ReImagine
insurance

CRC
CONFERENCE | CONGRÈS

THE 62nd ANNUAL
CANADIAN
REINSURANCE
CONFERENCE

Insurance Analytics in Practice

A practical look at data analytics featuring:

Brian Millman, VP, MIB

Genevra Pflaum, AVP, Client Data

Warren Habib, CTO, Everplans

Moderated by **Mitch Ocampo, LOGiQ³**

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The production of data is expanding at an astonishing pace. Experts now point to a 4300% increase in annual data generation by 2020. Drivers include the switch from analog to digital technologies and the rapid increase in data generation by individuals and corporations alike.

2020: MORE THAN 1/3 OF THE DATA PRODUCED WILL LIVE IN OR PASS THROUGH THE CLOUD.

Legend:
- Size of Total Data
- Enterprise Managed Data
- Enterprise Created Data

2012: CUSTOMERS WILL START STORING 1 EB OF INFORMATION.

2020 — 35ZB
2015 — 7.9ZB
2010
2009

28ZB
10.5ZB
6.32ZB
2.37ZB

1.2ZB
.96ZB
.36ZB
.79ZB

WHAT IS A ZETTABYTE?

1,000,000,000,000	gigabytes
1,000,000,000,000	terabytes
1,000,000,000,000	petabytes
1,000,000,000,000	exabytes
1,000,000,000,000	zettabyte
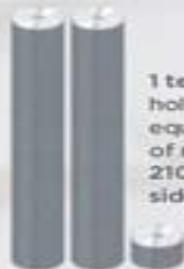
1 terabyte holds the equivalent of roughly 210 single-sided DVDs.

It took roughly 1 petabyte of local storage to render the 3D CGI effects in Avatar.
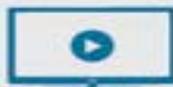
In 2007, the estimated information content of all human knowledge was 295 exabytes.

DATA PRODUCTION WILL BE 44 TIMES GREATER IN 2020 THAN IT WAS IN 2009

More than 70% of the digital universe is generated by individuals. But enterprises have responsibility for the storage, protection and management of 80% of it.*

Annual number of data breaches and exposed records in the US from 2005 - 2017

Data breaches and records exposed in millions

Year	Data breaches	Million records exposed
2005	157	66.9
2006	321	19.1
2007	446	127.7
2008	656	35.7
2009	498	222.5
2010	662	16.2
2011	419	22.9
2012	447	17.3
2013	614	91.98
2014	783	85.61
2015	781	169.07
2016	1 093	36.6
2017	1 579	178.96

