDNUMBER entity describes a number and applies a code to format. This is a generic number to provide some universality to numbers.

Tag	Type	Usage	Description
<FormatInteger>	Long	Required XOR	Whole numbers.
<FormatCurrencyAmt>	%CURRENCY	Required XOR	Currency value.
<FormatModFactor>	Decimal	Required XOR	Mod factor (example: 4.5).
<FormatPct>	Decimal	Required XOR	Decimal.

8.2.1 Binary Entity (%BINARY)

The Binary entity is used for binary data.

Tag	Type	Usage	Description
<ContentTypeCd>	Open Enum	Optional	Specified in IETF RFC 2046. Defined values: hex, base64. Default if not present: hex.
<BinLength>	Long	Required	Identifies the size of the binary data in number of bytes before encoding.
<BinData>	Raw Binary Data	Required	Encoded Binary data.

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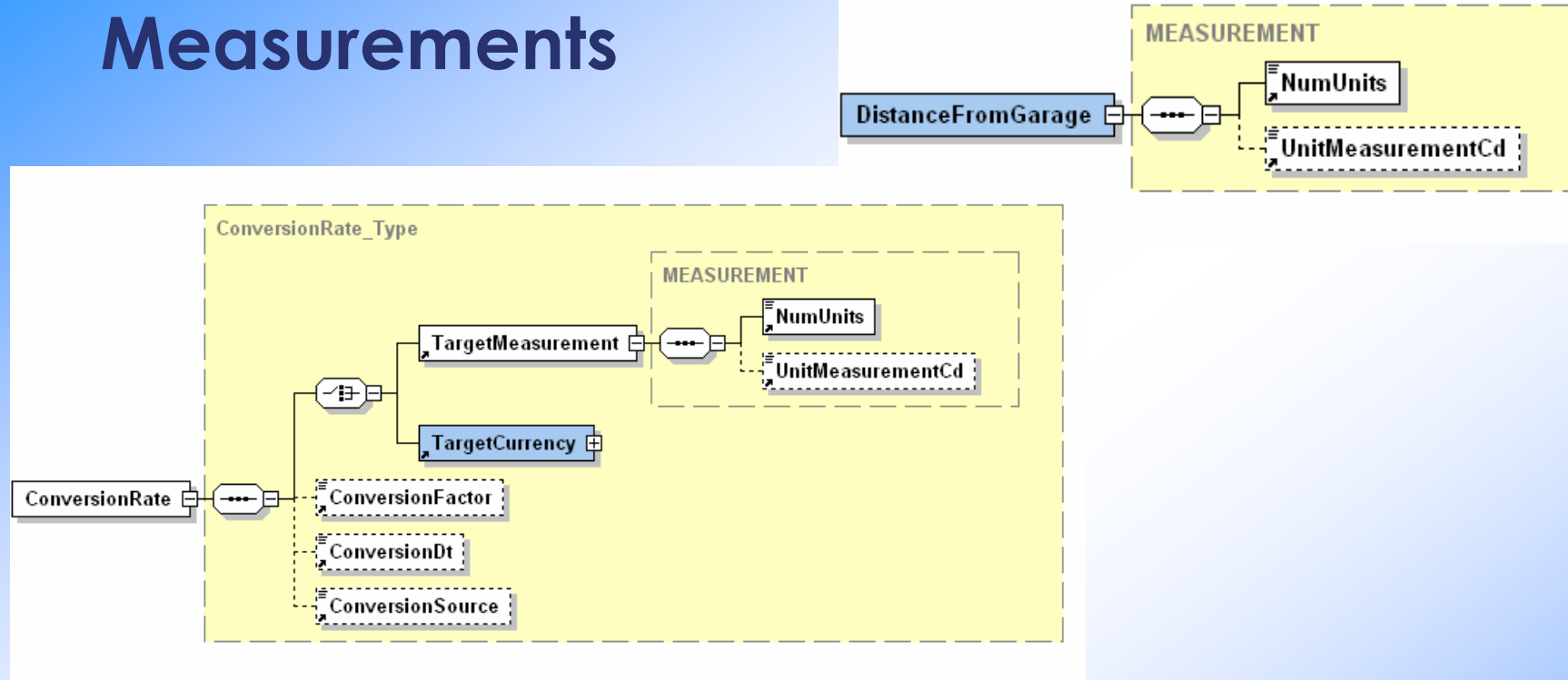
Measurements

<BldgArea>	%MEASUREMENT	Optional	The total area of this building, counting both stories above ground and basements. As used here, the expected measurement in the USA is square feet.
<BasementArea>	%MEASUREMENT	Optional	The total area of all the basements in this building. As used here, the expected measurement in the USA is square feet.

Using a Measurement

```
<ACORD>
      <SignonRq/>
      <InsuranceSvcRq>
            <RqUID>
             <HomePolicyAddRq>
                  <RqUID>
                   <CurCd>USD</CurCd>
                  <ConversionRate id="cvrate-foo">
                        <TargetMeasurement>
                              <NumUnits>202.5</NumUnits>
                                 <!-- Metric is hectare -->
                              <UnitMeasurementCd>HAR</UnitMeasurementCd>
                        </TargetMeasurement>
                        <ConversionFactor>0.405</ConversionFactor>
                  </ConversionRate>
                     ...
                  <HomeLineBusiness>
                        ...
                     <Dwell>
                           <LandArea ConversionRateRef="cvrate-foo">
                     <!-- units defaults to acres in US (ACR) -->
                                 <NumUnits>500</NumUnits>
                           <LandArea>
                     </Dwell>
                        ...
                  </HomeLineBusiness>
                     ...
             </HomePolicyAddRq>
            </InsuranceSvcRq>
</ACORD>
```
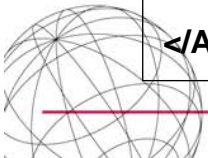
Number of Hectares when converted

New Unit of Measurement

Conversion Rate from Acres to Hectares

Measurement that references the conversion rate.

Number of Acres

ACORD®

Currency

<Precision>

Number of decimal places of conversion is calculated to
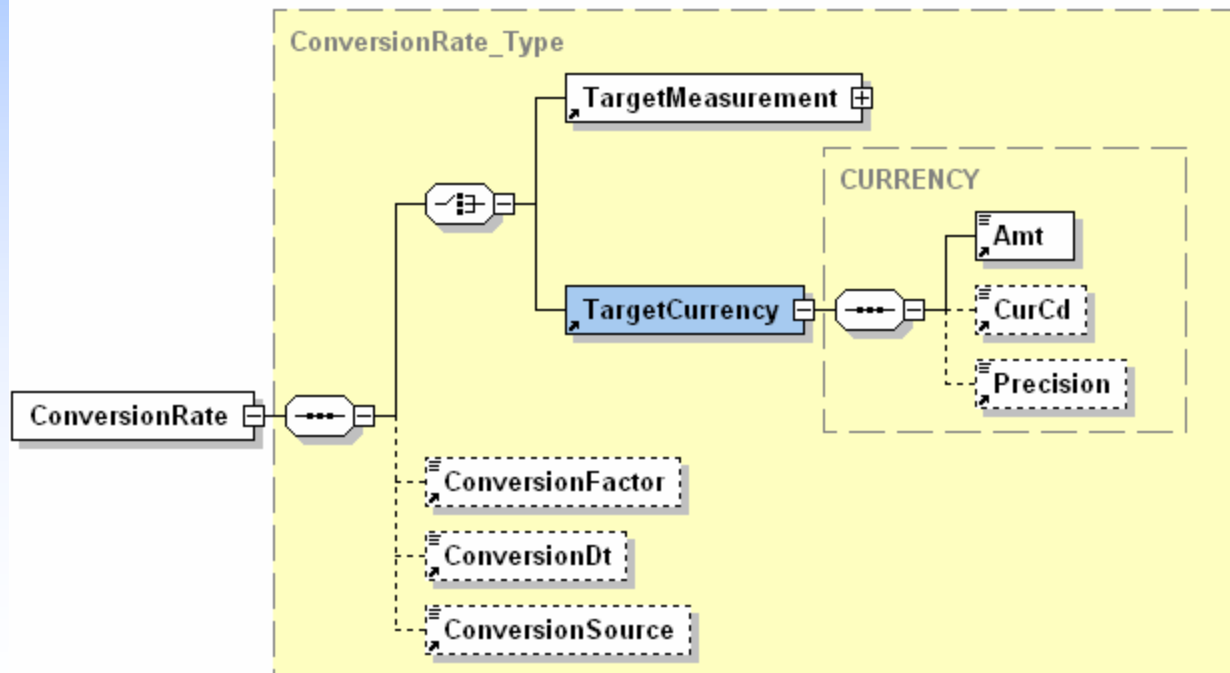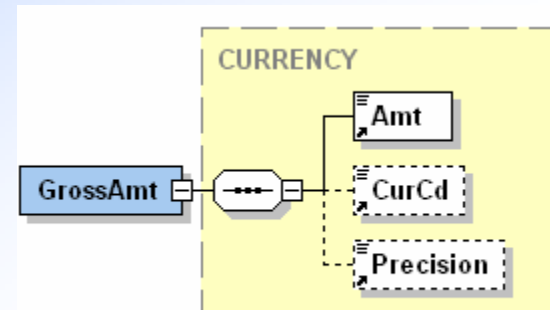
Using a Currency

```
<ACORD>
    <SignonRq/>
    <InsuranceSvcRq>
        <RqUID>
        <PersAutoPolicyAddRq>
            <RqUID>
                <!- ThisCurCd sets the default currency for all uses
                    of currency that don't specify a CurCd -->
            <CurCd>USD</CurCd>
            <ConversionRate id="cvrate-1">
                <TargetCurrency>
                    <CurCd>DEM</CurCd>
                    <Amt>1115</Amt>
                </TargetCurrency>
                <ConvesionFactor>2.23</ConversionFactor>
                <ConversionSource>NY Times</ConversionSource>
                <ConversionDt>2001-07-31</ConversionDt>
            </ConversionRate>
                ...
            <Coverage>
                ...
                <Deductible>
                    <FormatCurrencyAmt ConversionRateRef="cvrate-1">
                        <Amt>500</Amt>
                    <FormatCurrencyAmt>
                </Deductible>
                ...
            </Coverage>
                ...
        </PersAutoPolicyAddRq>
    </InsuranceSvcRq>
</ACORD>
```
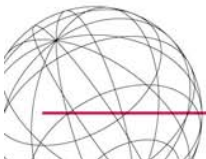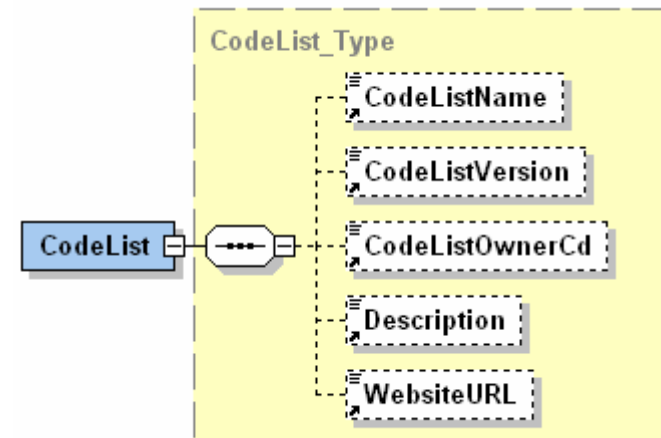
Default Currency Units

Conversion Rate - Dollars to Marks

Deductible References a conversion rate

Dollar Amount of Deductible

Code Lists and <CodeList> Aggregate

- **A code list is a lists of values**
  - ACORD maintained
  - Outside lists (ISO, Federal, State, etc.)
  - Company Unique
- **Sub Lists in Coverages & Coverage Options**
- **Extend/Override with SPX**

  or
- **Extend/Override with <CodeList> better to use SPX**

CodeList_Type

CodeList — CodeListName, CodeListVersion, CodeListOwnerCd, Description, WebsiteURL

Using a Code List

```
<ACORD>
    <SignonRq/>
    <InsuranceSvcRq>
        <RqUID>
        <PersAutoPolicyAddRq>
            <RqUID>
            <!- CurCd provdes th default CurCd  for any currencyamount
                that doesn't specify a local value -->
            <CurCd CodeListRef="myCurrency">$</CurCd>
            <CodeList id="myCurrency">
                <CodeListName>Dan's Currency Values</CodeListName>
                <CodeListVersion>1.0</CodeListVersion>
                <Description>US Dollars</Description>
            </CodeList>
            <ConversionRate id="cvrate-1">
                <TargetCurrency>
                    <CurCd>DE-MARKS</CurCd>
                    <Amt>1115</Amt>
                </TargetCurrency>
                <ConvesionFactor>2.23</ConversionFactor>
                <ConversionSource>NY Times</ConversionSource>
                <ConversionDt>20010731</ConversionDt>
            </ConversionRate>

            ...
            <Coverage>

                ...
                <Deductible>
                    <FormatCurrencyAmt ConversionRateRef="cvrate-1">
                        <Amt>500</Amt>
                    <FormatCurrencyAmt>
                </Deductible>

                ...
            </Coverage>

            ...
        </PersAutoPolicyAddRq>
    </InsuranceSvcRq>
</ACORD>
```

Reference to a <CodeList> element that describes the value of the code I have used

A description of the code list that I'm using instead of the standard currency code list

