Business Intelligence – What Actuaries Need to Know

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Information Delivery Services
CAS Seminar on Reinsurance
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Presentation Structure

- **Background**
  - Information Architecture
  - Data Warehouse
  - Information Delivery

- **Business Intelligence Less the Hype**

- **Real World Examples**
  - Actuarial, Claim, and Sales
Introduction to get our Brains working!

Start Video Clip
IDSTV
Terms

- Business Intelligence Tools
- Data Governance
- Data Warehouse
- Dimensional Data
- Master Data Management
- Metadata
- Metadata Repository
- Relational Data
- Staging
### Data Requirements

**Solving for five data requirements is critical to the success of any initiative**

<table>
<thead>
<tr>
<th>Data Requirements</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Scalability</strong></td>
<td>Increased usage and appetite for additional data elements from other parts of the enterprise and from 3rd party sources will initiate a virtuous circle - increased use of data will lead to more sophisticated questions which will lead to the need for more data to make decisions, complete transactions, and conduct research. Increased capacity in people, process, and technology will enable capture of additional data at decreasing marginal costs. Scalability enables a shift from being extremely parsimonious in our data capture to capturing all potentially useful data.</td>
</tr>
<tr>
<td><strong>Trustworthy</strong></td>
<td>Knowledge of what data exists, where it is located, and confidence that the quality level is sufficient for conducting analysis and making decisions</td>
</tr>
<tr>
<td><strong>Accessibility</strong></td>
<td>Easier and speedier access to existing data. All 2010 workstreams assume that data, 3rd party and internal, will be available wherever and whenever needed in the future processes</td>
</tr>
<tr>
<td><strong>Granularity</strong></td>
<td>Data acquired by the customer interaction processes (New Business, Claims, etc.) and 3rd party providers are detailed enough to meet research and transactional needs of product, marketing, sales, and pricing</td>
</tr>
<tr>
<td><strong>Connectivity</strong></td>
<td>Ability to link data across the enterprise and from 3rd parties at a granular vs. summary level, to enable research, analysis and transactional processing</td>
</tr>
</tbody>
</table>

*Achieving the five data requirements will make data available and useable across the enterprise.*
Information Architecture

Typical Multi-line Insurer Current Data Architecture
Data Warehouse Environment Example of Issues

Information Management

1. Data Sources
   - HIG Systems
   - External (3rd Party) Data

2. Data Transformation & Integration
   - BKF
   - PLDW
   - CDW
   - CDF

3. Data Manufacturing & Storage
   - Data Warehouses
   - Data Marts / Views

4. Data Access & Delivery
   - Analytic Tools
   - Reports

Data Consumer
   - Apple
   - Customer
   - Application

Key Observations

A. Multiple Sources of Data
B. Multiple Transformation & Integration (ETL) Tools
C. Redundant storage of data
D. Uncontrolled Access to data
E. All data stored on the same tier / type of storage
F. Data marts not always ‘in sync’ with data sources
G. Multiple BI Tools
H. No ‘Single version of the truth’ – No systemic reconciliation back to source systems

Redundancy in data, infrastructure, storage, and software
Five Elements of Data Management

1. Data Sources
2. Data Transformation & Integration
3. Data Manufacturing & Storage
4. Data Access & Delivery
5. Metadata Repository

Conceptual Data Warehouse Architecture

- Extract
- Transform
- Load

Data Warehouse

BI Tools

Reports
Mart
Universe/Cube

5. Metadata Repository
Data Sources from a Source System

Refers to any electronic repository of information that contains data of interest for management use or analytics.

Operational / Transactional Databases

Databases used to manage and modify data (add, change or delete data) and to track real-time information.

Source Systems

<table>
<thead>
<tr>
<th>Quote</th>
<th>Customer</th>
<th>Billing</th>
<th>Claims</th>
<th>Reference data</th>
<th>External/Vendor</th>
<th>Policy</th>
<th>Agent/Agency</th>
<th>Financial</th>
</tr>
</thead>
<tbody>
<tr>
<td>QTI (QHF/THF/DQF) PLIARS/ICON</td>
<td>PLA/PAVE DBME CLA ASPIR OMNI AIF</td>
<td>SNAQS TABS CCC/CS-MCM</td>
<td>Source CI CCPS BLC (Loss)</td>
<td>ITMS DI</td>
<td>Experian InfoUSA Questerra MarketStance Vendor data</td>
<td>PLA/PAVE DBME CLA ASPIR OMNI NPPS (Premium)</td>
<td>CAPISEAPhartSourcePASCEIMPACT</td>
<td>TM1-Expense</td>
</tr>
</tbody>
</table>

