Building a Reference Data Model: (Legacy) Safeco's Experience

Melissa Larson
Technologist, Agency Markets Architecture

Liberty Mutual Group

"...helping people live safer, more secure lives."

- Sixth largest property & casualty insurer in the US*
- Over 45,000 employees in 900 offices worldwide

94th on the Fortune 500 list

Recognized by Business Week as one of the 50 best places to launch a career

www.libertymutualgroup.com

*based on 2007 direct written premium

Liberty Mutual Group has four distinctive business units

- Agency Markets
  - Commercial Lines – Liberty Mutual Regional Company Group
  - Personal Lines – Safeco Insurance, Member of Liberty Mutual Group
  - Surety – Liberty Mutual Surety
  - Specialty Workers Compensation - Summit
- Commercial Markets
- Liberty International
- Personal Markets

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Information Technology

- 3,400 employees
- Largest IT offices:

Portsmouth, NH	Seattle, WA	Indianapolis, IN
Dover, NH	Portland, OR	Wausau, WI
Kansas City, MO	Belfast, Northern Ireland	

- Build & Support applications for three strategic business units & corporate (enterprise) functions
- Primary data centers:

  Portsmouth ■ Kansas City ■ Redmond

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Introduction

SAFECO acquired by Liberty Mutual -- October 1st, 2008

Focus of presentation -- work done at Safeco prior to acquisition

Safeco Background

National Property and Casualty Company since 1923

Personal & Commercial Insurance, Surety, Central Claims

$6 Billion in Revenue

9,000 employees

~15 major regional offices

Melissa Larson

- Liberty Mutual – Agency Markets (from Safeco Insurance)
- Software Developer /DBA/ Architect for over 25 years
- Lead Architect for Safeco's Core Data Reference Data Model project

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** Opinions expressed are my own and may not reflect those of Liberty Mutual Insurance **

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Session Objectives

- Understand one way to team create a working business model from an industry standard model
- Understand how Safeco generated executable data schemas (XSDs) from the reference model -- making the model relevant to developers
- Understand how to apply ACORD standards so they are meaningful in the business model

Session Agenda

Session will cover . . .

- **What we planned . . .**
- What we did . . .
- What we learned . . .

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What we planned . . .

Safeco's Reference Data Model team was charged with developing a starting baseline -- an operational model and a process to maintain a living, long term Reference Data Model for Safeco.

The Reference Data Model Project, within a 5 year core data roadmap program was to:

- build out the infrastructure to support a reference data model,
- install an industry standard reference model
- develop a process for updating the model (including approval by data governance)
- use model content “out of the box” to generate standard payloads (XSDs)
- refine the model while supporting other funded roadmap projects.

What we planned . . .
Our Vision

Used for all development and integration:

- RDM enforces the use of a common data language for communication between applications.
- supports fully normalized payloads (XSD) to minimize modifications as new consumers are added.
- RDM and associated definitions are expressed in business terms and governed by the business.

. . .and ultimately:

•Using RDM is expected (and welcomed) by all development teams

•The RDM repository query and reporting capabilities make it easy for our business partners (as well as IT developers) to navigate and leverage the content of the model.

What we planned . . .
Reference Data Model Team

Core RDM Team:

Program Manager/Project Manager

Lead Architect

Data Analysts - 2

Extended RDM Team:

ITOperations Tool/WAS Support– two primary with a backup

Backup Architect

ACORD SME

Data Governance Council

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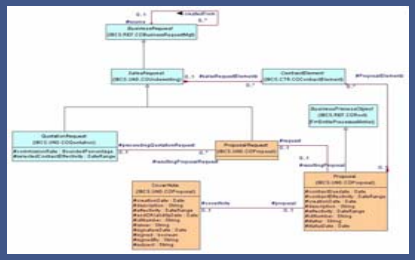
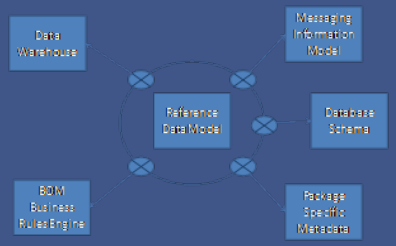
What we planned . . .