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Conclusion – Data Types

- **Simple Data Types**
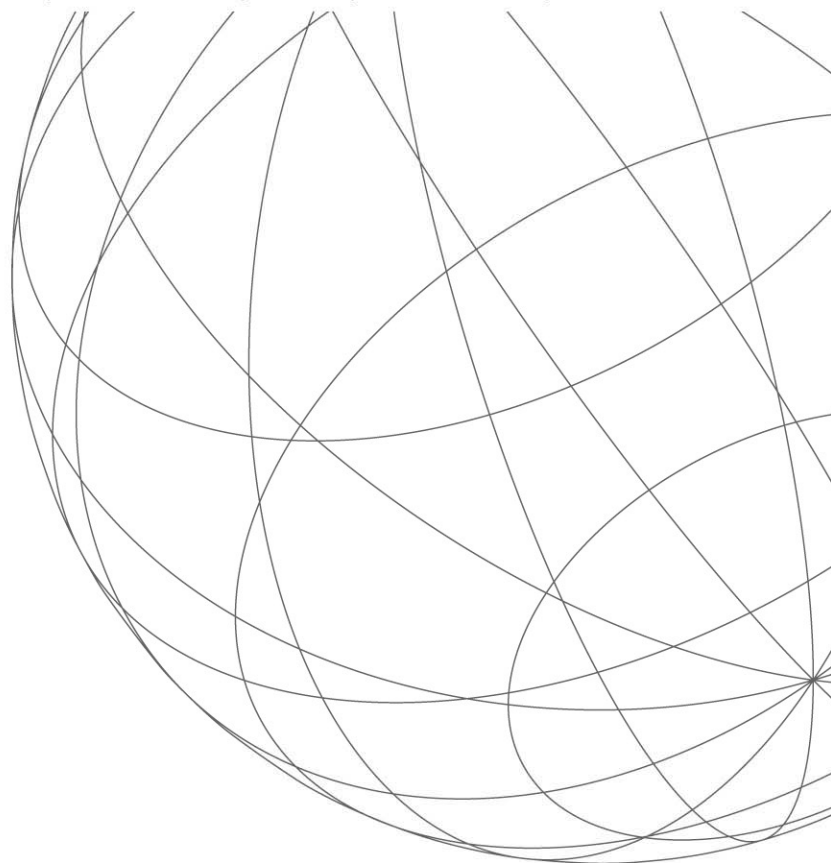
- **Complex Data Types**

- **Measurement**

- **Currency**

- **<CodeList>**

ACORD
P&C/Surety XML
Naming Conventions

Mark Orlandi

Agenda – Naming Conventions

- **Chapter 4 Overview**

- **General Naming Rules**

- **Message Naming Rules**

- **Standard Abbreviations**

- **Non-Abbreviations**

- **Custom Tag Names**

- **Code Lists & Code Values**

Chapter 4 - Overview

- **Type Column**

- **Usage Column**

- **Naming Rules**

  - **General**

  - **Tag Names**

  - **Codes**

- **Extension & Customization**

- **Mandatory & Optional Elements**
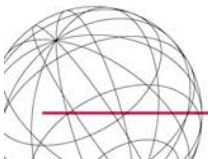
- **Rules For Data Content**

General Naming Rules – (Elements/Tag Names)

- **Should be designed for clarity - readable**
- **Mixed Case (a.k.a. Camel Case)**
  - **ex. PersAutoQuoteInqRq**
  - **Always start with a capital letter.**
- **Must be Unique regardless of case**
  - **<Policy> vs. <POLICY>**
    - **W3C allows this - ACORD does NOT!**
    - **XML is case-sensitive**
  - **No names the same between Entities, Aggregates, or Elements/Tags, etc.**
- **Must follow standard abbreviations when possible**

Message Naming Rules

- **Message names end with "Rq" or "Rs"**

- **Message names are constructed in the follow way:**

  - **Line Of Business name – Personal/Comml Auto**

  - **Object name – Policy, Quote, etc.**

  - **Property name - Inquiry**

  - **Method name – Add, Modify**

  - **Direction – Request or Response**

    - **Example: <PersAutoPolicyAddRq>**

ACORD®

Standard Abbreviations

- Acct - account
- Addr - address
- App - application
- Amt - amount
- Avg - average
- Bldg - building
- Cd - code
- Comml - commercial
- Cur - currency
- Desc - description
- Dt - date
- Dwell - dwelling
- EC - extended coverage
- Exp - expiration
- Id - identifier

- Ind - indicator (Boolean)
- Info - information
- Inq - inquiry
- LOB - line of business
- Misc - miscellaneous
- Msg - message
- Multi - multiple
- Op - option
- Pct - percentage
- Pers - personal
- Pkg - package
- Pref - preferences
- Prov - province
- Prem - premium

- Prod - product
- Ref(s) - reference(s) (attribute)
- Res - resident
- Rq - request
- Rs - response
- Sess - session
- Svc - service
- Sync - synchronization
- UUID - universally unique identifier
- Veh - vehicle
- WorkComp - workers compensation

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Don't Abbreviate

- Accessory
- Additional
- Anniversary
- Basic
- Bond
- Connection
- Construction
- Contract
- Contractors
- Coverage
- Discount
- Distance
- Driver
- Equipment
- ErrorsAndOmmisions
- Estimated
- History

- Individual(s)
- Insurance
- Interest
- Interior
- License
- Watercraft
- Year(s) or Yrs
- Schedule
- Territory
- Total
- Transaction
- Location
- Material
- Maximum
- Number or Num
- Permanent

- Policy
- Premium or Prem
- Quote
- Rate
- Rating
- Reinstatement
- Resident

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Naming Rules – Custom Tags (Part 1)

- **Names should be based on established naming conventions and use a name to designate the organization that developed the tag.**

- **All custom tag names must have a company specific prefix**
  - **Avoids potential collisions with ACORD names or other trading partner custom tags**
  - **SPXPrefix is how this is referred to in the spec**
    - ▶ **Reverse Domain name and add an Underscore**
    - ▶ **Example: ABC Corporation's would use**
      - – **Domain name: ABC.com**
      - – **Prefix that must be used: com.ABC_**
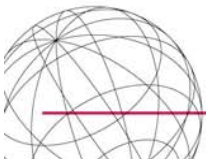   - ✓ **<com.ABC_YourTagNameHere>**

Naming Rules – Custom Tags (Part 2)

- **Refer to Chapter 14 (SPX) for more details**
- **Note: This was developed before Schemas were released and there was a good way to use Namespaces. This value works like a namespace prefix, but it is unique to ACORD.**

Codes - Code List Values

- **Should be Mixed (Camel) Case - Always begin with a capital letter**
- **Should be mnemonic, but some situations a numeric value is best (for example deductibles or limits)**
  - **Place most descriptive word first**
    - ▶ **"RoofType" vs. "TypeOfRoof"**
- **Must not include:**
  - **Spaces**
    - ▶ **"AlarmType" not "Alarm   Type"**
  - **Non-alphanumeric characters**
  - **Punctuation Characters like: % & _ - . , ; :**
- **Must not end with:**
  - **CodeList**
  - **Code**
  - **List**

Conclusion – Naming Conventions

- **Chapter 4 Overview**

- **General Naming Rules**

- **Message Naming Rules**

- **Standard Abbreviations**

- **Non-Abbreviations**

- **Custom Tag Names**

- **Code Lists & Code Values**
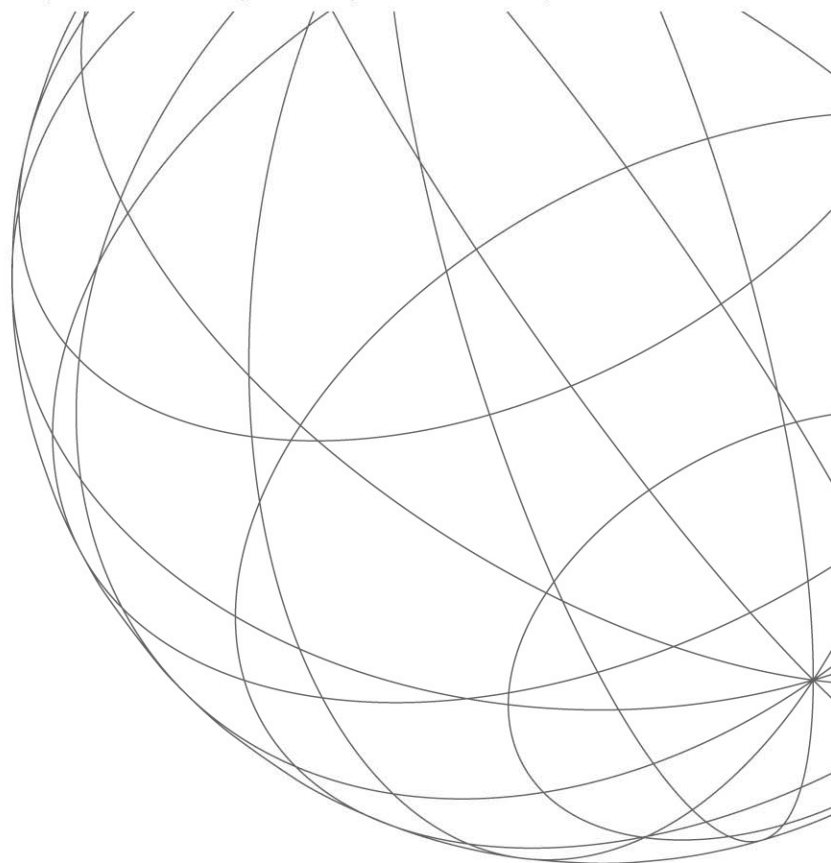
ACORD P&C/Surety XML Framework

Mark Orlandi

ACORD **Insurance Data Standards**
Life & Annuity • P&C • Reinsurance

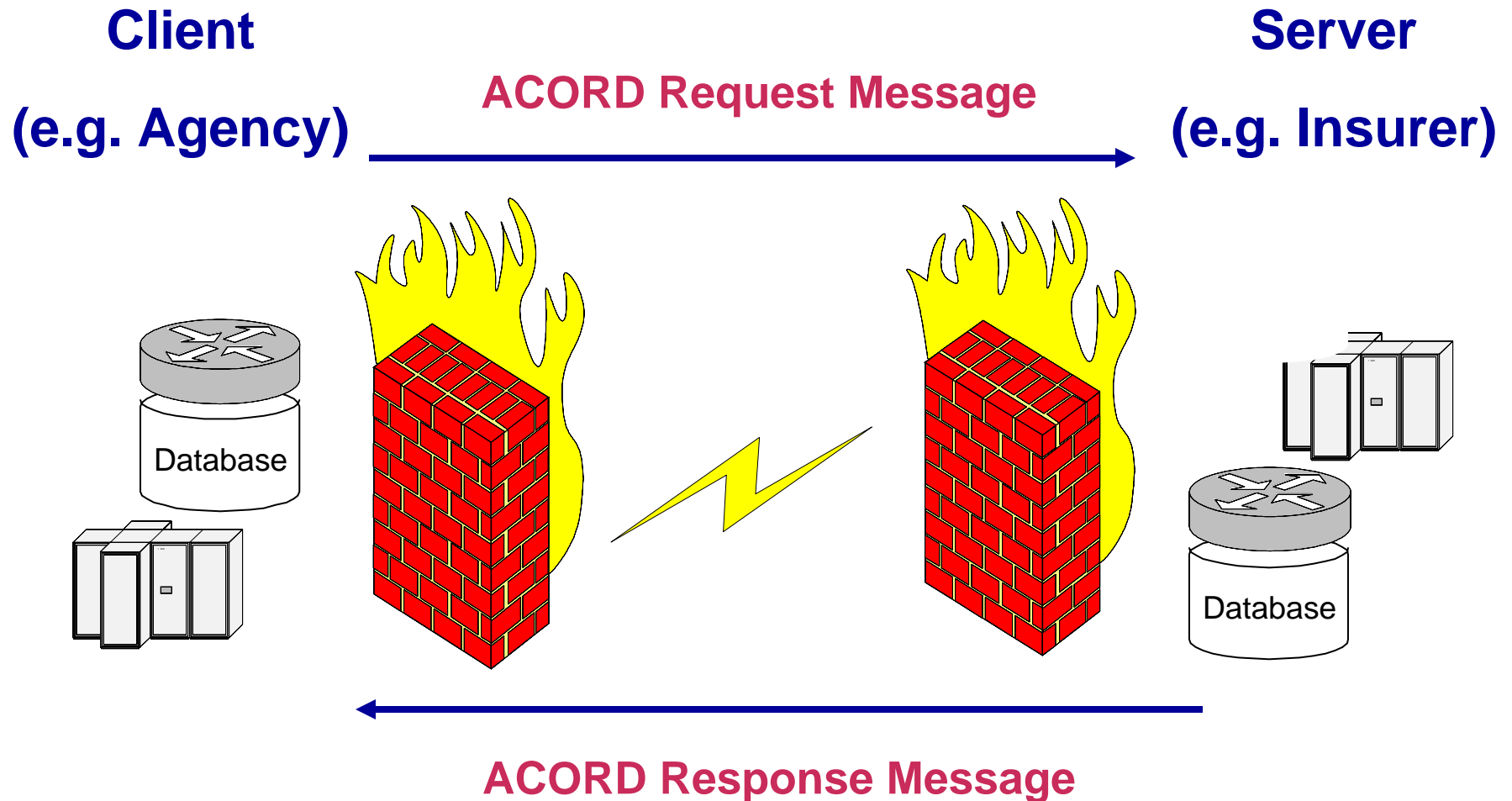nonprofit • industry developed • solution provider neutral

Agenda – Framework

- **Processing Environment**

- **Request / Response Model**

- **Message Status**

- **Error Management**

- **Extended Status**

- **Changed Element Process**

- **Pending Response**

- **Modification Messages**

- **Sign-On / Sign-Off**

Processing Environment

Client

(e.g. Agency)

ACORD Request Message

Server

(e.g. Insurer)

Database

Database

ACORD Response Message

Data Stream or Document

XML Document - Request

```
<?xml version='1.0' encoding='UTF-8'?>
<?ACORD version="1.0.0" ?>
<!DOCTYPE ACORD
     PUBLIC "-//ACORD/DTD ACORD 1.0.0//EN"
     "http://www.ACORD.org/ACORD1.0.0/xml/ACORD.dtd">
```

ACORD

> Signon Request

> Service Request *
>> Request UID
>> xxx LOB Request *

> Signoff Request ?