Multiple Sources of the Same Data

(i.e. lack of authoritative data source)
- Personal lines premium is ‘Sourced’ from three different sources
- PAVE policy admin system for CDF
- CIDER for BKF
- Corporate Actuarial for HSDM
ETL (Extract, Transform and Load) is a common 3 step process designed for this purpose:

1. **Extract**
   - Extract data from multiple legacy sources
   - Extract may be via:
     - Intermediate files
     - Databases
     - Directly connecting to sources
   - Multiple extract types
     - Full extract (refresh)
     - Incremental extract

2. **Transform**
   - Works with the extracted data set
   - Applies business rules to convert to desired state
   - Cleanse and standardize data

3. **Load**
   - Inserts / updates the data warehouse database tables
   - Intelligently add new data to the system
Data Manufacturing & Storage

**Atomic Data Store**
A shared, analytic data structure that supports multiple subjects, applications, or departments

**Data Mart**
A shared, analytic data structure that generally supports a single subject area, application, or department

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**Data Warehouse Architecture**
There are different types of data warehouses and platforms, e.g.:
- centralized vs. federated
- Superdome v. Teradata v. Exadata

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**Potential Issues**
- Redundant Storage of Data
- Uncontrolled Access to Data
- All data stored on the same tier / type of storage
- Data marts not always in-sync with data sources
### Business Intelligence (BI)
An umbrella term that encompasses the processes, tools, and technologies required to turn data into information, and information into knowledge and plans that drive effective business activity. BI encompasses data warehousing technologies and processes on the back end, and query, reporting, analysis, and information delivery tools (that is, BI tools) and processes on the front end.

### Potential Issues

<table>
<thead>
<tr>
<th>Multiple BI Tools</th>
</tr>
</thead>
<tbody>
<tr>
<td>- Five Business Intelligence tools are in use</td>
</tr>
<tr>
<td>- Reports and Analytics cannot be easily reused</td>
</tr>
<tr>
<td>- Dueling “Truths”</td>
</tr>
<tr>
<td>- Reconciliation Efforts</td>
</tr>
</tbody>
</table>

### Purpose

<table>
<thead>
<tr>
<th>Standard Reports</th>
<th>Provides a pre-made document to provide information needed by user</th>
</tr>
</thead>
<tbody>
<tr>
<td>Queries</td>
<td>Provides ability to data using a pre-defined query, or on an ad hoc basis</td>
</tr>
<tr>
<td>Analytical Applications</td>
<td>Provides ability to easily access key performance indicators or metrics</td>
</tr>
<tr>
<td>OLAP Analysis</td>
<td>Alerts users to pre-defined conditions that occur</td>
</tr>
<tr>
<td>Exception Based Reporting</td>
<td>Provides ability to perform summary, detailed or trend analysis on requested data.</td>
</tr>
<tr>
<td>Data Mining</td>
<td>Ability to discover hidden trends with the data</td>
</tr>
</tbody>
</table>

### Usage

| Reports that require infrequent structural changes, and can be easily accessed electronically |
| Research, analysis and reporting |
| Monitoring and accessing performance |
| Research and Analysis |
| Notification without the need to perform detailed analysis |
| Research and analysis of hidden trends with in the data |
Metadata can provide a semantic layer between IT systems and business users—essentially translating the systems’ technical terminology into business terms—making the system easier to use and understand, and helping users make sound business decisions based on the data (i.e. A Data Yellow Pages)

**A metadata repository is:** the logical place to uniformly retain and manage corporate knowledge (meta data) within or across different organizations in a company

**Various types of meta data include:**

- **Data Definitions**
  - List of common data elements and standard definitions

- **Business Rules**
  - Rules define data use, manipulation, transformation, calculation and summarization
  - Business rules are mainly implemented by the ETL and reporting tools in a metadata dictionary

- **Data Standards**
  - Rules and processes on data quality

- **Data context**
  - Use of and dependencies on data within business units and processes

- **Technical Metadata**
  - Information on configuration and use of tools and programs

- **Operational metadata**
  - Information on change/update activity, archiving, backup, usage statistics

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**Potential Issues**

- **No Single Version of the Truth – No systemic reconciliation back to source system**
  - Metadata is the crux of many of our data problems
    - Time would not be wasted
    - Less reconciliation
    - Not gathering useless / redundant data
    - Less storage
**Metadata - What is Metadata?**

Metadata is ‘data about data’. It tells us the meaning and context of a piece of data.