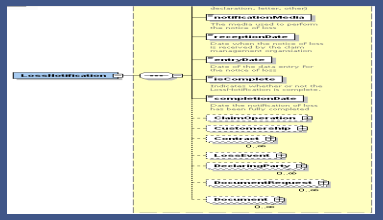
Key Capabilities



Consistent definitions for Safeco Business data objects and Enumerations (valid values) – driven by business data owners



Traceability to physical data assets



Business schema (payload) **generated directly from the model**

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What we did . . .

Safeco's Reference Data Model team, over a year and a half:

- Installed an industry standard model and updated it to reflect our business – classes, characteristics AND valid values
- Developed processes to keep us in the development loop & to ensure we work changes in a consistent manner
- Launched a metadata repository tool & manager and a UML modeling tool to support our reference data model;
- Supported two MDM projects, three Claims projects, and a Policy project
- Refined the XSDs being generated from the repository tool
- Generated 1st Cut ER Models for teams, based on UML model

What we did . . .
Reference Data Modeling Team

Core RDM Team:

Project Manager sometimes/Program Manager only at others

Lead Architect – also filled in with project management tasks and some basic management tasks at times

Data Analysts – from 2 to 4 over the 18 months; estimated building out to 6 to meet future needs

Extended RDM Team:

ITO Tool Support/Hosting Services – two primary with a backup

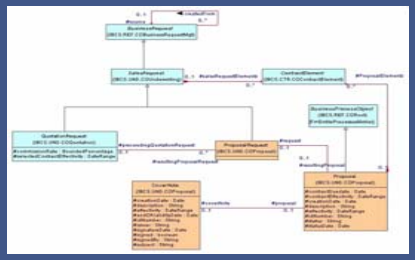
Backup Architect

ACORD SME – invaluable!

Data Governance Director (+ Council)

What we did . . .

Key Capabilities



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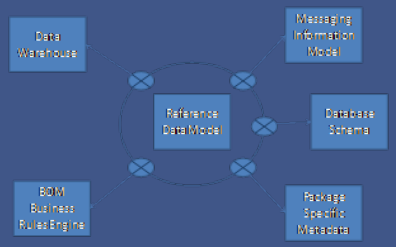
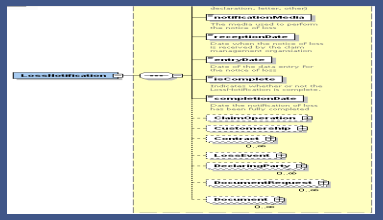
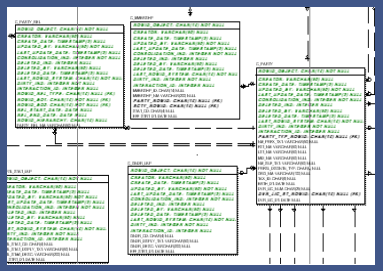


Traceability to physical data assets -- mapping back to significant, valuable legacy application artifacts as well as forward



Business schema (payload) **generated directly from the model (**customized by team to make useful in our development environment**)**



