

 **WORLD EMERGING INDUSTRIES SUMMIT**

Customer & Product Analytics and Active Data Governance™

*Agile Deployment of an Enterprise
Analytics & Data Management Program*

The 3rd World Emerging Industries Summit

Zhengzhou City, Henan Province, China

April 20th-22nd, 2015



Experience With Best Practices

- Noetic is a team of analysts and architects focused on the Financial Services, Healthcare and Government sectors.
- We use technology to simplify, organize and manage complex data requirements effectively.
- Every organization has opportunities and challenges that we can help unlock.



Credit Origination
Credit Risk Management
Reference Data
Securities Servicing
Data Warehousing



Reference Data
Data Warehousing



MBS Credit Analytics
Portfolio Analytics
Reference Data



Reference Data
Loan & MBS Analytics
Data Warehousing



Reference Data
ETL & Data Warehousing
Process & Control Frameworks



Instrument Reference Data
Real Time Surveillance



GRUPO BURSÁTIL MEXICANO

Party & Account Master
Product Master
Operational Data Store
Data Warehouse

no·et·ic

[noh-et-ik] adjective

1. of or pertaining to the mind.
2. originating in or apprehended by the [reason](#).

Origin: 1645–55; < Greek noētikós intelligent, equivalent to nóē (sis) [noesis](#) + -tikos [-tic](#)



Mortgage Origination
Credit Risk Management
Reference Data



Market Research & Analysis
Reference Data



MBS Analytics
Customer Analytics
Customer-For-Life



Security Master
Counterparty Master
Data Warehousing



MBS Analytics



Reference Data Product Strategy
Corporate Actions
Tick Data Warehousing



THOMSON REUTERS

Real Time Analytics
Real Time Data Integration



Reference Data Product Strategy
Corporate Governance
Mortgage Product Analytics



The Noetic Approach

- Our goal is to help organizations improve financial and operational performance.
- We provide our clients with frank assessments of client and product management capabilities, data architecture, data processing and analytic requirements.
- We don't mince words.
- We help to accelerate the time to market, and our solutions help businesses to deliver new financial and analytical products and services quickly.

part·ner

pärt-nər also 'pärd-\

archaic : one that shares : partaker

1. an ally or companion.
2. a member of a partnership.
3. one of two or more parties who play together against an opponent or competitor.

— part·ner·less antonym oun \'

The Key Questions

- Who are my Customers?
- Who is in the household?
- What are their educational, income and professional demographics?
- Where do they live and what is their standard of living?
- What (products & services) do they actively use now?
- What products & services will they want next, based upon their profile and history?

And then...

- Do I have what they need, do I need to get more, or do they want something else?
- Do I have a data tech management strategy that enables this kind of analysis and product or service delivery?
- Am I able to develop new insights before the rest of world, and can I be the first to market with these new business strategies?

Develop a Data Management Strategy

Approach

- Very few packaged solutions actually meet the requirements for successful business operations.
- We believe that a comprehensive data-architectural solution brings the highest ROI and shortest payback for any tech investment.
- Do do this, we begin by collecting the critical reference data elements needed to identify all of the possible clients, counterparties, products and services.
- We identify the key product management processes, and the operational components required for each process.

The Path

- Define opportunities to streamline processes and eliminate redundancies.
- Define Challenges in the Current State
- Visualize the Future State
- Incrementally Improve and Optimize the Operating Model

Develop a Data Management Security Strategy

- The need to protect data assets is critical. A robust data security strategy defines the fundamental elements of a multi-layer approach to keep critical data from being compromised.
- Managers need to identify sensitive data and explicitly indicate when data is sensitive, restricted, or in a special category such as “Personally Identifiable Information”?
- The strategy should include assignment of security impact levels in your models and metadata.
 - » Classifications of data being compromised
 - » The importance of security impact levels
 - » Outline of the data security strategy
- Identify which information is restricted and which roles can access it.
- Implement data security in the logical and physical data models.