Data breaches   Million records exposed

TECHNOLOGY

INTERNET INFORMATION PROVIDERS

GOOGL -0.55%

FB -1.87%

YHOO

AKAM

TELECOM SERVICES - DOMESTIC

T

VZ

SEMICONDUCTOR - BRO

INTC -0.70%

AVGO -1.15%

TXN +0.69%

APPLICATION SOFTWA

ORCL +0.49%

CRM +1.09%

INTU +0.19%

RHT

ADBE +2.24%

BUSINESS SOFTWARE & SERVICES

MSFT +1.69%

ADP +1.60%

CTSH +0.26%

CA

IRM

INFORMATION TECHN

IBM +1.94%

ACN +0.18%

AMAT +1.37%

LRCX -0.10

KLAC

SEMICOND

FIS +0.40

NVDA -1.35%

NETWORKING & CO

CSCO -0.48%

TEL

APH

GLW

AYI

SEMIC

ADI

DIVER

CCI

LVLT

DIVERSIFIE

HPE +0.20%

HPQ 0.56

DATA S

STX

EQIX +0.39

MU +1.80

COMMUNIC

QCOM -1.28%

MULTIMED

ATVI -0.03%

EA -0.66

FTV

FINANCIAL

MONEY CENTER BANKS

JPM +0.14%

BAC -0.42%

WFC +0.56%

C

PNC +0.22%

CREDIT SERVICES

MA

V

PYPL -0.39%

AXP +0.10%

COF +0.10%

SYF

DFS

EFX

TSS

INVESTMENT BR

GS -0.02%

MS +0.07%

SCHW +0.65%

CME -0.29%

ETFC LUK

ASSET MANAGE

BLK +0.70%

STT -0.12%

BEN +0.41%

BK +0.20%

AMP -0.10

NTRS +0.02

IVZ

REGIONAL - MIDW

USB +0.16%

FITB +1.09

KEY

PSA +1.73

PLD -0.05

INSURA

MMC +0.32%

AON +0.25

REIT - I

REIT - RETAIL

SPG +1.30%

AMT +1.09%

GGP

O

KIM

HCN

REIT - R

VNO

VTR

PROPERTY & CASUALTY INSURANCE

BRK-B +0.16%

ALL +1.08%

HIG L

AIG +0.22%

TRV +0.50

STI +0.55%

LIFE INSURANC

MET -0.36%

PFG

REGIONAL

BBT +0.44%

RF

AFL +0.85

ACCIDE

CFG +1.24

REGION

DIVERSIFI

REIT -

LNC -0.34

PGR +0.77%

XL

PRU +0.67%

TMK

ESS

ICE

BXP

ZION

SERVICES

ENTERTAINMENT - DIVERSIFI

CMCSA +1.58%

DIS +1.13%

TWX +0.51%

FOXA -0.11%

CBS +1.32%

CATALOG & MAIL ORDER H

AMZN -0.24%

DISCOUNT, VARIETY STORES

WMT +0.30%

COST +1.39%

TGT +2.55

DG

DLTR

HOME IMPROVEM

HD +1.06%

LOW

AIR DELIVERY &

UPS -0.21%

FDX -2.08%

DRUG STO

WBA +3.56%

SPECIALT

SBUX +0.84%

KSS

SPECIALTY

EBAY -0.03

ULTA

DAL -0.56

MAJOR AI

UAL

AAL

DRUGS

MCK +0.47%

CAH

CCL +0.42

RCL

BUSINESS SERVI

PCLN

SPGI -0.36%

MCO +0.33

FISV

VRSK

CTAS

CATV SYSTEMS

CHTR +1.06%

NFLX +0.40%

DEPART

TJX +1.55%

LB

REGION

LUV -0.63%

GROCER

APPARE

ROST

GPS

AUTO P

AZO +0.92

AAP

SYY +2.61%

HSIC

RAILROADS

UNP -2.02%

CSX -1.04%

NSC -1.31%

RESTAURANTS

MCD +0.33%

YUM

CMG

DRI

LODGI

MAR

EXPE +0.83

FAST

GWW

PAYX +0.75

TIF

URI

BBY

CONSUMER GOODS

ELECTRONIC EQUIPMENT

AAPL +1.15%

BEVERAGES - SOFT DRI

KO +1.83%

PEP +1.99%

PERSONAL PRODUCTS

PG

CL +1.12%

KMB +1.66%

EL +1.04

PROCESSED &

GIS +2.19%

CPB

CAG

K

SJM

MJN

AUTO MAN

GM +1.38%

F +0.94

CONFECTI

MDLZ +2.40%

HSY

AUTO

JCI +0.68%

CIGARETTES

PM +1.00%

MO +1.31%

RAI

TEXTILE - APP

NKE +1.66%

FL

TEXTILE -

VFC +2.05

RL

FOOD - MAJOR

KHC +2.27%

PACKAGI

IP

WRK

BLL

BEVER

STZ

BF-B

NWL +2.17%

CLX

TSN +2.66%

HRL

BEVER

CLEANING

ECL

ADM

HAS

BASIC MATERIALS

MAJOR INTEGRATED OIL

XOM -0.81%

CVX -0.72%

INDEPENDENT

COP -1.47%

OXY -0.52%

PXD -1.21%

DVN

APA

EOG -1.40%

APC -1.47%

HES

MRO

EQT