Logical Data Model (ERM) – 1st cut generated directly from the model

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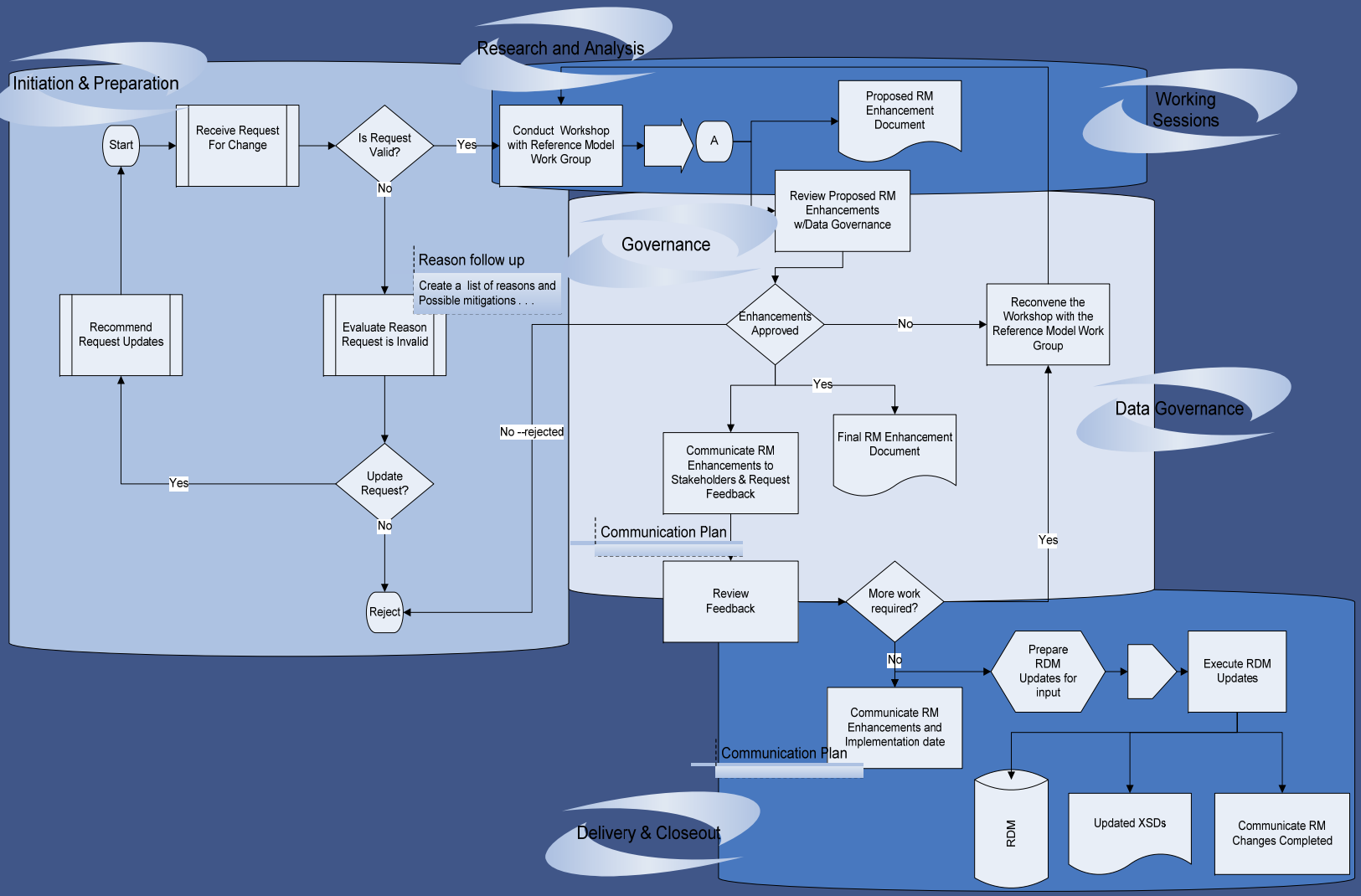
What we did . . .
Model Enhancement Process