XML Document - Response

```
<?xml version='1.0' encoding='UTF-8'?>
<?ACORD version="1.0.0" ?>
<!DOCTYPE ACORD
     PUBLIC "-//ACORD/DTD ACORD 1.0.0//EN"
     "http://www.ACORD.org/ACORD1.0.0/xml/ACORD.dtd">
```

ACORD

> Status ?
> Signon Response

> Service Response*
>> Status ?
>> Request UID
>> xxx LOB Response *

> Signoff Response ?

Framework vs. Business Data

Chapter 5

```
<ACORD>
    <SignOnRq>
    <BaseService/>
    <ExtensionsService/>
    <InsuranceService>


    </InsuranceService>
    <SuretyService>


    </SuretyService>
    <ClaimsService>


    </ClaimsService>
</ACORD>
```
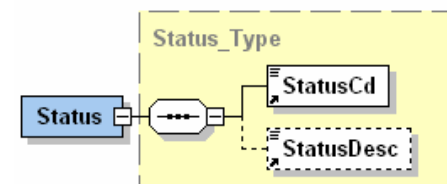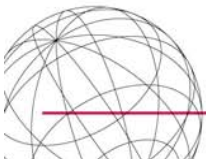
Chapters 9-14

```
<InsuranceMessages/>


<SuretyMessages/>


<ClaimsMessages/>
```

Request / Response Model

- **Server not allowed to send anything without a request from Client**

- **One or many messages allowed per XML stream or Document**
  - **Can mix any combination of Request Messages from any combination of Services:**
    - **Accounting**
    - **Base**
    - **Claims**
    - **Common**
    - **Extensions**
    - **Insurance**
    - **Surety**
  - **Can mix personal lines with commercial lines**
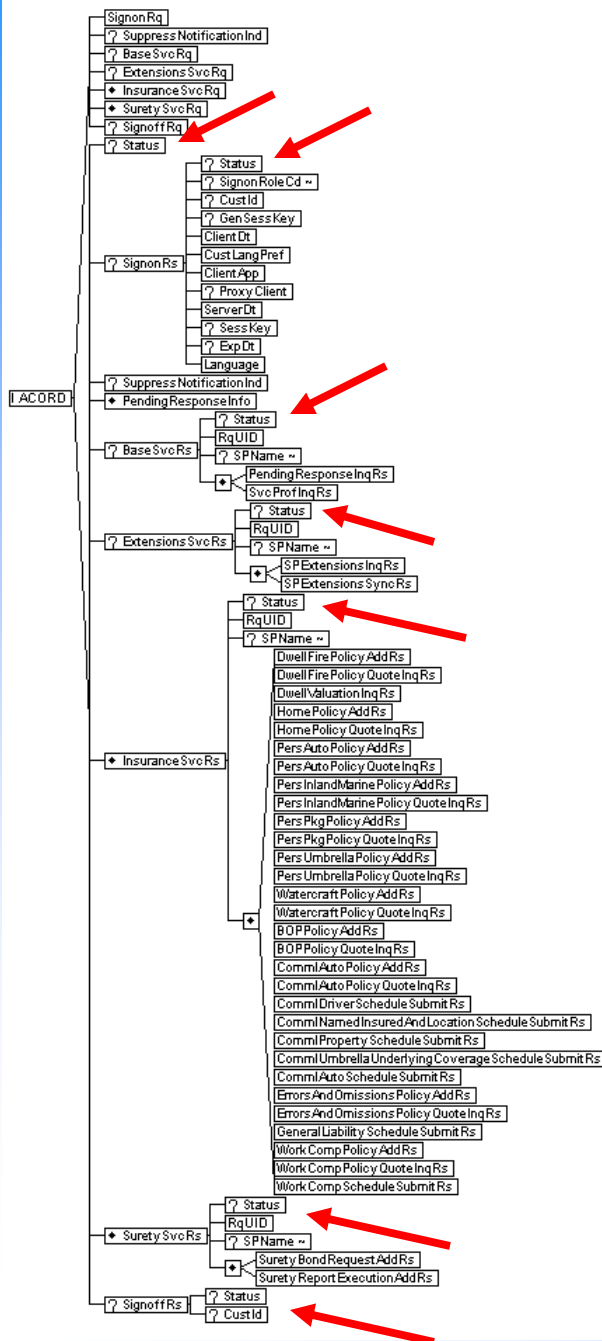
- **Keep in mind Pending Response Process and possible complexity**

Service and Stream Level - Status

Code Value	Code Description	Severity	Condition
0	Success	Info	The service provider successfully processed the request.
1000	Duplicate <RqUID>	Error	A request with this client message identifier <RqUID> has already been received and processed.
1360	<SPName> Invalid	Error	The Service Provider name specified in a request was not found or is invalid
1380	<SPName> within <CustId> is invalid	Error	The Service Provider Name specified within a customer identification aggregate is invalid.
1420	<CustId> invalid	Error	The customer identifier <CustId> specified is invalid or not found.
1600	<EncryptionType> not valid	Error	<EncryptionType> not valid or not supported.
1620	No <SPName>	Error	Ambiguous request, <SPName> required
1740	Authentication Failed	Error	The client could not be authenticated due to an incorrect login ID or password.
1800	Service Not Authorized For Client	Error	Customer is not eligible to use this service. (I.e. Insurance or Surety)
1820	Client Session Already In Progress	Error	The service provider supports only one session at a time per customer and there is already an active session for this <CustId>. Please try again later.
1840	No Client Session In Progress	Error	The specified client does not have a session in progress.
1880	Client Locked Out	Error	The service provider has received too many failed authentication attempts for this client or has detected other suspicious activity. Please call the technical support telephone number.
1900	Password Change Required	Warn	The Logon is successful but the client must enter a new password before any other messages will be allowed.
1910	Must Change Password	Error	The client must change their password before any other messages will be allowed. [This means the password has expired or is invalid. We will not continue any processing.]
1980	Unsupported Application ID	Error	The service provider does not support messages from the client application identified by <ClientApp>.
2760	Invalid Language Code	Error	The service provider does not support the specified language or the language code is not valid in International Standards Organization 639.
300	System Not Available	Error	The service provider for this transaction is not available due to a technical problem. Try again later. This code should only be used at the Root level in conjunction with a server failure.
351	Service Not Available	Error	ACORD: The service selected is not available. Try again later.
500	Unsupported Service	Error	The service provider does not support the specified service offering.

Status Locations

```xml
<?xml version='1.0' encoding='UTF-8'?>
<?ACORD version="1.0.0" ?>
<!DOCTYPE ACORD
        PUBLIC "-//ACORD/DTD ACORD 1.0.0//EN"
        "http://www.ACORD.org/ACORD1.0.0/xml/ACORD.dtd">
<ACORD>
        <Status>
                <StatusCd>
        </Status>
        <SignonRs>
                <Status>
                        <StatusCd>
                </Status>
        </SignonRs>
        <InsuranceSvcRs>
                <Status>
                        <StatusCd>
                </Status>
                <RqUID>
                <PersAutoPolicyAddRs>
                        <MsgStatus>
                                <MsgStatusCd>
                        </MsgStatus>
                        <RqUID>
                        …
                </PersAutoPolicyAddRs>
                <BOPPolicyAddRs>
                        <MsgStatus>
                                <MsgStatusCd>
                        </MsgStatus>
                        <RqUID>
                        …
                </BOPPolicyAddRs>
        </InsuranceSvcRs>
        <SuretySvcRs>
                <Status>
                        <StatusCd>
                </Status>
                <RqUID>
                …
        </SuretySvcRs>
</ACORD>
```
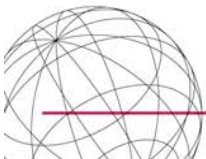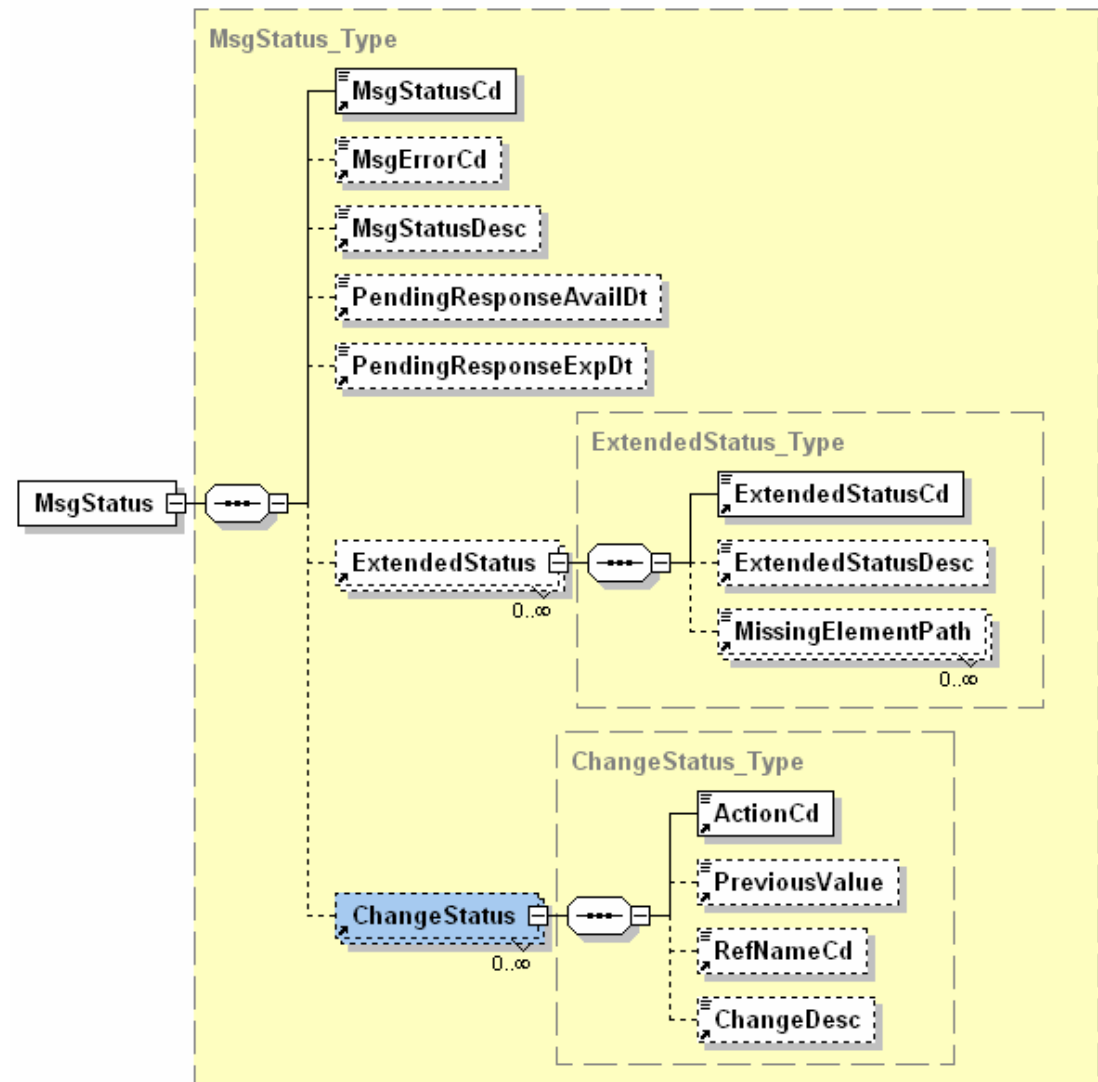
Top Level Status Information

Sign on Level Status Information

Service 1 Status Information

Transaction 1 Message Status Information

Transaction 2 Message Status Information
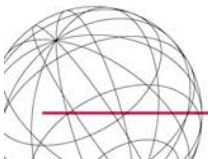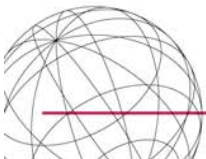
Service 2 Status Information

Business Message Level - Error Management

- **Message Status**
- **File Based Error Recovery**

Message Status Codes

- **MsgStatusCd** (applies to specific message)
  - **Error** - invalid data
  - **Rejected** - refuse to add policy, unable to complete for business reasons
  - **ResponsePending** - future processing
  - **Success** - processed exactly as sent
  - **SuccessWithChanges** - changes in data
  - **SuccessWithInfo** - may include changes as well as request for more info

Extended Status

- **Additional information about the Message Status code**
- **Points directly to the data element**
  - **Uses XPath notation**

Code Value	Code Description
DataInvalid	The value(s) of the data element(s) identified are not valid for this message. See the descriptions of idrefs, \<MissingElementPath\>, and \<ExtendedStatusDesc\> for more information on identifying the data. The \<MsgStatusCd\> must be Error to use this code.
DataMissing	The data element(s) identified were missing from the stream and are required for this message. See the descriptions of idrefs, \<MissingElementPath\>, and \<ExtendedStatusDesc\> for more information on identifying the data. The \<MsgStatusCd\> must be Error to use this code.
VerifyDataAbsence	The data element(s) identified were absent from the stream. This is alerted as an unusual condition and may warrant action from the user to confirm the absence of data was correct or incorrect. (Note that since this is a "Success" code, the message was successfully processed. Service providers must not use this to indicate a required action on the part of the client.) See the descriptions of idrefs, \<MissingElementPath\>, and \<ExtendedStatusDesc\> for more information on identifying the data. The \<MsgStatusCd\> must be SuccessWithInfo to use this code.
VerifyDataValue	The data element(s) identified have a suspect value. This is alerted as an unusual condition and may warrant action from the user to confirm the value of data was correct or incorrect. (Note that since this is a "Success" code, the message was successfully processed. Service providers must not use this to indicate a required action on the part of the client.) See the descriptions of idrefs, \<MissingElementPath\> and \<ExtendedStatusDesc\> for more information on identifying the data. The \<MsgStatusCd\> must be SuccessWithInfo to use this code.