### What does “Total Earned” mean?

### What is the definition and who is accountable?

### How is “Total Earned” formulated?

### Where does this data originate from?

### What software, hardware, and databases are involved?

### Example of Metadata:

- **Who?**
  - Who owns this data?
  - Who’s responsible for its quality?
  - Who has access to it?

- **What?**
  - What’s the definition of this data element?
  - What are the valid values?

- **When?**
  - When was it last updated?

- **Where?**
  - Where is this data stored?
  - Where does it originate from?
  - Where is it used?

- **Why?**
  - Why is this piece of data important?

- **How?**
  - How is it calculated?
  - How is it manipulated?

Often metadata is agreed-upon definitions and business rules stored in a centralized repository so that common terminology for business terms is used for all business users – even those across departments and systems. It can include information about data’s ownership, source system, derivation (e.g. profit = revenues minus costs), or usage rules. It prevents data misinterpretation and poor decision making due to sketchy understanding of the true meaning and use of corporate data.
Metadata - What are the benefits of implementing a Metadata Strategy?

Benefits

Common, embraced language between Business and IT
Substantial opportunity to improve data quality through greater understanding of HIG data
Improved business intelligence
Reduced redundancy
Consistency of data elements
Reduced reconciliation efforts around data definition

Alleviate loss of knowledge when staff transfers, retires or leaves the company
Minimize the effort on learning new data sources
Reduced development cycle times for new and existing systems
Economies of scale
Increased efficiencies via short data searches
Improved efficiency of analysis

Imagine sending all of your most experienced employees away for a month.

- What would happen to your business?
- Where would your employees go to get answers?
- How long would it take and how many resources would have to be involved?

The costs would be mitigated if you had a centralized metadata repository.
Business Intelligence (BI)

An umbrella term that encompasses the processes, tools, and technologies required to turn data into information, and information into knowledge and plans that drive effective business activity. BI encompasses data warehousing technologies and processes on the back end, and query, reporting, analysis, and information delivery tools (that is, BI tools) and processes on the front end.

Translation: Business Intelligence turns data into information.
Business Intelligence as Deployed for the Actuarial Department - BI Tool Microstrategy
P&C Claims
YTD Customer Complaint Volume - Top 10 Reasons

August 2010

<table>
<thead>
<tr>
<th>Complaint</th>
<th>Intake</th>
<th>%</th>
<th>Complaint</th>
<th>Intake</th>
<th>%</th>
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</thead>
<tbody>
<tr>
<td>(504) Claimant Not Happy With Settlement Or Settlement Offer</td>
<td>192</td>
<td>664,922</td>
<td>0.03%</td>
<td>189</td>
<td>668,997</td>
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<tr>
<td>(509) Claim Denial - Full Or Partial Disclaimer Of Coverage</td>
<td>180</td>
<td>664,922</td>
<td>0.03%</td>
<td>194</td>
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<tr>
<td>(549) Civil Remedy Notification</td>
<td>118</td>
<td>664,922</td>
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<tr>
<td>(513) Third Party Unhappy With Liability Decision</td>
<td>111</td>
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<td>0.02%</td>
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<tr>
<td>(550) Insured Not Happy With Settlement Or Settlement Offer</td>
<td>103</td>
<td>664,922</td>
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<td>668,997</td>
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<tr>
<td>(590) Delay In Issuing Check/Paying Claims, Benefits, Amendl Endorse</td>
<td>102</td>
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<td>(543) Follow Up And Process Delay</td>
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<tr>
<td>(512) Failure To Handle Claim In A Professional Manner</td>
<td>49</td>
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<td>(514) Insured Unhappy With Liability Decision</td>
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<td>664,922</td>
<td>0.01%</td>
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<td>668,997</td>
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<td>(560) Unhappy With Auto Appraisal Amount</td>
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<td>664,922</td>
<td>0.01%</td>
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<tr>
<td><strong>Top 10 Totals</strong></td>
<td><strong>1,028</strong></td>
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<td><strong>0.15%</strong></td>
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<tr>
<td><strong>Total Complaints</strong></td>
<td><strong>1,379</strong></td>
<td><strong>664,922</strong></td>
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</table>

Monthly Customer Complaint Trending

<table>
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<tr>
<th>Year</th>
<th>2010</th>
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</thead>
<tbody>
<tr>
<td>Complaint Count</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The Hartford
Improve the value of our growth and transformational initiatives and provide a great place to work.