Noetic Enables Cradle-to-Grave Management of Customer Information

CLIENT INFORMATION MANAGEMENT

Managing Client Information

■ A Customer “Master” Database

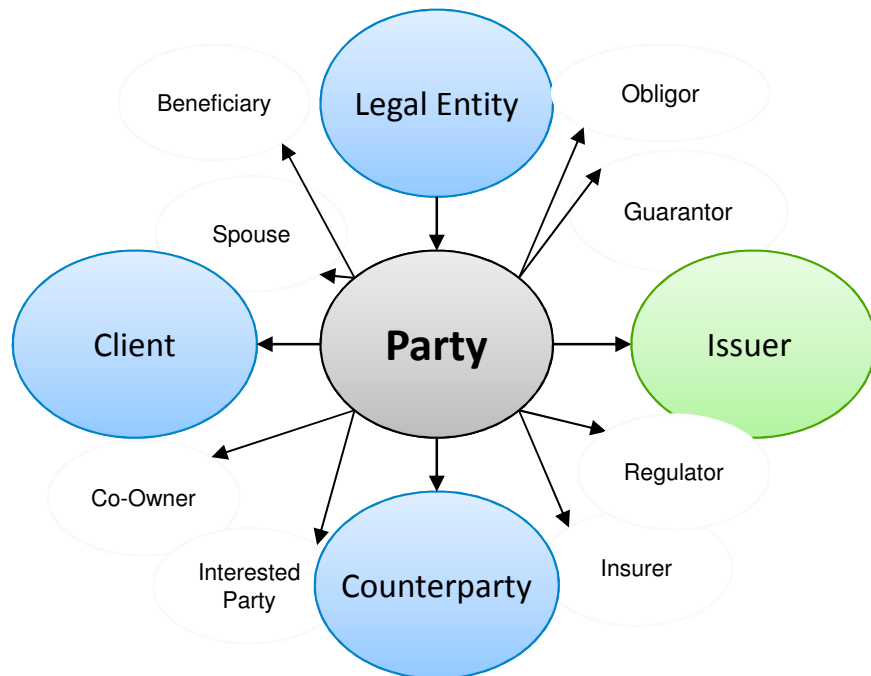
- » The Customer Master is a fully-integrated database system used by sophisticated organizations to continuously maintain and evaluate information about customers and counterparties with which they interact.
- » It is designed to handle comprehensive identity, credit, demography and risk management requirements, and can be used to integrate all types of product and transaction processors, and all business analytics.

Party Identity <ul style="list-style-type: none">• Name• DOB/Date of Incorporation• State or Country of Birth• Tax ID• Relationship to Borrower	Party Contact <ul style="list-style-type: none">• Employer• Telephone(s)• Email• Mailing Address (Tax/Legal)• Social Media	Party Demographic <ul style="list-style-type: none">• Entity Type• Race• Income/Assets• Household• Profession or Industry
Party Credit <ul style="list-style-type: none">• Tax ID• Monthly Income• Monthly Debt Obligations• FICO Score• Internal Credit Rating	Party Banking <ul style="list-style-type: none">• Institution Name• Institution ID• Institution Type• Routing & Transit• Account Number	Party Role <ul style="list-style-type: none">• Role ID• Relationship ID• Role Type• Relationship Type• Effective Date

■ Standardized Setup for Parties and Accounts

- » The first time any party or counterparty is introduced to the organization, it should be setup in the Master Database so that commonly used, consistent information can be shared, on demand, with any business user or any business process that requires it.
- » The approach reduces operational and IT expenses, improves quality and accuracy of analytics, and ensures consistent, up-to-date information is used throughout a Customer relationship. The key purpose of rigorous setup is to ensure that data about each Customer and Account is carefully cleansed and normalized, and prepared for use in core processes.