Changed Element Process

- **Sometimes the server can make changes to the data. Examples:**
  - **Auto - rated driver was the father, but it should have been the teenage son**
  - **Wrong territory code**
- **Quotes are embedded in the data**
- **Standard way to indicate these changes**
  - **Based upon XPath notation**

Changed Element

```
<ACORD>
 <SignonRs/>
 <InsuranceSvcRs>
  <RqUID>f81d4fae-7dec-11d0-a765-00a0c91e6bf6</RqUID>
  <PersAutoPolicyQuoteInqRs>
   <RqUID>f81d4fae-7dec-11d0-a765-01a0c61f6bd5</RqUID>
   <TransactionResponseDt>2001-09-13T9:30:00.000-5:00</TransactionResponseDt>
   <CurCd>USD</CurCd>
      <MsgStatus/>
    <Producer>
     ...
       <PhoneNumber id="p1">
         518-5559876
       </PhoneNumber>
     ...
       <OtherGivenName id="p2">
         Griscom
       </OtherGivenName>
      <TitlePrefix>Ms.</TitlePrefix>
      <NickName>Betsy</NickName>
     </PersonName>
    ...
 </InsuredOrPrincipal>
 <PersPolicy>
  <LOBCd>AUTOP</LOBCd>
  <QuoteInfo id="q1">
    <CompanysQuoteNumber>
           AB-234u548
    </CompanysQuoteNumber>
    <InsuredFullToBePaidAmt>
     <Amt>50000</Amt>
    </InsuredFullToBePaidAmt>
   </QuoteInfo>
    ...
</ACORD>
```

```
<MsgStatus>
 <MsgStatusCd>SuccessWithChanges</MsgStatusCd>
    <ChangeStatus IdRef="p1">
       <ActionCd>T</ActionCd>
       <PreviousValue>+1-518-
5559876</PreviousValue>
    </ChangeStatus>
    <ChangeStatus IdRef="p2">
       <ActionCd>D</ActionCd>
       <ChangeDesc>Deleted the value</ChangeDesc>
    </ChangeStatus>
    <ChangeStatus IdRef="q1">
       <ActionCd>A</ActionCd>
       <ChangeDesc>Added the quote info as well as
                   subelements of the quote
                   information</ChangeDesc>
    </ChangeStatus>
</MsgStatus>
```

Missing Information

```
<ACORD>
 <SignonRs/>
 <InsuranceSvcRs>
  <RqUID>f81d4fae-7dec-11d0-a765-00a0c91e6bf6</RqUID>
   <PersAutoPolicyQuoteInqRs>
   <RqUID>f81d4fae-7dec-11d0-a765-01a0c61f6bd5</RqUID>
   <TransactionResponseDt>2001-09-13T9:30:00.000-5:00</TransactionResponseDt>
   <CurCd>USD</CurCd>
    <MsgStatus/>
   <Producer>
    ...
     <Communications>
      <PhoneInfo>
       <PhoneNumber id="p1">518-5559876</PhoneNumber>
      </PhoneInfo>
     </Communications>
    ...
   </Producer>
    <InsuredOrPrincipal>

      ...
     <GeneralPartyInfo>

       <NameInfo>
      <PersonName>
       <Surname>Ross</Surname>
       <GivenName>Elizabeth</GivenName>
       <OtherGivenName id="p2">Griscom</OtherGivenName>
       <TitlePrefix>Ms.</TitlePrefix>
       <NickName>Betsy</NickName>
      </PersonName>
     ...
     </InsuredOrPrincipal>

     <PersPolicy>
     <LOBCd>AUTOP</LOBCd>
     <QuoteInfo id="q1">
      <CompanysQuoteNumber>AB-234u548</CompanysQuoteNumber>
      <InsuredFullToBePaidAmt>
       <Amt id="q4">50000</Amt>
      </InsuredFullToBePaidAmt>
     </QuoteInfo>
      ...
     </PersPolicy>
    ...
   </PersAutoPolicyQuoteInqRs>
 </InsuranceSvcRs>

</ACORD>
```

```
<MsgStatus>
  <MsgStatusCd>SuccessWithInfo</MsgStatusCd>
   <ExtendedStatus>
    <ExtendedStatusCd>DataMissing</ExtendedStatusCd>
    <ExtendedStatusDesc>Carrier requires this
        info before we can accept the policy based upon
        this quote.</ExtendedStatusDesc>
    <MissingElementPath>
        InsuredOrPrincipal/InsuredOrPrincipalInfo/PersonInfo
    </MissingElementPath>
   </ExtendedStatus>
</MsgStatus>
```

Insert an InsuredOrPrincipalInfo/PersonInfo here in the structure and all its subelements.

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Pending Response

- **MsgStatus Code of ResponsePending**

- **PendingResponseInfo sent in Response messages**

- **SuppressNotificationInd to suppress standard notification mechanisms**
  - **Send a SignonRq to generate a SignonRs that might contain PendingResponseInfo**

- **Each Pending Message will have a PendingResponseInfo block until retrieved or it expires**

- **Client in control**

Pending Response Flow

Client

1) Monday, Sends one document with 5 messages:
   - PersAutoQuoteRq
   - PersAutoQuoteRq
   - ClaimsNotificationRq
   - DwellFirePolicyModRq
   - DwellFirePolicyAddRq

2) Monday, Receives Response and sends quotes to customer.

3) Tuesday, Send new document with one quote request and SuppressNotification = true.

4) Tuesday, Receive quote response, send to customer.

5) Wednesday, Ready to process backlog, send SignonRq, with no other content.

6) Wednesday, receive list of ready messages. Send PendingResponseInqRq for ClaimsNotificationRs only.

7) Wednesday, receive ClaimsNotification information and status of other message.

8) Thursday, Send PendingResponseInqRq for DwellFirePolicyModRs and DwellFirePolicyAddRs.

9) Thursday, Process results.

Server

1) Monday, Receives one document with 5 messages and forms the following response (1 document):
   - PersAutoQuoteRs - Success
   - PersAutoQuoteRs - Sucess
   - ClaimsNotificationRs - PendingResponse
   - DwellFirePolicyModRs – PendingResponse
   - DwellFirePolicyAddRs – PendingResponse

2) Monday, later in day ClaimsNotificationRs and DwellFirePolicyModRs now ready.

3) Tuesday, Answer new quote request, no notifications sent.

4) Wednesday, Process empty SignonRq and send Pending status information for ClaimsNotificationRs and DwellFirePolicyModRs.

5) Wednesday, a little later DwellFirePolicyAddRs is ready, but client doesn't know about it.

6) Wednesday, Receive PendingResponseInqRq for ClaimsNotificationRs. Form the PendingResponseInqRs with ClaimsNotificationRs and add information about the availability of the DwellFirePolicyAddRs.

7) Thursday, Receive PendingResponseInqRq for DwellFirePolicyModRs and DwellFirePolicyAddRs. Form the PendingResponseInqRs with DwellFirePolicyModRs and DwellFirePolicyAddRs.
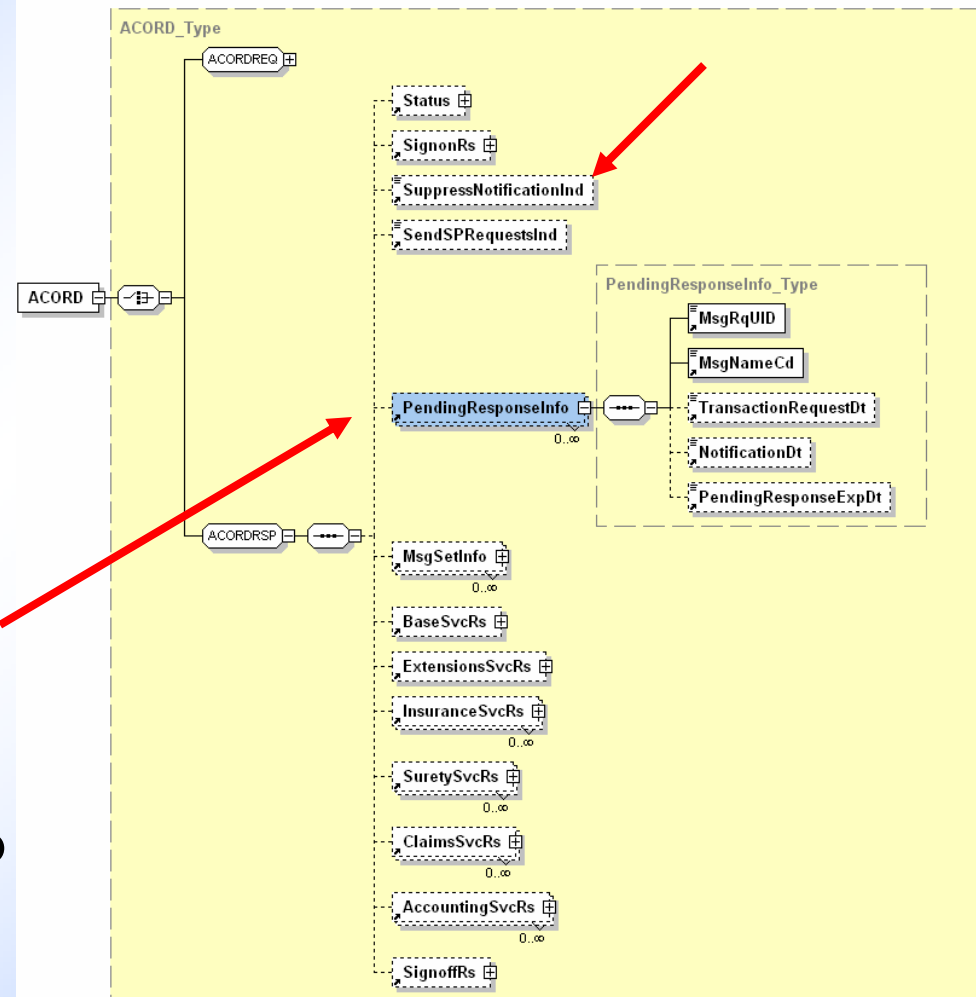
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Pending Response Information
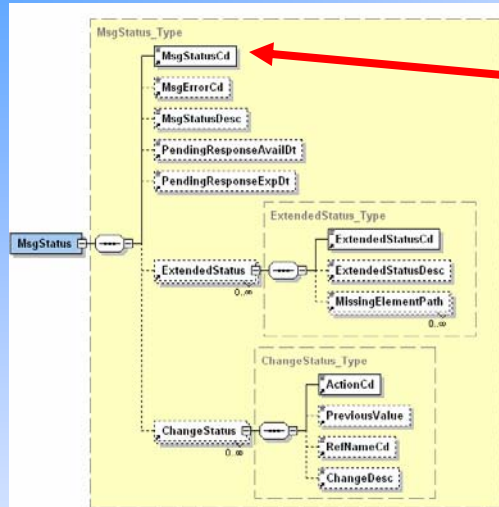
'ResponsePending'
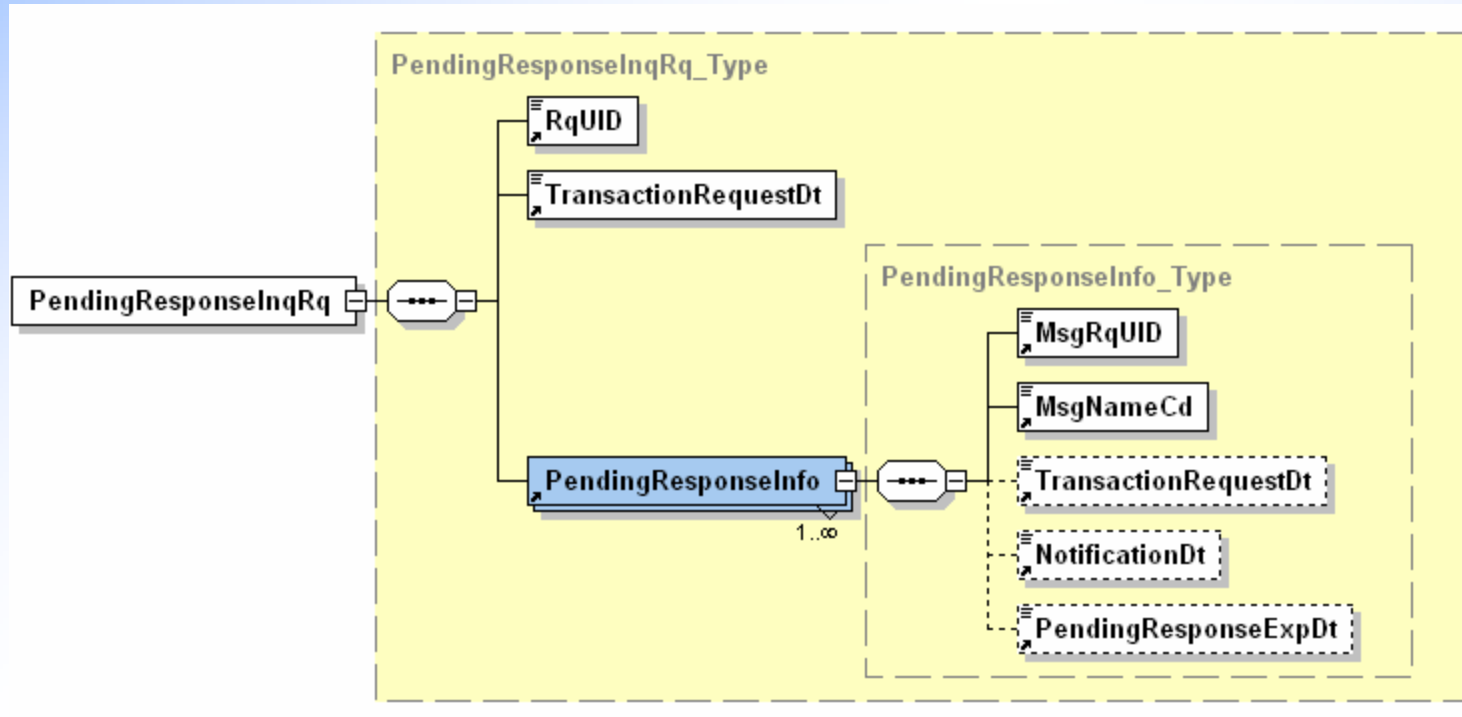
1) Response comes back with a <MsgStatusCd> of 'ResponsePending'.