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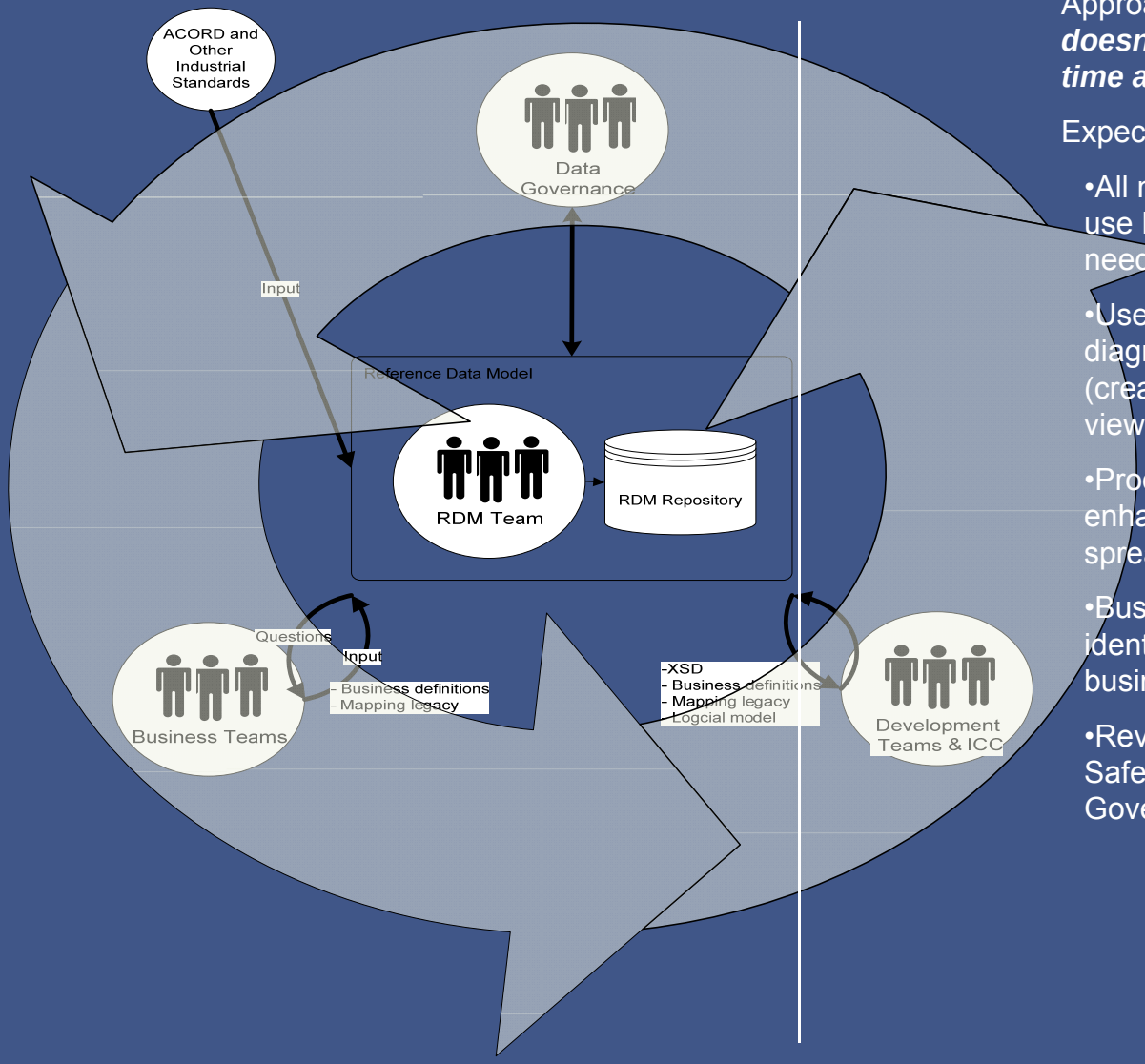
What we did . . .
Reference Data Model Works – Continuously Evolving



Approach: ***The process doesn't change, just the time associated with it.***

Expectations:

- All new development will use RDM (may identify needed changes)
- Use domain class diagrams from the model (creating new project views)
- Produce proposed enhancements (in spreadsheets)
- Business, ACORD to identify changes to business definitions
- Review and sign off by Safeco's Data Governance Council

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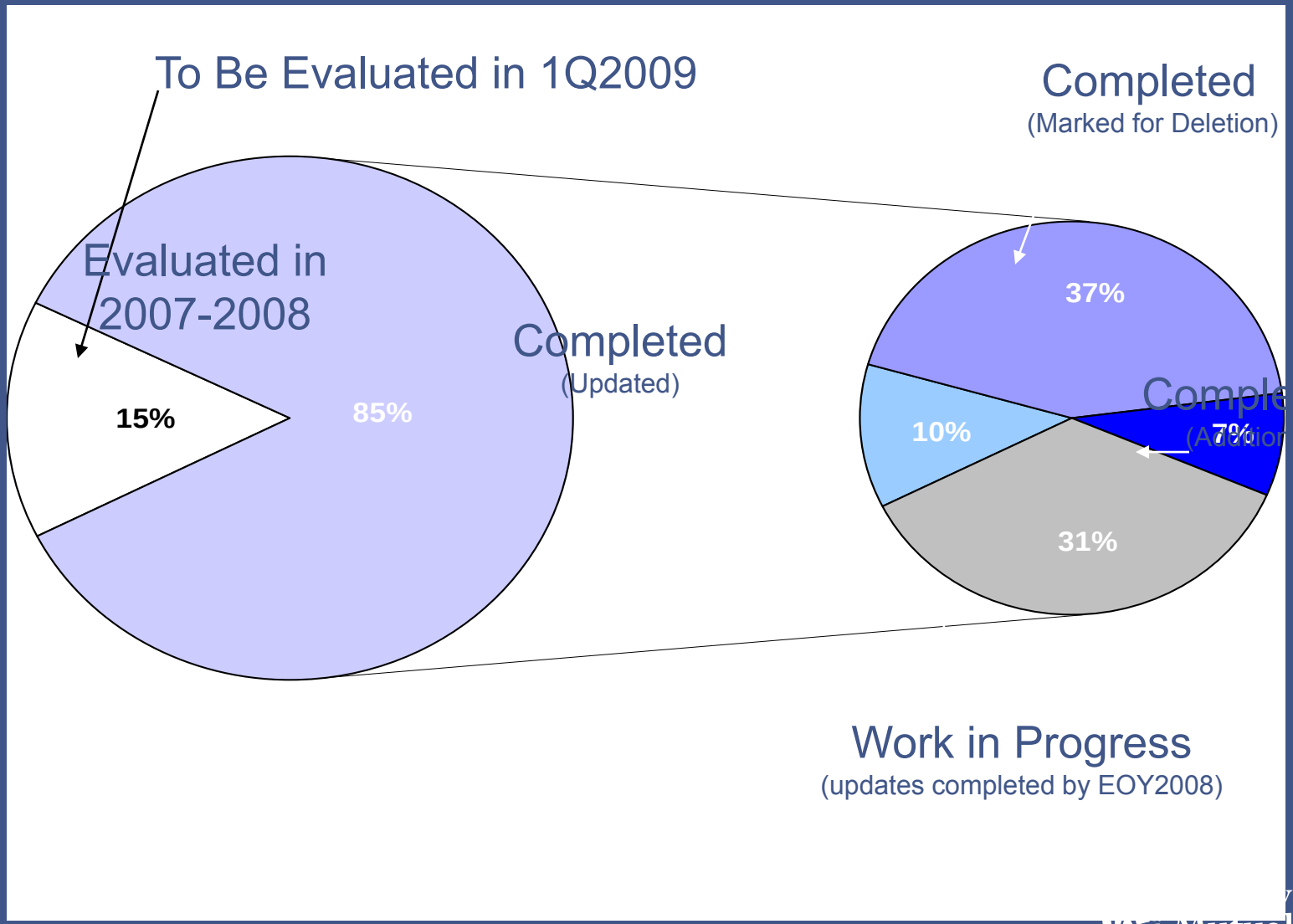
What we did . . .
Safeco's Reference Data Model - The State of the Model