Portfolio Return

Strategic initiative MIRR

Available in 2011

Transform and Grow Index

% Of Technology Costs For Transform & Grow (Transform + Grow Costs / Total Technology Costs)

30% Target 50% 30.50%

WEI

WEI Score Percentile of the Pulse Survey Results

32%
Business Intelligence as Deployed for the Claim Department - BI Tool Cognos
**KPI Strategy > Dashboarding**

The faster and more accurately KPIs can be accessed, reviewed, analyzed, and acted upon, the better the chance an organization has for success.

Business Agility is “the ability of an organization to sense environmental change and to respond efficiently and effectively to that change.” – Gartner Group

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Single Point of Access – *one stop shopping*
From Results Evaluation to Taking Action

Start Here
Review Your Territory’s Information
Take Action

Identify Drivers and Trends
Diagnose What to Do
Prepare for Calls

Start Here
Review Your Territory’s Information
Take Action

Identify Drivers and Trends
Diagnose What to Do
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Prepare for Calls

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Diagnose What to Do
Prepare for Calls

Identify Drivers and Trends
Diagnose What to Do
Prepare for Calls
## Organizational Needs

| Alignment – Focus on commonly agreed upon goals and objectives | Business defined goals aligned with strategic objectives |
| Visibility – Organization can track KPI’s by department and enterprise | At a LOB level only – looking at an executive level in a future release that will aggregate results across lines |
| Collaboration – Provide single view of defined objectives enabling joint decision making | Excellent tool for line level analysis, common definitions at a LOB level allows for analysis across common KPI’s (i.e. WEI, CQI, CSI) |

## Business User Needs

| Intuitive – Ease of use | Strong feedback on usability, trend charts and metric definitions linked with each gauge |
| Personalizable – Provide users with specific indicators and functions necessary for their jobs | Role based delivery |
| Powerful, interactive insight – Communicate actionable information to robust KPI’s and advanced analytics | Ability to drill across the organization and into specially designed Cognos cubes for analytics |

Source for Success Factors – Business Objects White Paper on Management Dashboards
Claim Dashboard Features

- Roles based – Handler, Supervisor, Manager, Director, Oversight
- Top down filtered drill path
- Cognos cube access by gauge
- Trending charts by gauge
Sequential filtering (e.g., Select a Director and the Manager filter drop-down box appears with the selected Director’s direct reports listed as filtered values.)

Direct COGNOS Access by clicking on the gauge

Trending Line Chart accessible by clicking on the chart icon
Employee name appears here for all roles except “Oversight”
Handler view does not have target ranges of red, green & blue.
Role filter is disabled when a role is selected at the LOB (parent) level.
Alignment of Business Strategy and Company Goals

The 3 key Claim strategic elements:

- Work Environment
- Claim Quality
- Customer Service

It is the detail behind it that provides the insight and understanding of how to take action.
Business Intelligence Deployed
For the Sale Department –
BI Tool Business Objects
Sales and Marketing Features

- Structures Reports with Drill Down Capabilities
- Top down filtered drill path
- Business Object Universes
- Trending charts
"My Insights" contains actionable information for your territory at a greater level of detail. Each element in the folders on the left is a link to a report. There are explanation of the reports on the right. All reports can be saved to Excel.
The top report is the TSP Monitoring report. It displays information by agency including agency profiling, sales calls, plan values and agency.
### TERRITORY FLOW FUNNEL

**Values as of 02/05/2007**

**Sales Underwriter:** Sales UW

#### Key Account

<table>
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<tr>
<th>Out Unsusc PTV</th>
<th>Jan</th>
<th>Feb</th>
<th>Mar</th>
<th>Apr</th>
<th>May</th>
<th>Jun</th>
<th>Jul</th>
<th>Aug</th>
<th>Sep</th>
<th>Oct</th>
<th>Nov</th>
<th>Dec</th>
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<th>Full Year</th>
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<td>29</td>
<td>6</td>
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<td>Subm Crit</td>
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<td>Total Quote</td>
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<td></td>
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<td>39</td>
<td></td>
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<tr>
<td>In Process</td>
<td>1</td>
<td>3</td>
<td>14</td>
<td>11</td>
<td>6</td>
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<td>40</td>
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<tr>
<td>Deal %</td>
<td>31%</td>
<td>58%</td>
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<td>48%</td>
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<td>Hit %</td>
<td>21%</td>
<td>33%</td>
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<td>23%</td>
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<td>Yld %</td>
<td>14%</td>
<td>7%</td>
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<td></td>
<td></td>
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<td>17%</td>
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<td>New Business</td>
<td>1,003,816</td>
<td>23,022</td>
<td></td>
<td></td>
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<td></td>
<td>1,837,466</td>
<td></td>
</tr>
</tbody>
</table>