NBL -1.34

XEC

OIL & GAS EQU

SLB

HAL -1.26%

BHI

FTI

NOV

OIL & G

CHEMICALS - M

PX

DOW

APD +0.94

AGRICULTU

DD

MON -0.28%

CF

PSX -0.98%

VLO -0.38

MPC

SPECIALT

LYB -2.33

SHW

PPG -0.02

ALB

IFF

OIL & GAS PI

KMI +0.53%

CXO -1.41

NUE -0.28

GOLD

FCX

HEALTHCARE

DRUG MANUFACTURERS - M

JNJ +0.77%

PFE

MRK +0.18%

BIOTECHNOLOGY

AMGN +2.23%

GILD +1.45%

BIIB +1.29%

REGN +0.92%

CELG +2.65%

ALXN +2.95

ILMN +2.16

INCY +1.72

HEALTH CARE PLANS

UNH +1.38%

AET +0.80%

ANTM -0.14%

CVS +2.87%

ESRX +0.55%

CI

HUM +1.60

CNC

MEDICAL APPLIANCES

MDT -0.04%

ABT +0.05%

AGN +0.06%

DRUGS - GENERI

MYL +0.45

ZTS

A

LH

MEDICAL L

TMO +0.37%

DGX

MEDICAL INSTR

BDX -0.10%

BCR

HCA -0.31%

DVA

IDXX

PRGO

BSX -0.27%

ZBH

SYK -0.66%

ISRG

EW

VAR

BAX

UHS

INDUSTRIAL GOODS

DIVERSIFIED MACHINERY

GE

MMM -0.20%

HON -0.41%

DHR +0.02%

ETN -0.10%

ITW +0.73%

CMI -0.39%

IR

AEROSPACE/DEFENSE PRODUC

BA

UTX -0.28%

LMT +0.95%

RTN +0.05%

LLL

FARM &

CAT -0.92%

DE

GD -1.41%

FARM &

NOC +0.70%

ROP -1.18%

ROK -0.33

AEROSPAC

MLM

MAS

GENER

PCG -0.54%

WASTE M

WM +0.37%

RSG +0.37

INDUS

EMR -0.52%

WY +1.23

INDUS

SWK

SNA

UTILITIES

ELECTRIC UTILITIES

NEE +0.09%

DUK +0.53%

SO +1.22%

D

EIX -0.10

PPL -0.82

ED

AEP +0.15%

XEL -0.11

FE

SCG

LNT

DTE

PNW

DIVERSIFIED UTILI

EXC -0.10

PCG

PEG

OKE

CNP

SRE

AEE

CMS

WEC

The Policyholder Journey

Product Management
- Product Development
- Valuation

Data will grow 44x in 2020 than 2009

Marketing
- Market Development
- Product Launch

Digital Consumption ranges from 2% in Mexico to 23% in the UK*

52% would be willing to share data with insurance companies

Sales and Distribution
- Lead Management
- Distribution
- Remuneration

Underwriting and Risk Mgt
- Quote / Illustration
- Underwriting
- Reinsurance Facility

IoT contributes to 4300% increase in data by 2020

Policy Acquisition / Servicing
- Endorsements
- Lapse and Revival
- Adjustments / Refunds
- Loans / Withdrawals

By 2020 enterprise managed data will contribute 28 ZB

Claims Management
- Loss Reserving
- Assessment / Adjudication
- Subrogation / Litigation
- Fraud Management

Finance and Accounts
- Banking / Budgeting
- Financial Statements
- Costing / Accts / Tax

* Source: http://www.bain.com/publications/articles/customer-behavior-loyalty-in-insurance-global-2017.aspx

MIB Data

Data Classification

MIB requirements drive the data classification

- Regulatory (HIPAA, FACTA/FCRA, State Data Privacy Laws, Country Laws)
- Contractual: Master Service Agreements (MSA's), Business Associate Agreements (BAA's), Privacy and Confidentiality Agreements, MIB Services' (Cross Check, HRID) Agreements
- MIB company decisions (payroll)

Data Classification drives the protection requirements

Data Classification

- Consumer-Protected Data
- Company-Protected Information
    - Confidential Information
    - Proprietary Information
- Public Information