2) A later Response to any Request from the Client, the server will send the <PendingResponseInfo> to indicate it is available.
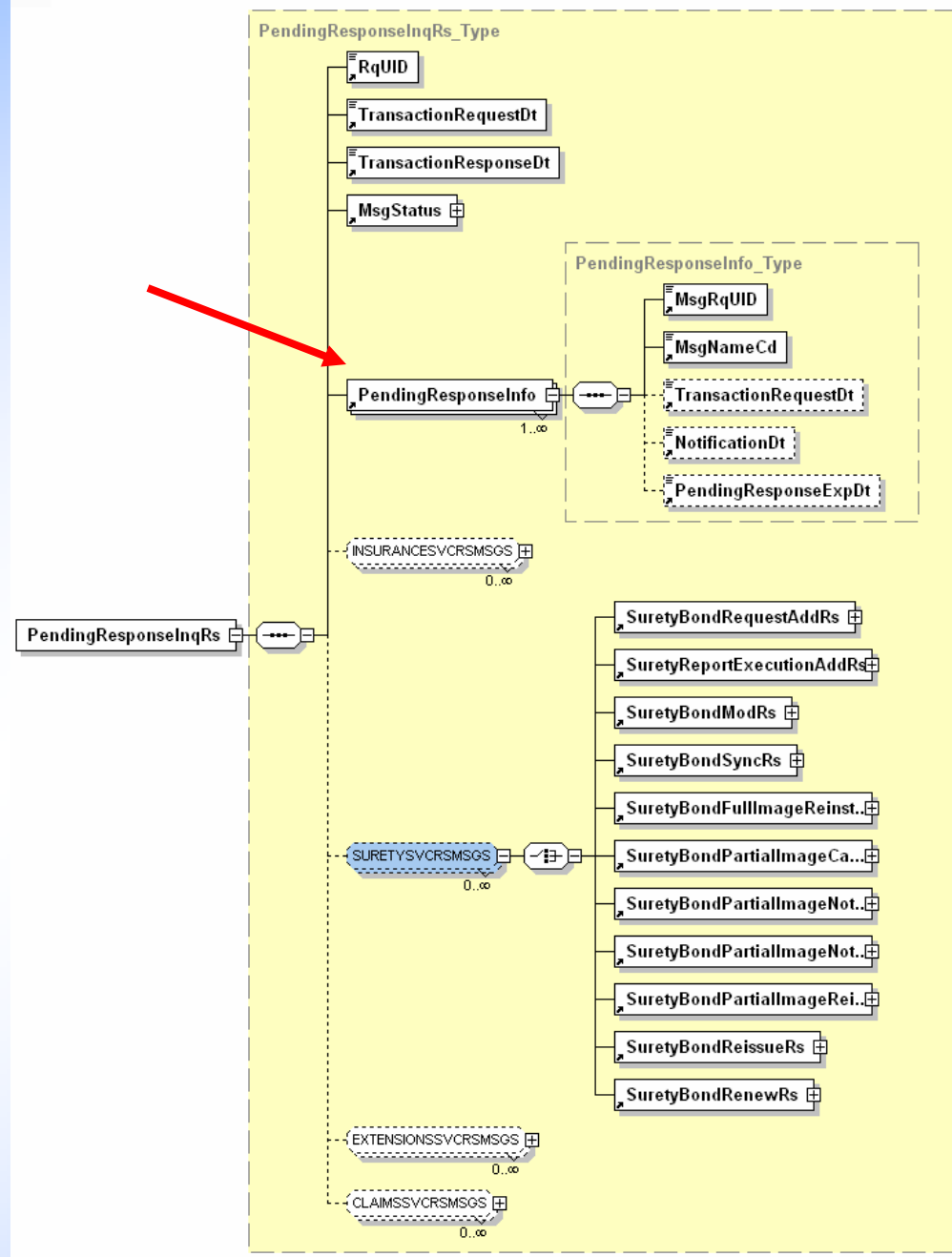
Pending Response Inquiry Request

**You know the information is available and when it will expire
on the server so, you send the request to retrieve that information**

Pending Response Inquiry Response

Pending Response Response (one for each Request sent) is returned, possibly with additional <PendingResponseInfo>

Modification Process "Mods"

- **Policy Change / Endorsement Processing**
- **Examples:**
  - **Add a car/driver/coverage**
  - **Correct the policyholder's date of birth**
- **Uses <ModInfo> Aggregate with IDRef in <u>Request</u> Messages**
  - **<ActionCd>**
  - **<PreviousValue>**
  - **<ChangeDesc>**
- **See example**

<ModInfo>

```xml
</ACORD>
 <InsuranceSvcRq>
   <RqUID>f81d4fae-7dec-11d0-a765-00a0c91e6bf6</RqUID>
   <PersAutoPolicyModRq>
   <RqUID>f81d4fae-7dec-11d0-a765-01a0c61f6bd5</RqUID>
   <TransactionRequestDt>2001-08-02T9:30:00.000-5:00</TransactionRequestDt>
   <CurCd>USD</CurCd>
   <ModInfo IdRef="BD1">
   <!-- This attribute reference 'points' to the tag with an id attribute of 'BD1'.
          Locate the tag BirthDt below for this attribute. -->
     <ActionCd>M</ActionCd><!-- Modify Element -->
     <PreviousValue>1776-07-04</PreviousValue>
     <ChangeDesc>Corrected named date of birth from 1776-07-04 to 1976-07-04</ChangeDesc>
   </ModInfo>
   ...
     <PersAutoLineBusiness>
       <PersDriver id="D100">
       <GeneralPartyInfo>
        <NameInfo>
          <PersonName>
            <Surname>Ross</Surname>
            <GivenName>Elizabeth</GivenName>
          </PersonName>
         </NameInfo>
       </GeneralPartyInfo>
       <DriverInfo>
       <PersonInfo>
          <GenderCd>F</GenderCd> <!-- Female -->
          <BirthDt id="BD1">1976-07-04</BirthDt>
          <OccupationDesc>Fabric Engineer</OccupationDesc>
       </PersonInfo>
      ...
     </PersAutoLineBusiness>
    </PersAutoPolicyModRq>
  </InsuranceSvcRq>
</ACORD>
```

<ModInfo IdRef="BD1">

<BirthDt id="BD1">1976-07-04</BirthDt>

Note:
The id BD1 did not exist in the original Request, this was added to the response so the change could be pointed to.

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Notify Vs. Submission Messages

- **Refer to Section 5 (v 1.2.0 release)**
- **Submission messages begin as client requests for the server to do something**
  - **Ex. Quote, New Business, Policy Change**
- **Notification messages are statements of an action previously taken**
  - **Ex. Automated Renewals**
- **Two Types Of Notify Messages**
  - **Update**
  - **Replace**
    - ▶ **Empty tags have meaning and are allowed (the exception)**
    - ▶ **Can only be used with DTD due to schemas handling of empty tags**

Miscellaneous Items

- **Whitespace matters in Elements**
- **Response "echos" the Request**
  - **SuppressEcho in SignonRq - may not be honored by server**
  - **Required for Changed Element process**
- **Namespaces not allowed in ACORD XML streams (previously a v1.0.0 requirement)**
  - **Now with Schemas you may start to see them used**

Security - optional in design

- **Sign on Message**
  - **Sign on Certificate**
  - **Transport Certificate**
  - **Session Key**
  - **Customer ID and Password**

- **Client Information (Required)**
  - **DateTime on Client System**
  - **Language Preferences**
  - **Application information - Vendor, product name, version**

Sign on Request/Response
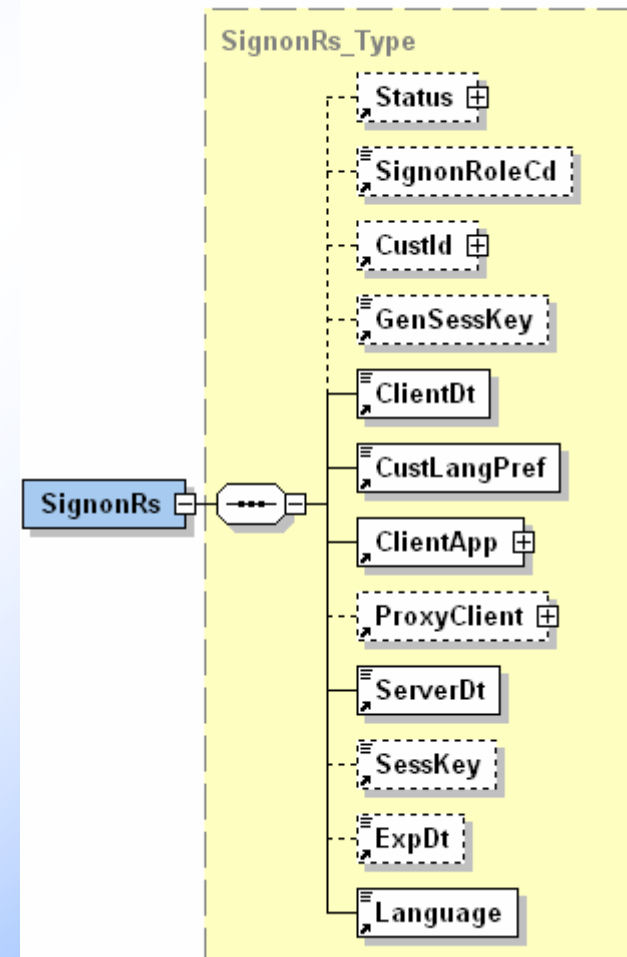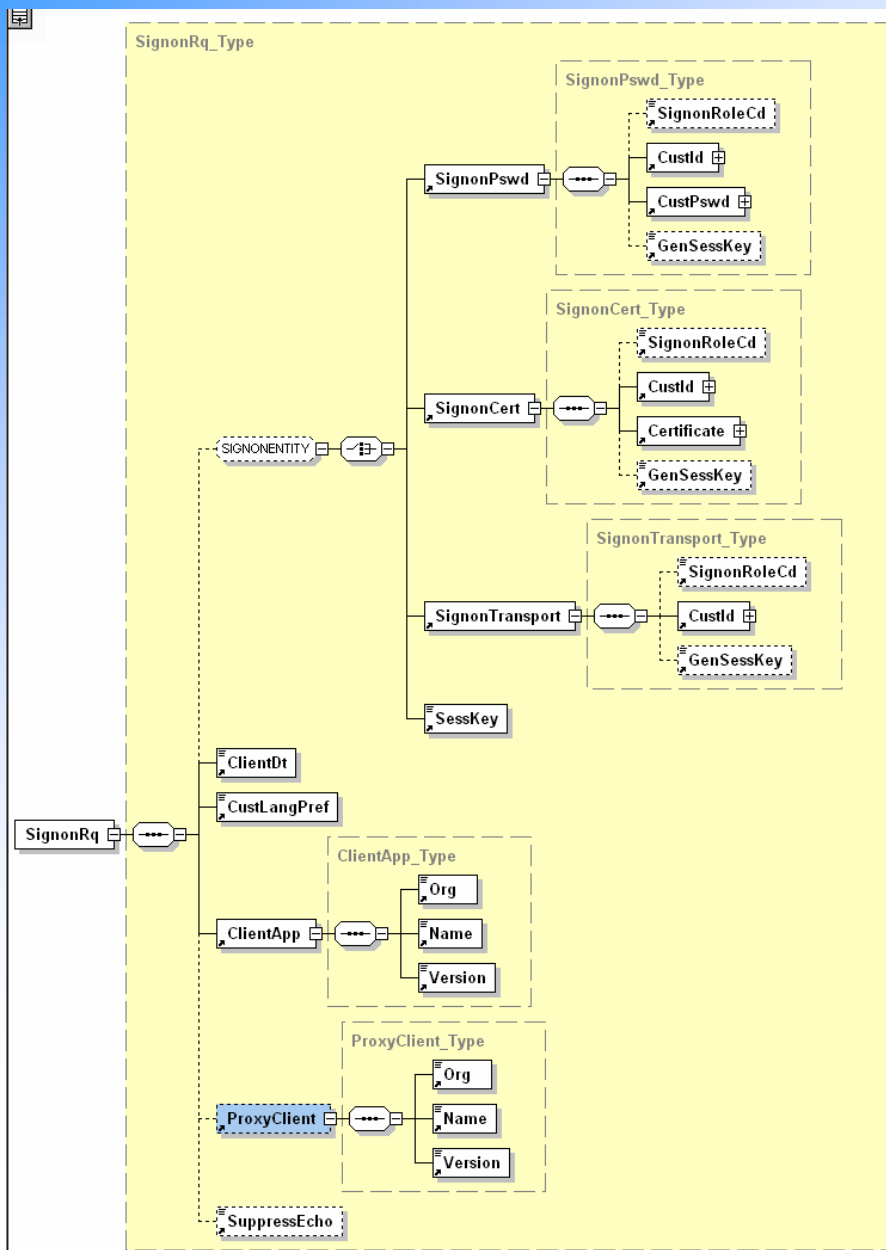
Sign off Request/Response