*YTD = Year to Date, Full Year = Calendar Year*
Key Sales UW SmartCard – Drill Down from Flow Funnel

Current Year Declined Business Report
Declines with Effective Dates between 1/1/2007 and 7/1/07

Sales UW
My Pre-Call Tools tab of the SmartCard contains packaged reports with extensive flow and financials information about a single agency.

**Pre Call Reports**
- 2007 Master Report without Technology
- Enterprise Report

**Middle Market SmartCard Reports**

**PRE-CALL REPORTS**

**2007 Master Report without Technology**
Report provides complete background assigned to a particular rep. Includes Master rollup and sub producer key, Medium Programs, IR and Specialty Programs. This report excludes tool. Detail provided includes: Declines, In Process, Quote Unsuccessful, Cancel year, Quote Unsuccessful for prior year, and a complete list of upcoming report. *(Source: Premium and Flow = Hartsource)*

**Enterprise Report**
Report provides an overall Enterprise view of a single market for the current year as well as the prior year and includes: NEWP, TWP, Growth, Loss Amounts, and other metrics. All metrics are displayed for PL, SC, M, where available. *(Source: This is a HartsSource report)*
The 2007 Master Report package contains reports that can support business discussions with agents. The reports can be viewed in .pdf format (easy for printing and e-mailing). The list of reports is similar to territory wide reports in My Insights (see left panel below), but with additional information and focusing on a single agency.
Appendix
Glossary: Common Data Warehousing Terms & Definitions

1. Data Sources
   - **Source System:** Source System or Data Sources refers to any electronic repository of information that contains data of interest for management use or analytics.

2. Data Transformation & Integration (ETL)
   - **ETL:** The data transformation layer (aka Extract, transform, load - ETL or some variant) is the subsystem concerned with extraction of data from the data sources (source systems), transformation from the source format and structure into the target (data warehouse) format and structure, and loading into the data warehouse.

5. Metadata Management
   - **Metadata:**
     - Metadata, or "data about data", is used not only to inform operators and users of the data warehouse about its status and the information held within the data warehouse, but also as a means of integration of incoming data and a tool to update and refine the underlying DW model.
     - Examples of data warehouse metadata include table and column names, their detailed descriptions, their connection to business meaningful names, the most recent data load date, the business meaning of a data item and the number of users that are logged in currently.
3. Data Manufacturing & Storage

- **Data Warehouse:** A shared, analytic data structure that supports multiple subjects, applications, or departments. There are three types of data warehouses: centralized, hub-and-spoke, and operational data stores.

- **Hub-and-Spoke Data Warehouse:** A data warehouse that stages and prepares data for delivery to downstream (i.e., dependent) data marts. Most users query the dependent data marts, not the data warehouse.

- **Centralized Data Warehouse:** A data warehouse residing within a single database, which users query directly.

- **Federated Marts or Environments:** An architecture that leaves existing analytic structures in place, but links them to some degree using shared keys, shared columns, global metadata, distributed queries, or some other method.

- **Data Mart:** A shared, analytic data structure that generally supports a single subject area, application, or department. A data mart is commonly a cluster of star schemas supporting a single subject area.

- **Dependent Data Mart:** A dependent data mart is a physical database (either on the same hardware as the data warehouse or on a separate hardware platform) that receives all its information from the data warehouse. The purpose of a Data Mart is to provide a sub-set of the data warehouse’s data for a specific purpose or to a specific sub-group of the organization. A data mart is exactly like a data warehouse technically, but it serves a different business purpose: it either holds information for only part of a company (such as a division), or it holds a small selection of information for the entire company (to support extra analysis without slowing down the main system). In either case, however, it is not the organization’s official repository, the way a data warehouse is.

- **View:** Is a ‘logical’ provisioning of a subset of the data warehouse similar to a Data Mart.