The Noetic Master Model: Parties & Counterparties



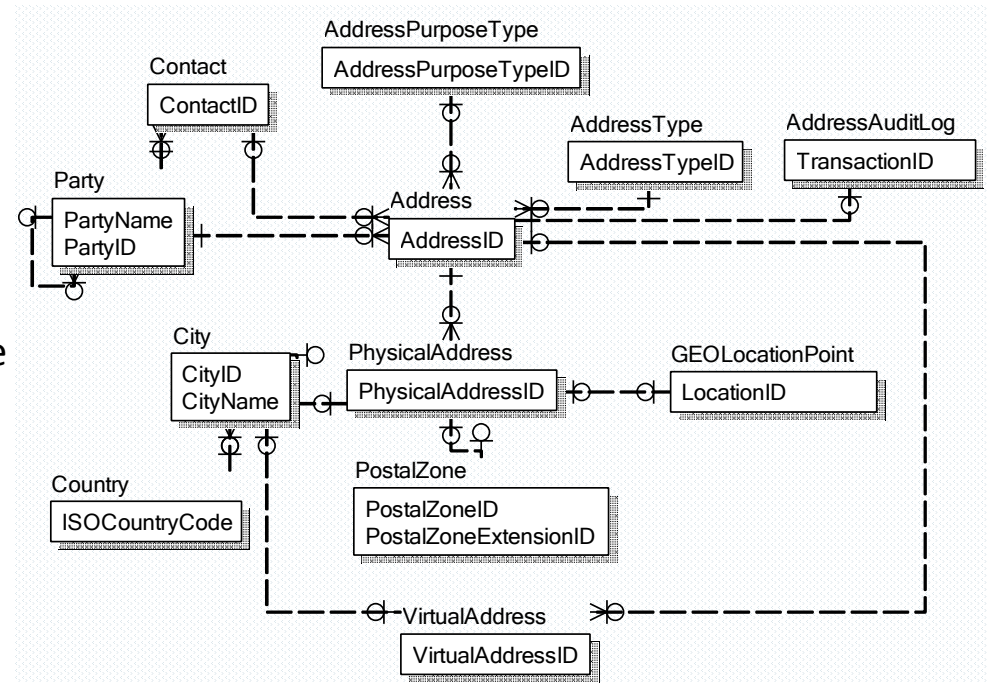
What Does The Noetic Master Model Do?

- » Information about Parties, Party Roles, and Products
- » A framework for enabling advanced analytics and ensuring data quality across business applications.
- » The ability to support the following functions:
 - Client & Product Setup
 - Ratings
 - Portfolio Management
 - Order Management
 - Back Office Processing
 - Valuation of Positions & Products
 - MIS, Regulatory Reporting & Risk Management
- » Provides a framework for identifying and describing any party involved in any type of transaction, and any financial instrument, composite or index
- » Acts as a catalyst to enable straight-through-processing, advanced analytics and operating efficiencies
- » Leverages industry standards that ensure definitions and meta data is complete and valid

- The core structure is the Party, as an institution or an individual
- Parties play roles, the most common of which are Clients, Counterparties, Brokers, Employees
- Parties can play the role of Issuer, Guarantor, Regulator, Custodian, Auditor, Depository, and others as needed

The Noetic Master Model: Global Physical, Postal and Virtual Addresses

- Noetic includes locations for all Parties
 - » Physical & Moral Parties
 - » Internal units, branches, offices
 - » Customer homes, offices
 - » Virtual (email, Facebook, Twitter, etc.)
- The granularity of Noetic addresses is precise
 - » Longitude & latitude
 - » ISO Country Codes
 - » Global, Regional and Local Postal Codes



Noetic Address Setup Screen

Address Type:

Street:

Btw Streets:

Outside #: Inside #:

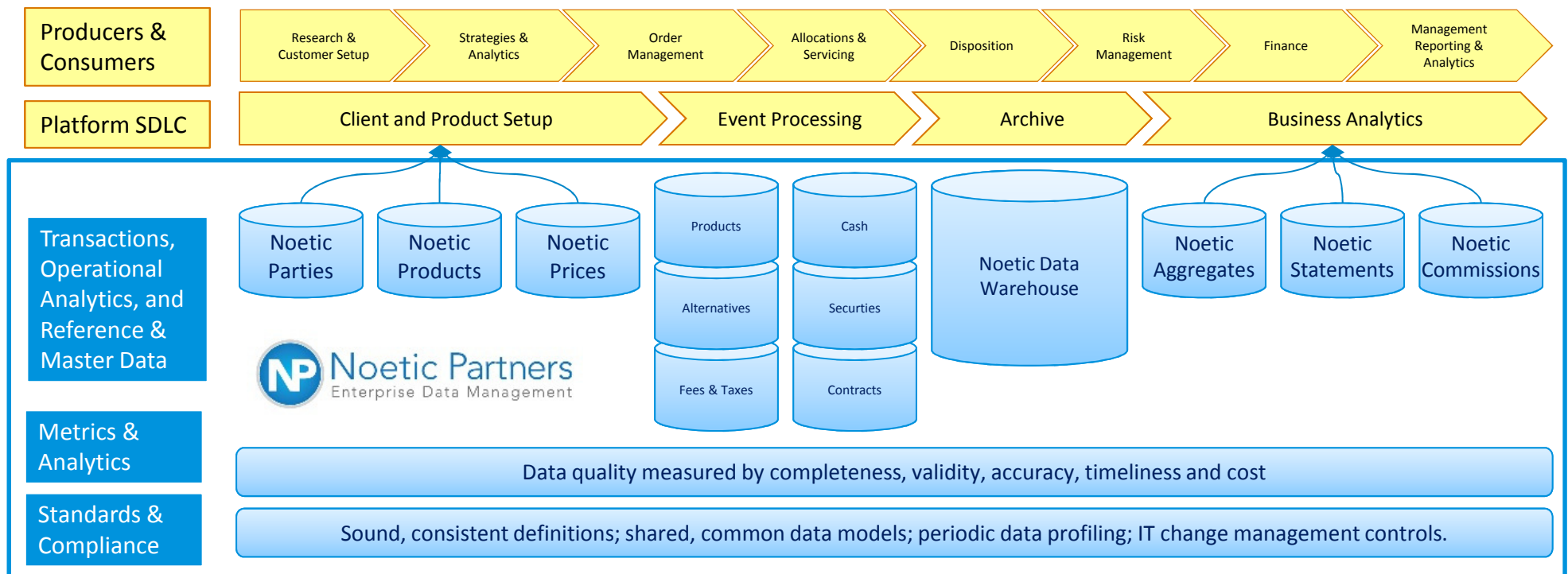
Country: State:

City: Township:

Suburb: ZipCode:

Where does Noetic Fit in the Business World: The Complete Process

- The central pillars of a best-in-class, enterprise data and analytics strategy include reference data, meta data, validated business definitions, standardized data models, and metrics, and is technology agnostic.
- Reference data strategy is critical to the success of straight-through-processing (STP) initiatives intended to improve consistency and accuracy, and minimize effort, rework, errors, fails, cancels, etc.
- Consolidated reporting and other business intelligence (BI) initiatives are faster and less expensive to implement if robust reference data services and STP are in place.
- Data is fit for use when it can be used without modification or correction by each of its users.



Noetic Capabilities: What We Do Best!

Noetic Active Data Governance™

- **Assessment of Data Management Maturity**
 - » Noetic will conduct an evaluation of Enterprise Data Management capabilities, using the Noetic Six-Sigma "Lite" technique and the Noetic Active Data Governance Model™ for current state analysis of Business Process Architecture, Technical Data Architecture & Data Quality
 - » We will make Strategic & Tactical Recommendations to guide efforts to improve business performance, legal and regulatory compliance
- **Develop Enterprise Data Strategy & Business Cases**
 - » Noetic will help to define your Strategic Data Objectives & Tactical Data Requirements, and guide development of the enterprise Data Strategy & Roadmap
 - » We will recommend Best Practices and possible Alternatives, and conduct Financial Analysis to get to ROI, NPV and Payback Period
- **Establish the Active Data Governance™ Program**
 - » Noetic will work with you to define Strategy, Objectives, Scope, Approach, Policies, Procedures, Key Process Controls, Stakeholder Roles & Functions, and to initiate & execute the Program, and we will help to establish a Continuous Improvement Processes
- **Outsourced Noetic Chief Data Officer Services**
 - » We will provide Accountable On-Site Executives to provide start-up leadership, strategy & change control
 - » The CDO will help to Design, Develop & Execute the Data Strategy, and develop Policies & Procedures, conduct Organizational Assessments, make Recommendations for Changes, and support Management Execution of the Plans