- **Optional**
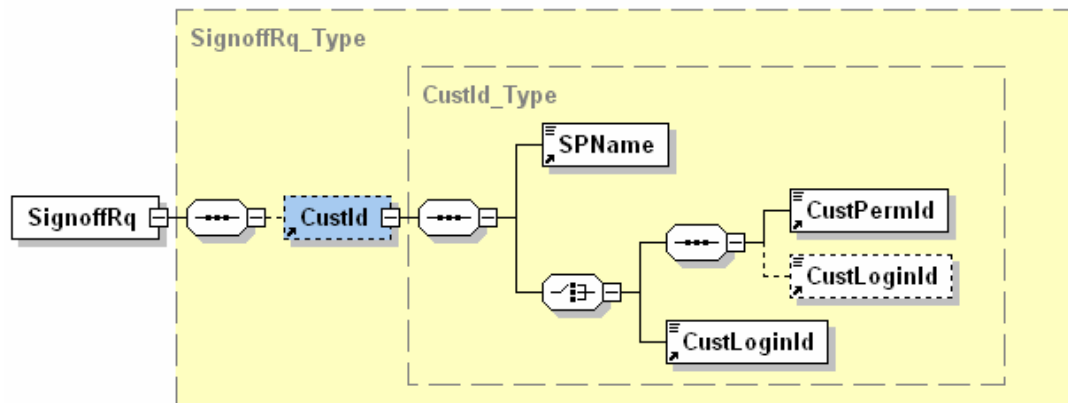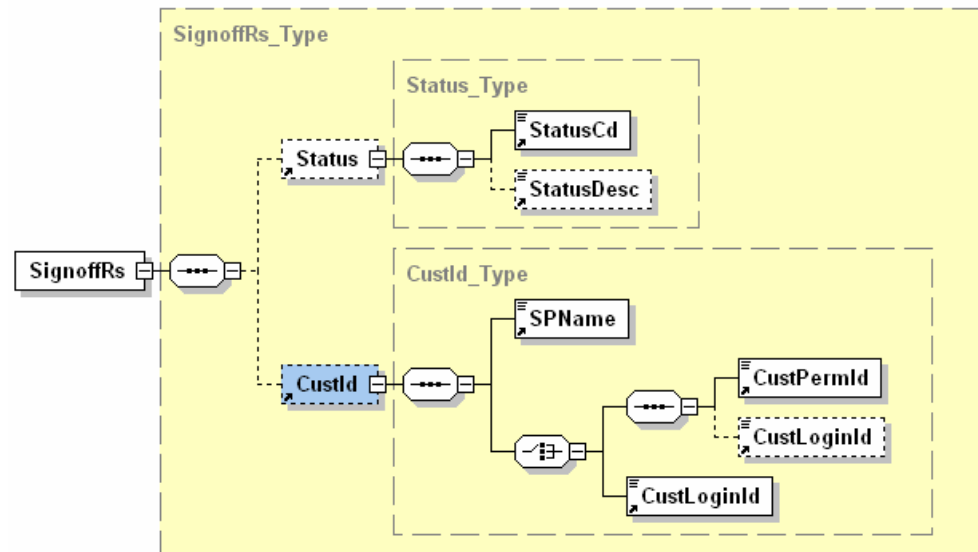
Services – Designed to Aggregate Messages

- **Accounting Service**
- **Base Service**
  - **Pending Response Inquiry Rq/Rs**
  - **Service Profile Inquiry Rq/Rs**
- **Claims Service**
- **Common Service**
- **Extensions Service**
  - **Service Provider Extensions (SPX)**
- **Surety Service**

Service Profile

- **Web based service discovery (UDDI)**

- **What do you support?**

- **Where do I send it?**

- **Who do I contact if I have a problem?**

- **Base service has a Service Profile Request/Response pair to report Surety and Insurance Service Profiles**

- **Extensions Service has a similar but different approach**

Service Profile
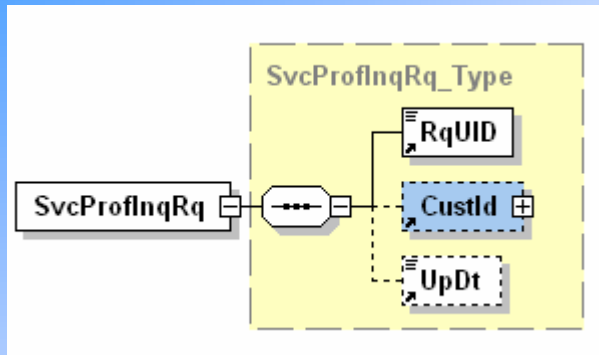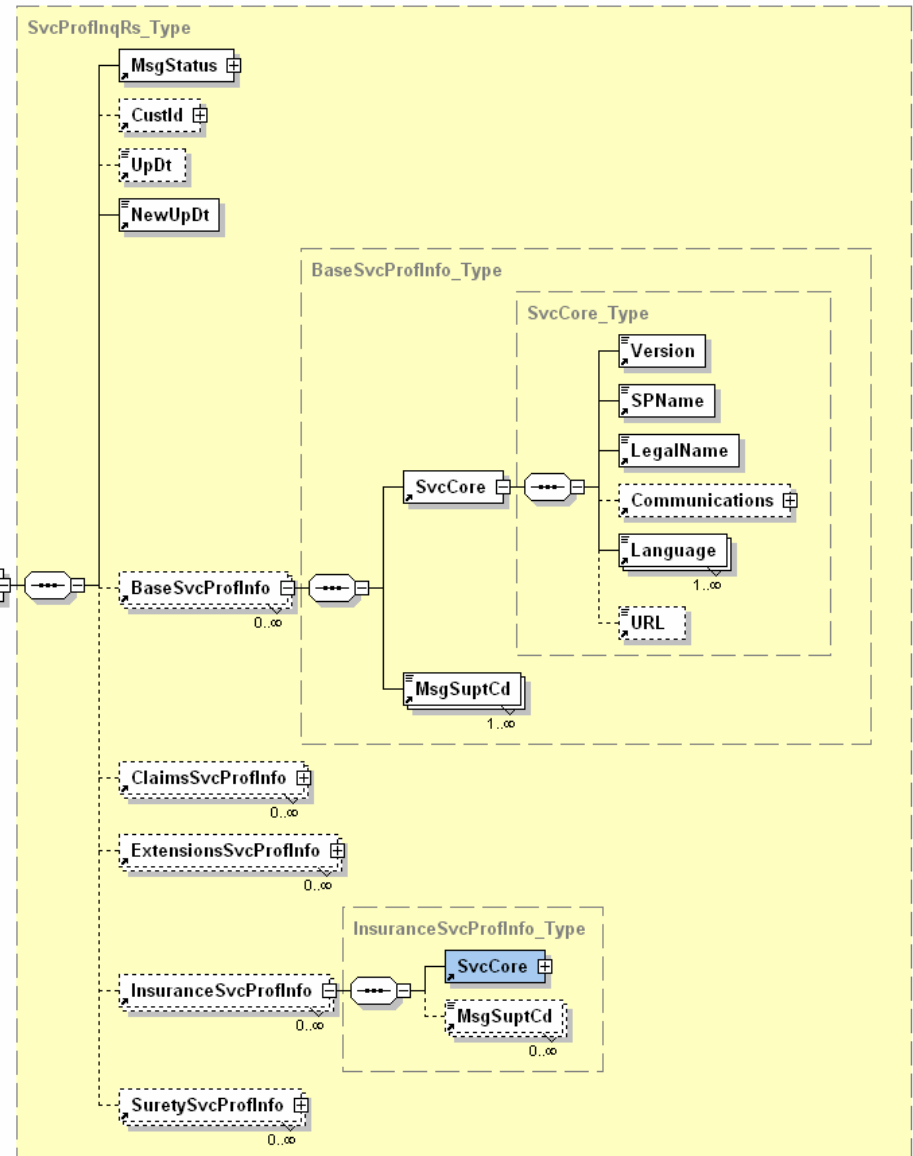
Sublist	Code Value	Code Description
BaseSvcMsg	**PendingResponseInq**	Pending Response Inquiry
BaseSvcMsg	**SvcProfileInq**	Service Profile Inquiry
ExtensionsSvcMsg	**SPExtensionsInq**	Service Provider Extensions Inquiry
ExtensionsSvcMsg	**SPExtensionsSync**	Service Provider Extensions Synchronization
InsuranceSvcMsg	**BOPPolicyAdd**	Business Owners Policy Application Submission
InsuranceSvcMsg	**BOPPolicyQuoteInq**	Business Owners Policy Quote
InsuranceSvcMsg	**CommlAutoPolicyAdd**	Commercial Auto Policy Application Submission
InsuranceSvcMsg	**CommlAutoPolicyQuoteInq**	Commercial Auto Policy Quote
InsuranceSvcMsg	**CommlAutoScheduleSubmit**	Commercial Auto Schedule Submit
InsuranceSvcMsg	**CommlDriverScheduleSubmit**	Commercial Driver Schedule Submit
InsuranceSvcMsg	**CommlNamedInsuredAndLocationScheduleSubmit**	Commercial Named Insured And Location Schedule Submit
InsuranceSvcMsg	**CommlPropertyScheduleSubmit**	Commercial Property Schedule Submit

Process Flow - web services discovery process

Client

0) Identify partner and initial URL, login, and SPName Info (somehow)

1) Request Service Profile

2) Review Service Profile and Determine if Carrier does the sort of business you are interested in,

    Yes - Request Extensions (SPX)

3) Process SPX info

    (magic happens here!)
- **build hybrid DTD**
- **extract code list information**
- **add new fields to GUI**
- **implement business edits**

4) Now we can do business!
  Send first business request -
   and the relationship is established

** May need to update SPX information on a daily basis

Server

1) Create Service Profile Response
- **server information**
- **messages supported**

2) Determine level of support and generate SPX information
- **add CarColorCd to Vehicle aggregate**
- **create list of colors, associate list with element**
- **edit "If Make=Corvette and CarColorCd=Red reject"**

3) Create Response to business request

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Service Profiles and SPNames

STEP 1

Service
Profile
Request

Web Services
Server

Service Profile Response
Provides Actual Server
Locations

Client/Agent
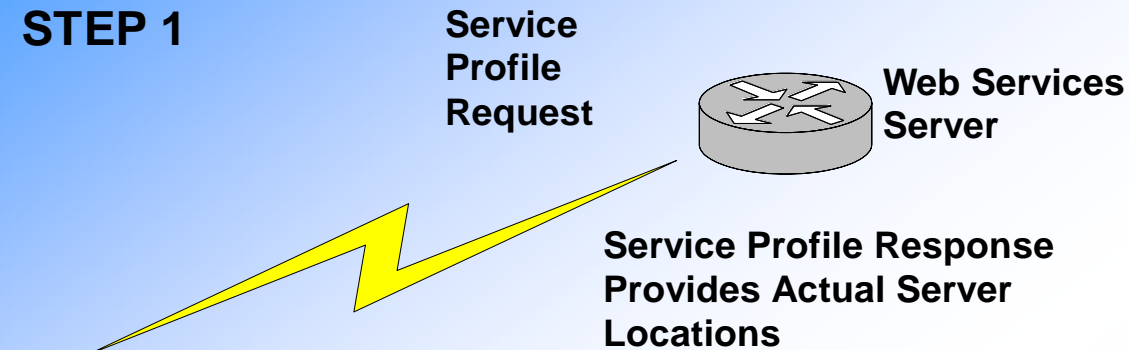
**STEP 2
Central
Routing
Server**

SPName = Fred
Commercial Auto

SPName = Sue
Personal Auto Quotes

SPName = Joe
Surety
BOP
Home Owners
Inland Marine

Routing Server
based on SPName

Client/Agent
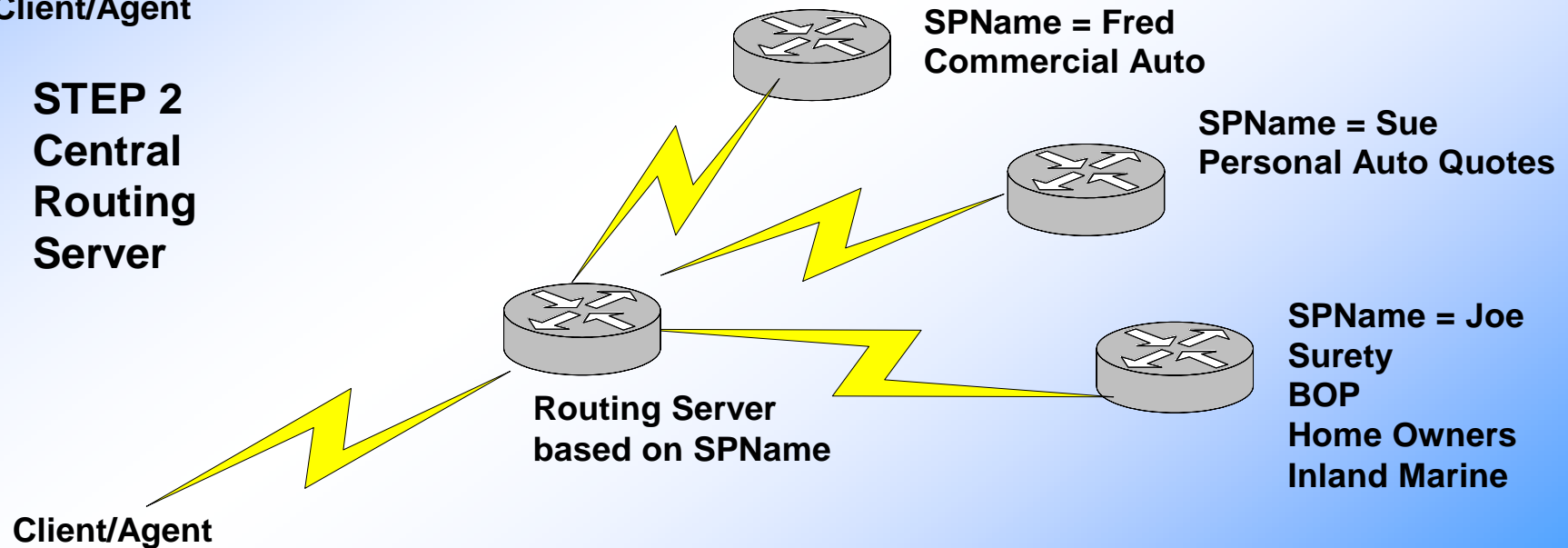
Conclusion – Framework

- **Processing Environment**

- **Request / Response Model**

- **Message Status**

- **Error Management**

- **Extended Status**

- **Changed Element Process**

- **Pending Response**

- **Modification Messages**

- **Notify Messages**

- **Sign-On / Sign-Off**

ACORD
P&C/Surety XML
SPX
(Service Provider eXtensions)