- **Tiered Storage:** Data is stored according to its intended use. For instance, data intended for restoration in the event of data loss or corruption is stored locally, for fast recovery. Data required to be kept for regulatory purposes is archived to lower cost disks.

- **Operational Data Store (ODS):** A “data warehouse” with limited historical data (e.g. 30 to 60 days of information) that supports one or more operational applications with sub-second response time requirements. An ODS is also updated directly by operational applications.
4. Data Access & Delivery

- Business Intelligence (BI): is an umbrella term that encompasses the processes, tools, and technologies required to turn data into information, and information into knowledge and plans that drive effective business activity. BI encompasses data warehousing technologies and processes on the back end, and query, reporting, analysis, and information delivery tools (that is, BI tools) and processes on the front end.

- Business Intelligence Tools:

  - Business intelligence tools are a type of application software designed to help the business intelligence (BI) business processes. Specifically they are generally tools that aid in the analysis, and presentation of data. While some business intelligence tools include ETL functionality, ETL tools are generally not considered business intelligence tools.

- Reporting:

  - The data in the data warehouse must be available to the organization’s staff if the data warehouse is to be useful. There are a very large number of software applications that perform this function, or reporting can be custom-developed. Examples of types of reporting tools include:

    - Business intelligence tools: These are software applications that simplify the process of development and production of business reports based on data warehouse data.

    - Executive information systems (known more widely as Dashboard (business)): These are software applications that are used to display complex business metrics and information in a graphical way to allow rapid understanding.

    - OLAP: OLAP tools form data into logical multi-dimensional structures and allow users to select which dimensions to view data by.

    - Data Mining: Data mining tools are software that allow users to perform detailed mathematical and statistical calculations on detailed data warehouse data to detect trends, identify patterns and analyze data.

- OLAP:

  - OLAP is an acronym for On Line Analytical Processing. It is an approach to quickly provide the answer to analytical queries that are dimensional in nature. It is part of the broader category business intelligence, which also includes Extract transform load (ETL), relational reporting, and data mining. The typical applications of OLAP are in business reporting for sales, marketing, management reporting, business process management (BPM), budgeting and forecasting, financial reporting and similar areas.

- Spreadmart: A spreadsheet or desktop database that functions as a personal or departmental data mart whose definitions and rules are not consistent with other analytic structures.
A Metadata Management program enables our ability to find, understand, manage, govern, rationalize, share, reuse, and leverage information about data, business, applications, services, hardware and software.
1. **Tool**: Acquire a metadata tool that will meet our business and IT requirements for Metadata Management

2. **Governance**: Implement the proper roles, responsibilities, policies, processes, procedures, and standards to most effectively manage our information assets

3. **Organization**: Consolidate various data management resources into a data asset management organization

4. **Communication Plan**: Establish an ongoing effort to educate and communicate to our employees all metadata strategy related initiatives

5. **Roadmap/Implementation**: Develop a preliminary roadmap with key implementation strategies for moving forward
## Metadata: Current State vs. Possible Future State Scenario

### Current State: Information Chaos
- Multiple definitions for the same data element
- Multi-use data fields
- Excessive time & resources required to search for needed data
- Pockets of excellence
- Lack of enterprise data governance and stewardship
- One shot mapping efforts
- Not shared or reusable
- Use of incorrect sources
- Data redundancy

### Future State: Metadata Management
- Agreed upon enterprise definitions
- Single-use data fields
- Increased efficiencies via short data searches
- Enterprise organizational effectiveness
- Centrally captured / reduced redundancy
- Shared and reusable
- Authoritative & certified sources
- Unlimited potential for creative use of data
- Provides competitive advantage
- Trusted data
- Provable, repeatable processes / results

### Future State Process Flow

1. Analyst types the term “Paid Loss Amount” into the P&C Metadata Search System
2. He/she is quickly presented with a list of exact name matches and synonyms
3. He/she determines “Net Paid Loss Amount” is the right field to use, it is an “approved source” and who the Steward is.
4. He/she is able to conduct an impact analysis and determine the data lineage, where it was created, and the rules used to calculate it.

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**Master Name Details for: Net Paid Loss Amount**

- Type: Claims
- Subtype: Claim
- Contribution: Net Paid Loss Amount

**Data Lineage**

- Current: Net Paid Loss Amount
- Status: Calculation Unit: Insurance
- Calculation: Net Loss Amount