Certifications
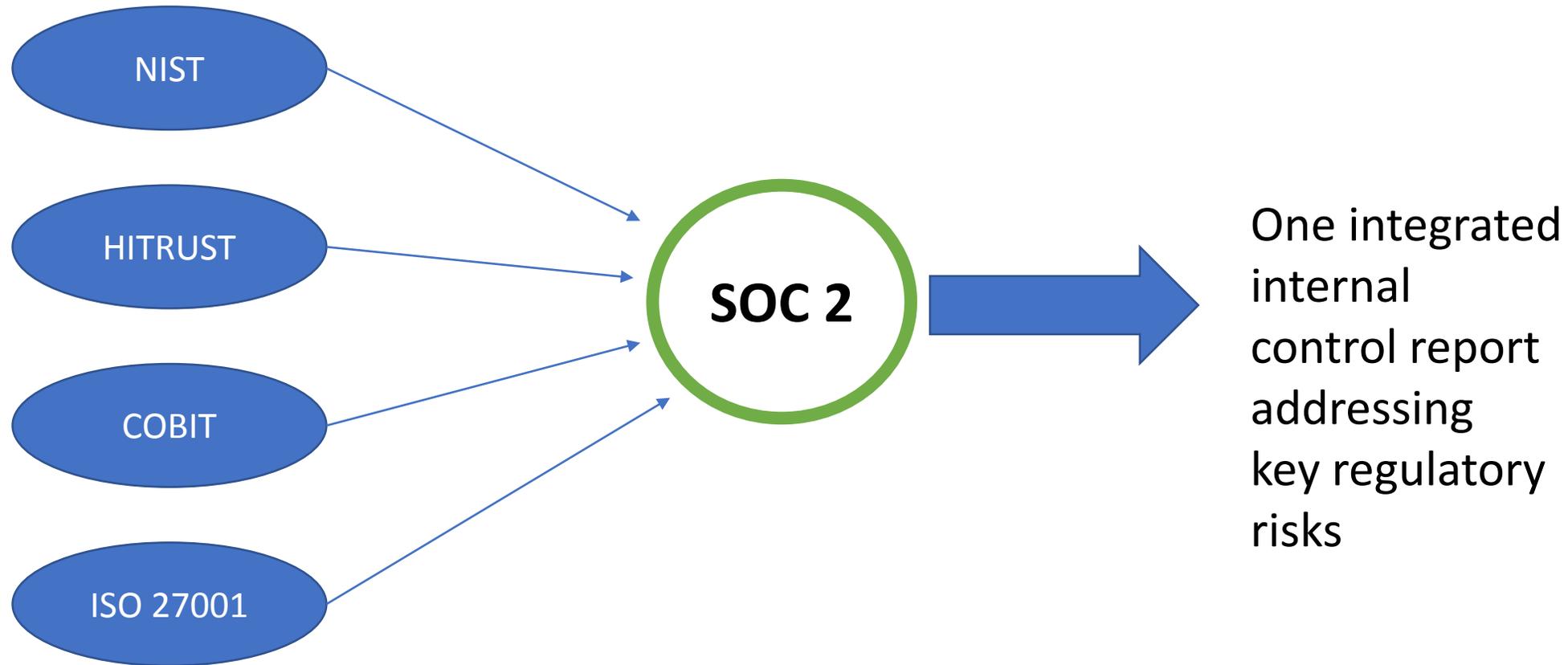
Data Handling

Data access

Data coordination

Data Enrichment

Historic

- First Name
- Last Name
- MI
- DOB
- Residence
- Place of Birth

Enriched

- SSN
- Product Type
- Line of Business
- Face Amount
- Currency Type

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Data Analytics

Examples
• MIB Life Index
• Impairment Trends
• ReSHIP
• MIDAS

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Multiple Sources

The Reinsurance Voice from Above

I need seriatim premiums and claims for the past 5 years for these 30 treaties. I need to know which are Fac, which are Joint, which are Conversions and which have reached Attained Age 85.

And I need it yesterday!

Treaty A
Treaty B
Treaty C
Treaty D
Treaty E
Treaty F
Treaty G
Treaty H
Treaty I
Treaty J
Treaty K
Treaty L
Treaty M
Treaty N
Treaty XYZ