Noetic Data Architecture, Design & Engineering

- **The Noetic Master Model**
 - » The Noetic Master Model is a Comprehensive Model for Financial Data Management, in Global Banking, Capital and Cash Management, Investments, Brokerage and Transaction Processing
 - » The Noetic Master Model Data Dictionary is the most complete resource of its kind, and can be the Blueprint for your Enterprise
- **Reference & Master Data Management (MDM)**
 - » Noetic was among the first to develop enterprise STP RDS & MDM solutions for several major banks, and we are the leader in enterprise data change management
 - » To get it right the first time, we conduct Subject Area Analyses, develop tailored Conceptual, Logical & Physical Designs, enable Legacy Integration, and prepare Technical Architectures, Designs & Implementations
- **Data Warehousing & Big Data Architecture**
 - » Noetic will help you develop the Strategy & Plans for your Big Data, from Platform Design, Database Modeling, and selection of Databases, File Services & Storage, and will help develop the Technical Architecture required to support the strategy
 - » Properly formed Business Intelligence solutions empower the right people to receive the right information, at the right time, enabling the right decisions.
- **Data Quality Auditing & Data Compliance**
 - » We conduct Operational Data Audits to identify gaps and challenges, with the goal of improving core business capabilities and establishing Data Control Plans

Active Data Governance™ is both a process and an accountability structure for managing “shared” enterprise data about clients, products, business transactions and periodic positions.

WHAT IS ACTIVE DATA GOVERNANCE™?

The Objective: Data Is Fit For Purpose



Data is “Fit for Purpose” when each authorized user in enterprise business, financial and operational functions can access quality data that is required to perform his or her role in a timely basis.

Data Quality Management is the continuous process of measuring the fitness of data for use in business, financial and technology functions along key dimensions – including completeness, validity, timeliness, accuracy and consistency – in order to improve business performance of the functions.

The Noetic Data Governance Framework

Practical implementation of the Noetic framework involves the design and implementation of several complementary components:

1. The Enterprise Data Strategy

- » The foundation of the business is its data, about clients, plans, managers, products, positions, recommendations and performance. The business should develop and maintain a vision of where it wants to go, and how it intends to get there.

2. Organizational Alignment

- » The design of an organizational framework that is tailored to the firm, specifically, and its systems and business processes, including an accountability and communications framework to support ongoing management of enterprise data quality.

3. Technology Change Management

- » Business and IT groups must work together to implement a simplified but effective change management process to ensure that changes to existing systems and analytics, and new systems and analytics, conform to the enterprise data standards.

4. End User Computing System Controls

- » The use of End User Computing Systems (EUC) is often prolific, and the empowerment that initiated the growth and use of EUC's is also a challenge that should be remediated.

5. Policy, Standards and Procedures Tailored to the Organization

- » The Policy describes the framework for consistent application of enterprise-wide Data Quality Standards and Procedures.

Management Accountability

- Our experience is that Steering Committees, Data Governance Boards and other organizational groups are valuable for education during transition periods, but generally lose resonance quickly.
- There are several key roles in the Noetic Data Governance Framework
 - » Accountable Managers
 - Data Program Manager
 - Client Data Manager
 - Product Data Manager
 - Performance Data Manager
 - IT Program Manager
 - » Producers & Consumers
 - Consulting & Sales
 - Research
 - Accounting & Finance
- We believe that when individuals are appointed to key roles and vested with responsibility and accountability, organizations can achieve lofty and aggressive goals and can build sustainable, executable data strategies.



Thank You!

- The Noetic Master Model is the worlds most comprehensive solution for analytics and data management.
- Noetic Active Data Management is the most effective way to manage the enterprise.
- Get Noetic!

Justin Magruder

President, Founder

Noetic Partners

C: +1 (212) 879-1161

O: +1 (212) 836-4351

E: justin.magruder@noeticpartners.com

Diane Schmidt

Managing Director

Noetic Partners

C: +1 (571) 216-8287

O: +1 (212) 826-4351

E: diane.schmidt@noeticpartners.com