Mark Orlandi

Agenda – SPX

- **Extensibility**

- **Business Rules**

- **SPX Design Guidelines**

- **Naming Conventions**

- **Examples**

ACORD®

Extensions to the Standard

- **When is it an Extension vs Just Missing?**
  - 80-20 rule
- **SPX - standard way to document in a processable manner, your:**
  - extensions
  - edits
  - business rules - relationships
  - GUI requirements
    - ‣ Field Labels
    - ‣ Prompt, Error, Help Text
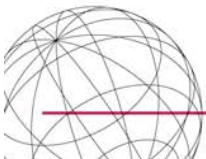
Design Guidelines for SPX

- **Support XML 1.0 second edition DTDs**
- **Support the following XML Design principals**
  - **Terseness is not a requirement**
  - **Readability of the stream is important**
  - **Hierarchies are used to group related information**
  - **Attributes and elements can be used, but attributes are currently limited to ID/IDREF types**

Note:

SPX was developed before W3C Schemas was a released specification. We need to update SPX capabilities, but you can also use schema methods to extend the ACORD schema if that is all you need to do

Naming Conventions

- **Refer to Chapter 4 and follow those rules whenever possible for both Tags and Codes**

- **SPXPrefix – use is similar to namespace prefix**

  - **ACORD unique methodology until we can update to schema support**

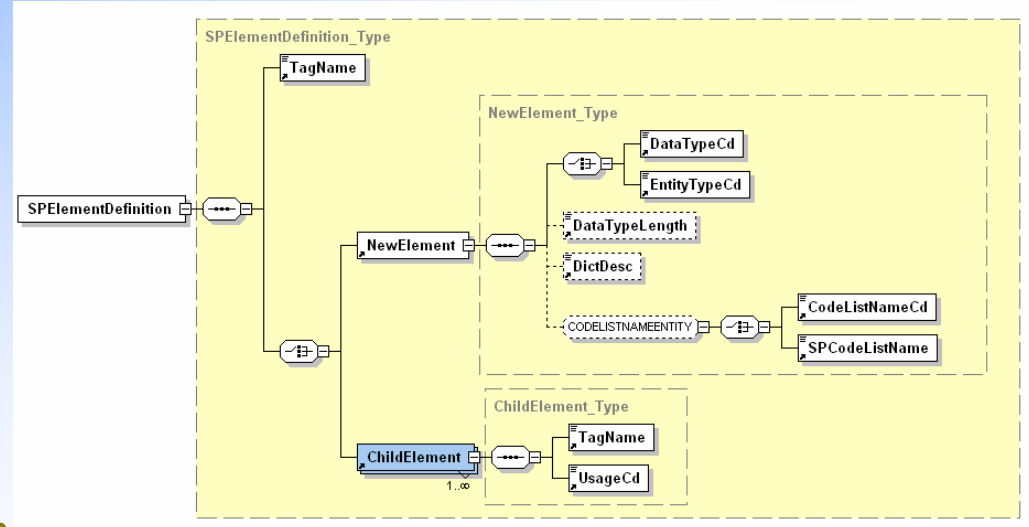 - **Reverse the Domain Name, add an underscore**

  - **acord.org's SPXPrefix is**

    com.acme_

Extension Service
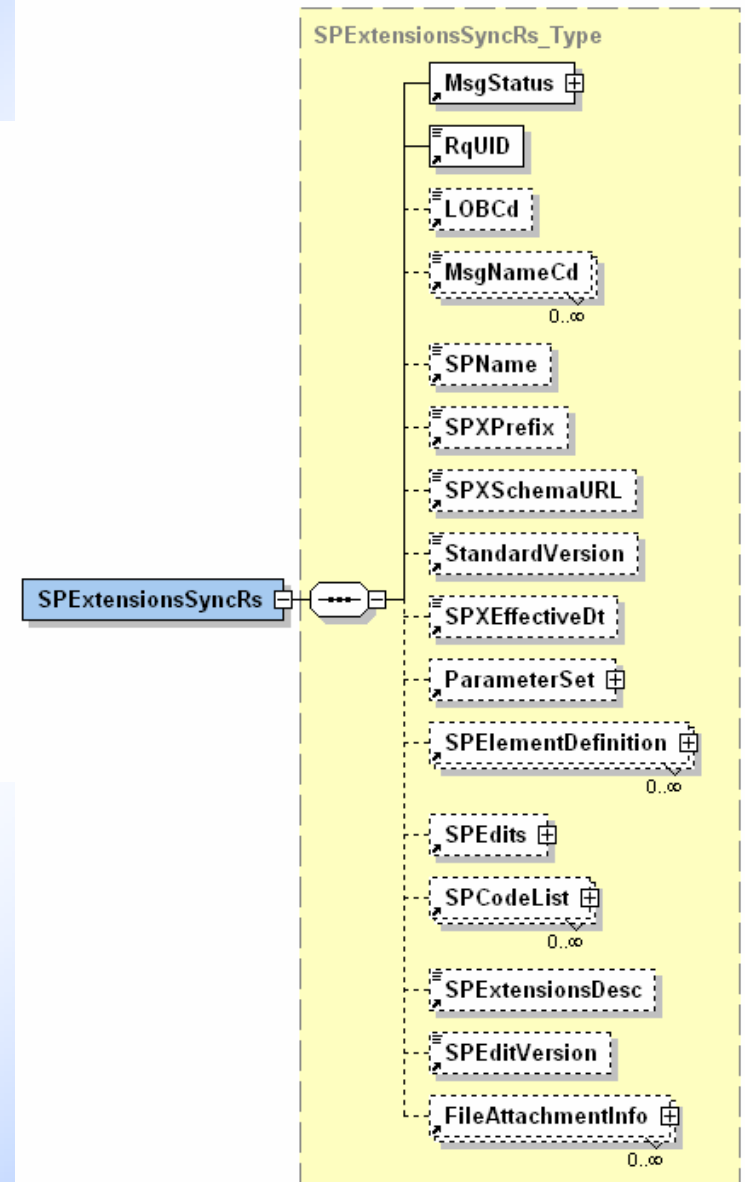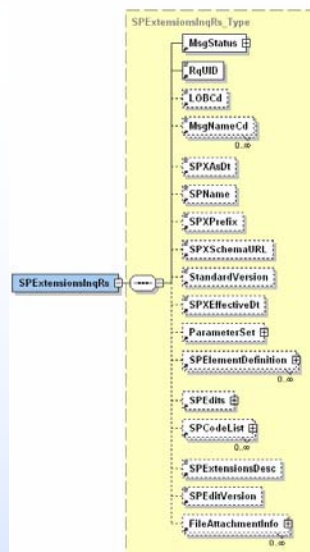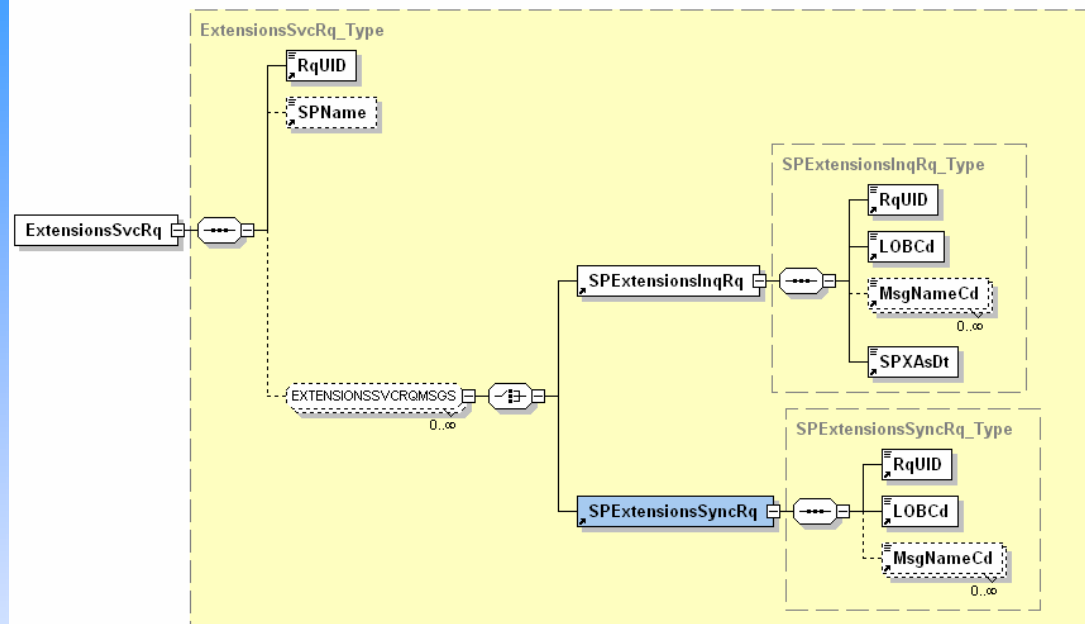
Element Definition

Add an ACORD aggregate to an ACORD aggregate

Existing Definition

```
<!ELEMENT CodeList      (CodeListName?, CodeListVersion?,
                         CodeListOwnerCd?, Description?, WebsiteURL?) >
```

Add <Addr> to Definition

```
<SPElementDefinition>
  <TagName>CodeList</TagName>
  <ChildElement>
        <TagName>Addr</TagName>
        <UsageCd>Opt</UsageCd>
  </ChildElement>
</SPElementDefintion>
```

New elements and aggregates add to the end of the original definition.

Result

New Hybrid DTD (ACORD Spec plus SPX information)

```
<!ELEMENT CodeList      (CodeListName?, CodeListVersion?,
                         CodeListOwnerCd?, Description?, WebsiteURL?,
                         Addr?) >
```

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Codelist Definition

1) Create the Code list

```
<SPCodeList>
   <SPCodeListName>com.fred_CarMakes</SPCodeList>
   <SPCode>

          <CodeDesc>A Ford Mustang</CodeDesc>
          <CodeValue>FMustang</CodeValue>
          <CodeDisplayValue>Ford Mustang</CodeDisplayValue>

   </SPCode>
   <SPCode>

          <CodeDesc>A Shelby AC Cobra</CodeDesc>
          <CodeValue>SCobra</CodeValue>
          <CodeDisplayValue>Shelby Cobra</CodeDisplayValue>

   </SPCode>
   <SPCode>

          <CodeDesc>A Chevrolet Stingray Corvette</CodeDesc>
          <CodeValue>CVett</CodeValue>
          <CodeDisplayValue>Chevy Stingray</CodeDisplayValue>

   </SPCode>
</SPCodeList>
```
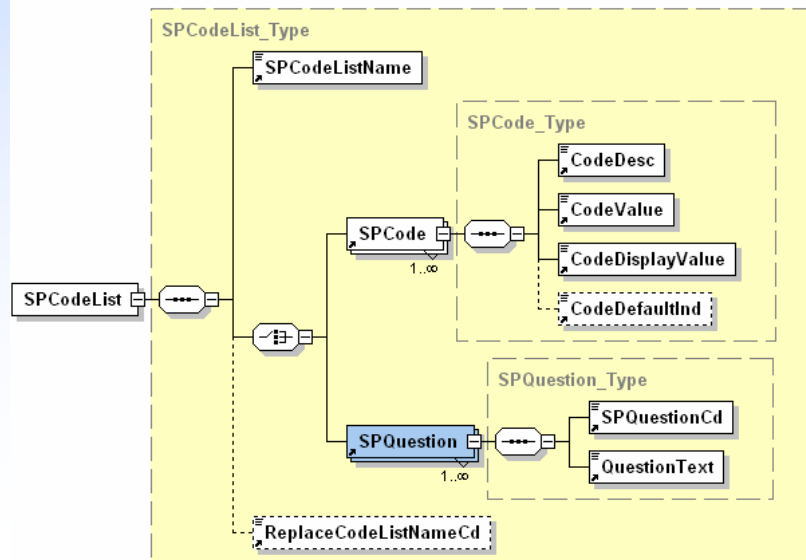

2) Associate an Element

```
<SPElementDefinition>
   <TagName>com.fred_CarMakeCd</TagName>
   <NewElement>
        <DataTypeCd>OpenEnum</DataTypeCd>
        <DictDesc>The make and model of a car.</DictDesc>
        <SPCodeListName>com.fred_CarMakes</SPCodeListName>
   </NewElement>
</SPElementDefintion>
```

3) Insert in ACORD Element

```
<SPElementDefinition>
    <TagName>PersVeh</TagName>
    <ChildElement>
         <TagName>com.fred_CarMakeCd</TagName>
         <UsageCd>Opt</UsageCd>
    </ChildElement>
</SPElementDefintion>
```