Multiple Sources
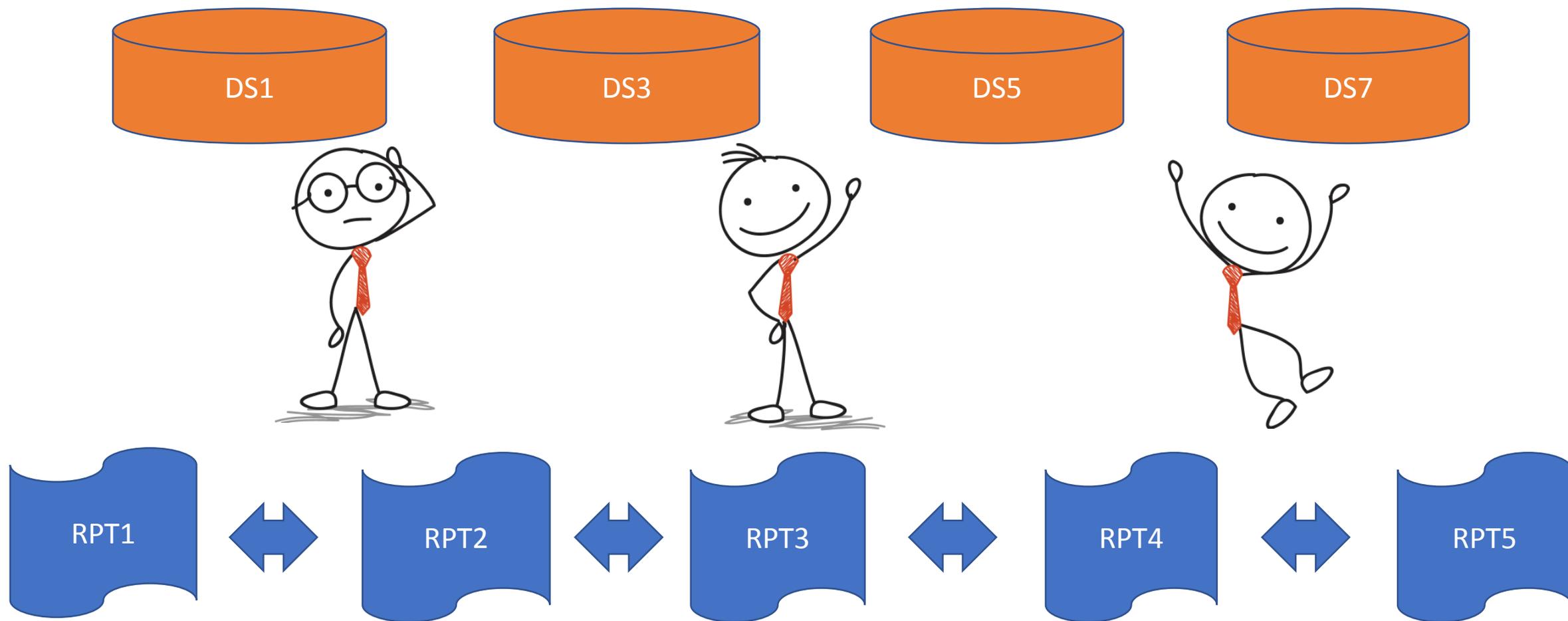
Multiple Sources

Multiple Sources
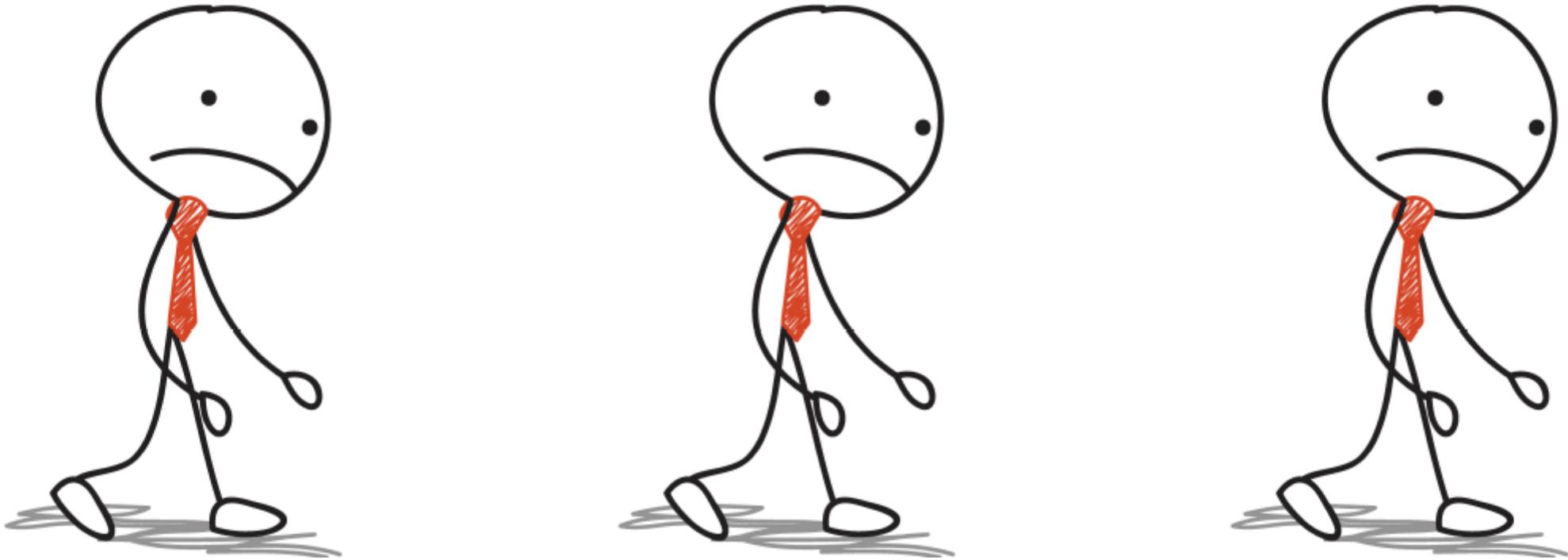
One Source

Data Warehouse

- is a central repository of integrated data from one or more disparate sources. It stores current and historical data in one single place.