What we did . . .
Reference Data Model – Assets

Subject Area	Asset Type	Asset Name	Aligned SME	Business Customer
Customer	Context Diagram	CustomerInfo	Doug G/ Darcie W/Patti Mitchell	CDI Team
Customer	Entity/Attribute Definitions	RDM CDI Enhancements 2008-09-17.xls	Doug G/ Darcie W/Patti Mitchell	CDI Team
Customer	Enumeration Lists	RDM CDI Enumeration List Proposed Enhancements 2008-09-17.xls	Doug G/ Darcie W/Patti Mitchell	CDI Team
Customer	ERM	CDI PDM v2.7.ERwin	Doug G/ Darcie W/Patti Mitchell	CDI Team
Customer	Mapping	CDIPDM-RDM Mapping2008-02-22.xls	Doug G/ Darcie W/Patti Mitchell	CDI Team

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What we learned . . .overall

Worked Well:

- Senior Management support is a MUST – even better if they are advocates (ours were)!
- When generating useable XSDs from a reference model it is invaluable to have an ally in the services area
- Becoming an integral part of the architectural review process is a MUST
- Industry models need to be updated to reflect the business (in order to get leverage with business and development partners)

What we learned . . .overall

If we knew then what we know now:

- Start mapping early; it's hard to get resources later
- Keep changes simple; document well
- There is ACORD compliance and then there is ACORD compliance . . .
- Include mapping to the ACORD message as a standard task
- Most people do not understand what a reference data model is, even if they do data modeling – start educating and socializing early and often . . .

What we learned . . .from projects

Worked Well:

- Developers who worked on one or more of our projects started asking project managers on new projects about using the RDM to help them with their data analysis
- 2nd and 3rd, and 4th project support efforts had very few needed changes for previously "worked" subject areas (mainly Party)
- Early project discussions were more productive when we had the updated reference model as a starting point
- Team was able to identify when the model was ACORD compliant and when it wasn't, why it wasn't; However . . . w/out mapping, we will rapidly lose that ability

What we learned . . .from projects

If we knew then what we know now:

- Valid Values – general agreement that the RDM team should be the central "holder of the approved valid values"; Working out HOW those valid values would best be presented to applications (in the XSD vs tables)
- We needed updates to our tools in order to consistently generate reusable XSDs without needing manual updates
- Team was able to identify when the model was ACORD compliant and when it wasn't, why it wasn't; However . . . w/out mapping, we will rapidly lose that ability

Questions?

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Thank You!

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