Updated ACORD DTD Defintion

<!ELEMENT PersVeh ((((ItemIdInfo?, Manufacturer?, Model?, ModelYear?,
VehBodyTypeCd?, VehTypeCd?, VehLength?, Registration*)), (CostNewAmt?,
NumDaysDrivenPerWeek?, EstimatedAnnualDistance?, FullTermAmt?,
NetChangeAmt?, Displacement?, LeasedVehInd?, LeasedDt?,
…
QuestionAnswer*, SeatBeltTypeCd?, AirBagTypeCd?, Coverage*,
OdometerReadingAtPurchase?, BusinessAnnualDistance?,

com.fred_CarMakeCd?))">

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Relational and Field Edits
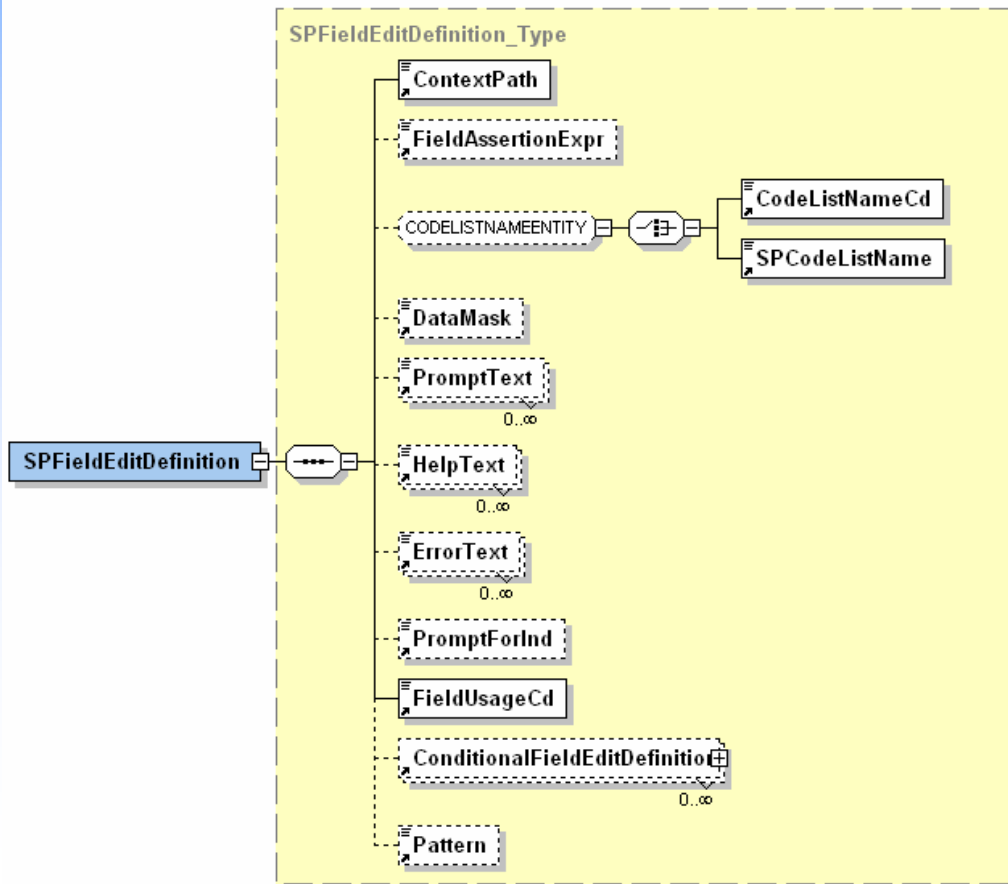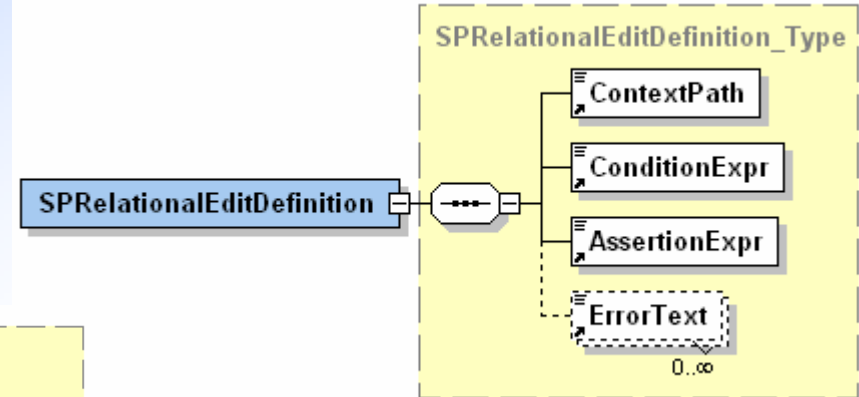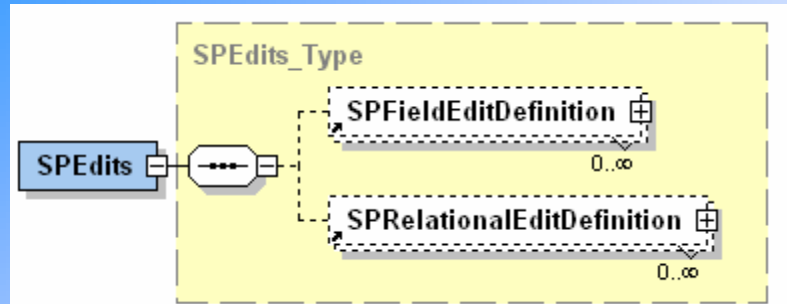
- **Business Rules**
- **Help, Prompt, Error Text**
- **Content Restrictions and Relationships**

Parameter Sets
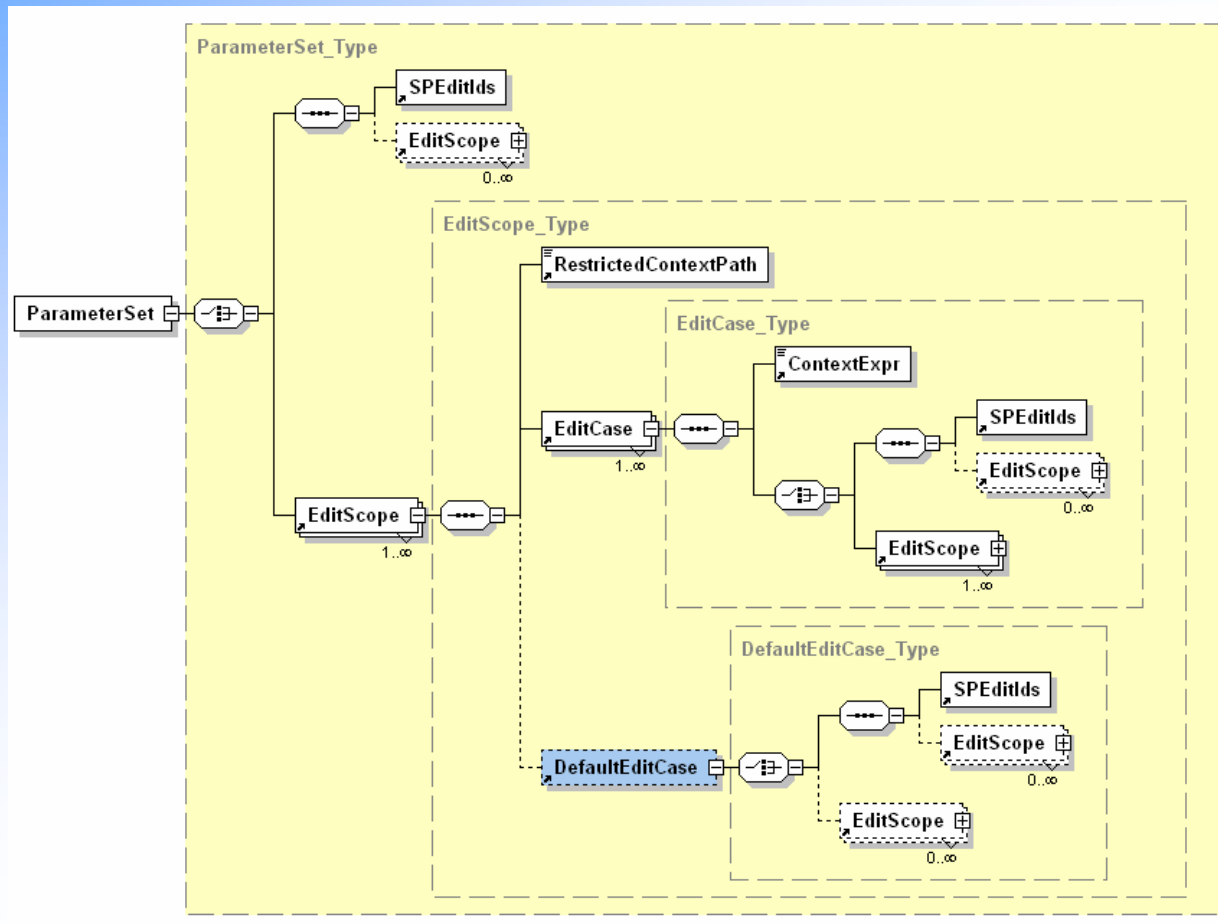
- **Relate groups of edits - by State, Date, Line of Business, etc.**
- **Set specific requirements to apply group**

Conclusion – SPX

- **Extensibility**

- **Business Rules**

- **SPX Design Guidelines**

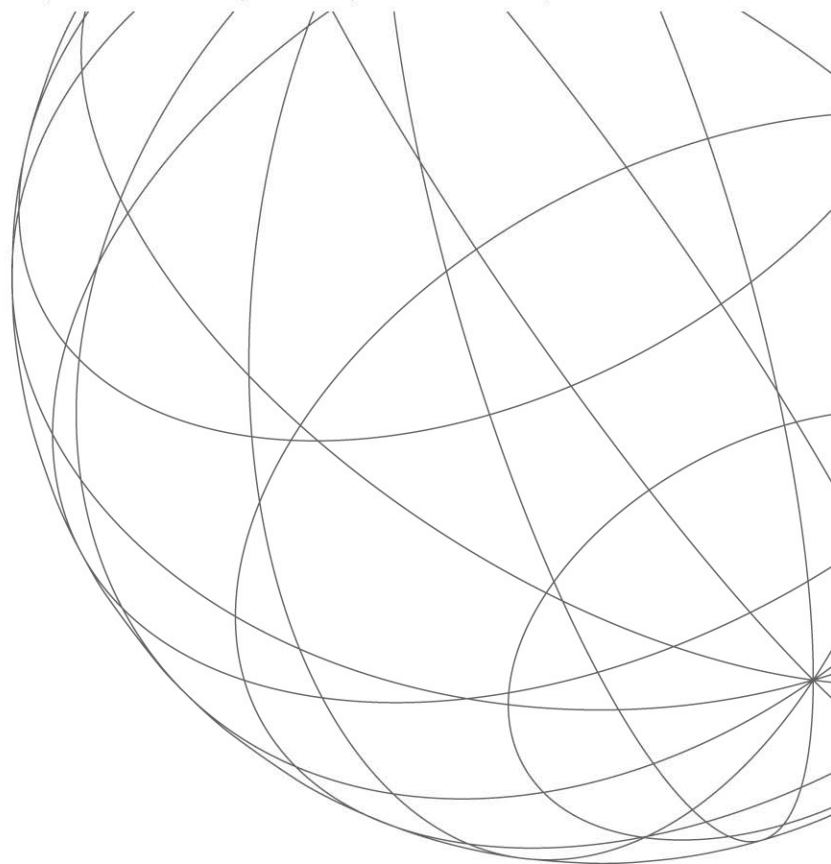- **Naming Conventions**

- **Examples**

ACORD P&C/Surety XML Certification+

Mark Orlandi

Agenda – Certification+

- **Why Certify?**

- **OARS: On-Line Adoption & Report Survey**

- **Activities**

- **Contacts**

Why Certify?

- **Member Benefit**
- **Get to advertise conformance**
- **Should help leverage your partners**
- **Provides a third-party opinion on conformance**
- **If everyone conforms, then integration is easier**
- **Quiz your vendors - two different statements**
  - We implement ACORD
  - We are certified by ACORD
- **http://www.acord.org/Services/certification.aspx**

OARS: Online Adoption Report & Survey

- **Opportunity to report your implementation activities to ACORD**

- **Reports available for download from web**

- **http://www.acord.org/Resources/im_reports.aspx**

- **Content sorted by:**
  - Organization & Implementation/Business Message
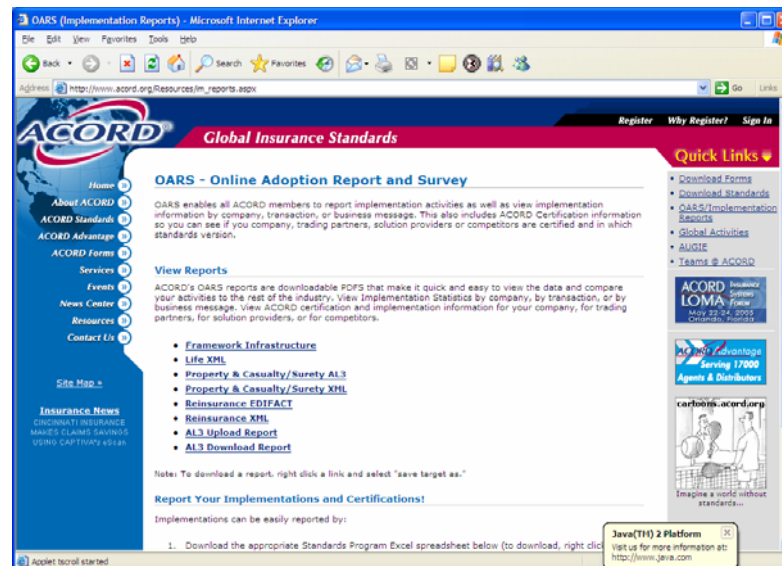
Collaboration & Communications

- **ACORD Teams area: http://teams.acord.org/home**
- **Working Groups**
    - **Members and "invited" guests only**
    - **Refer to www.acord.org for current listing of active working groups**
    - **Must be registered user of ACORD website:**
    - **http://acord.org/registration/webregistration.aspx**
        - **Provides email notifications**
        - **Web archive**
        - **Calendars**
    - **Specific Working Groups - Announcements of meetings and conference**
- **Best resource for asking questions of your peers**
- **Also call ACORD staff – we are here to help**

Contacts

- **http://www.acord.org 845-620-1700**

- **Mark Orlandi** Program Director, P&C/Surety
  - **morlandi@acord.org x 478**

- **Alan Stitzer** Program Manager (XML business topics)
  - **astitzer@acord.org x 410**

Conclusion – Certification+

- **Why Certify?**

- **OARS: On-Line Adoption & Report Survey**

- **Activities**

- **Contacts**