- Sounds great!

- Getting there as an organization takes some work…

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One Source

Recommendation

- Form a data experts group with stakeholders from all the areas that would utilize the data warehouse
    - agree on mappings
    - meet regularly
    - document
- Have dedicated IT support

Examples of Inputs

- Standardized:
  - client inforce data files
  - validated client transaction files/premiums
  - client claim files
  - client reported reserve files
  - accelerated underwriting data
  - pricing data
- Actuarial treaty level mapping
- Administration system policies/detail and retro cessions
- Claims and Retro Claims
- Other?

Examples of Outputs

- Data used for Modeling
- Valuation for reserving information
- Experience Study data
- Corporate Retention
- Large Claims
- Premium validations data
- Cash flow analysis (treaty profitability)
- New business monitoring
- Any special look at the data, e.g. PLT analysis
- Any request from the Reinsurance Voice from Above

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Benefits of One Source

Benefit	Description
Maximize Resource Utilization and Effectiveness	• Moving data validation and cleansing activities out of business processes allows for individuals to focus on core job activities.
Process Optimization / Efficiency	• Capture and automate one-off data transformation / enrichment activities in a consumption-ready source defined by a common and consistent standard representing the single version of seriatim data. • Business rules used to derive data would be applied once and used by many adding consistency to our processes. • Reduces process redundancies (e.g., ad hoc reconciliations) • Provide stability to data analytic processes
Data Availability	• Enhance data availability for key processes. Moving from a process where data is validated when needed by data set to a process where data is constantly maintained in order to always present the latest version without involving manual intervention.
Competitiveness	• Enhances the ability to consistently deliver studies and reports in a timely manner.
Earnings Anlaysis	• Enables improved alignment between earnings, pricing and experience studies.
Audit	• Potential reduction in audit pain points surrounding reconciling disparate data sets

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everplans®

Overview

Warren Habib
Chief Technology Officer

What is Everplans?

A life and legacy platform created to help people securely store, organize and share their most important information with the people they care about most.

An Everplan can include wills, life insurance policies, healthcare directives, online accounts, and other critical household information that oftentimes goes undocumented and unmentioned when families need it most.

Smart, Guided Vault

Everplans includes 29 sections across the following 6 categories:

- My Life
- Health and Medical
- Financial
- Legal
- Eldercare
- After I'm gone

Ongoing Guidance

Everplans helps to hold the user's hand **guiding** them through each section encouraging them throughout the process.

Ongoing Guidance

Within each section users can find general education on each life and legacy planning topic

Inside the Everplan

Users can enter as much or as little information as they want, and can choose to drag and drop or upload copies of files directly from their computer.

Insights & Analytics

How does Everplans approach data?

- Everplans is HIPAA-compliant, SOC-2 certified
- All information is encrypted at rest (several ways!) and in motion
- Data is owned by the user and can only be seen by the user and those they explicitly designate

We use metadata in two ways

- In aggregate, to help provide recommendations on what you might want to complete next in your plan based on what people in similar circumstances do
- Individually, to identify gaps in your planning and offer opportunities to fill those gaps

Onboarding
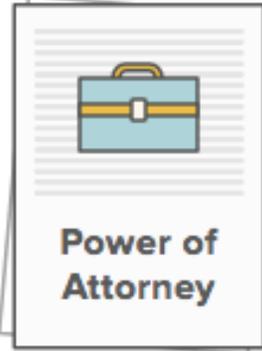
During onboarding we take the first few simple steps to help figure out where a user has a gap in their planning

Filling the Gap

Tackle Important Gaps In Your Planning:

Life Insurance

84% of people think life insurance is important.

59% of people actually have it.

Don't be in that weird 25%.

Check out our Life Insurance Cheat Sheet ›

Want to see some options?

Find The Right Policy

Let users opt in to an experience to shop for insurance and get their permission to use their data to improve it

everplans®

Thank You

Q&A Discussion

Conclusion

Could the future insurer be a…

Life Coach

Personal Trainer

Driving Instructor

Business Consultant

How will you rebrand?

ReImagine insurance