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Status and Overview

The Industry Government Consensus Standard for DM

Data Management: EIA-Standard-859

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Software Technology Conference



AGENDA

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- **Overview of the Case for Change**
- **Background and Origin for 859**
- **Activities Summary**
- **Discuss the rationale and the current reinvention initiative**
- **The Global View**
- **Integration, Synergy, Compatibility, and Relationships with EIA-StandARDS-649A and 836**
- **The Future for EIA-Standard-859**
- **Schedule for Completion**

Past, Present, and Future Activities



Data Management Yesterday

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- **Library functions, skills**
 - Archiving, filing, distributing, copying
- **Contract management support**
 - Data Rights, Proprietary Data
 - Data pricing, marking, ordering
-  **Maintaining & tracking document deliverables**
- **Data Calls to functional areas**
- **A provider of *Documents* - not Information**

The Emphasis: Buying Data



The Current Status of Data Management

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Generally ...

- **Misunderstood, antiquated**
- **Practiced inconsistently**
- **Poorly staffed, or not staffed at all**
- **“Absorbed” badly into Information Technology**
- **In need of guidance, standards**
- **An untapped resource for trading partners**
 - **Experience, expertise that are not applied, leveraged, understood**
 - **Due to staffing, downsizing, confusion: no longer present for duty**
- **No standardized practice - no current training**
- **Unresponsive to sea changes in the business environment**

No map, an unknown destination, on a road that goes nowhere

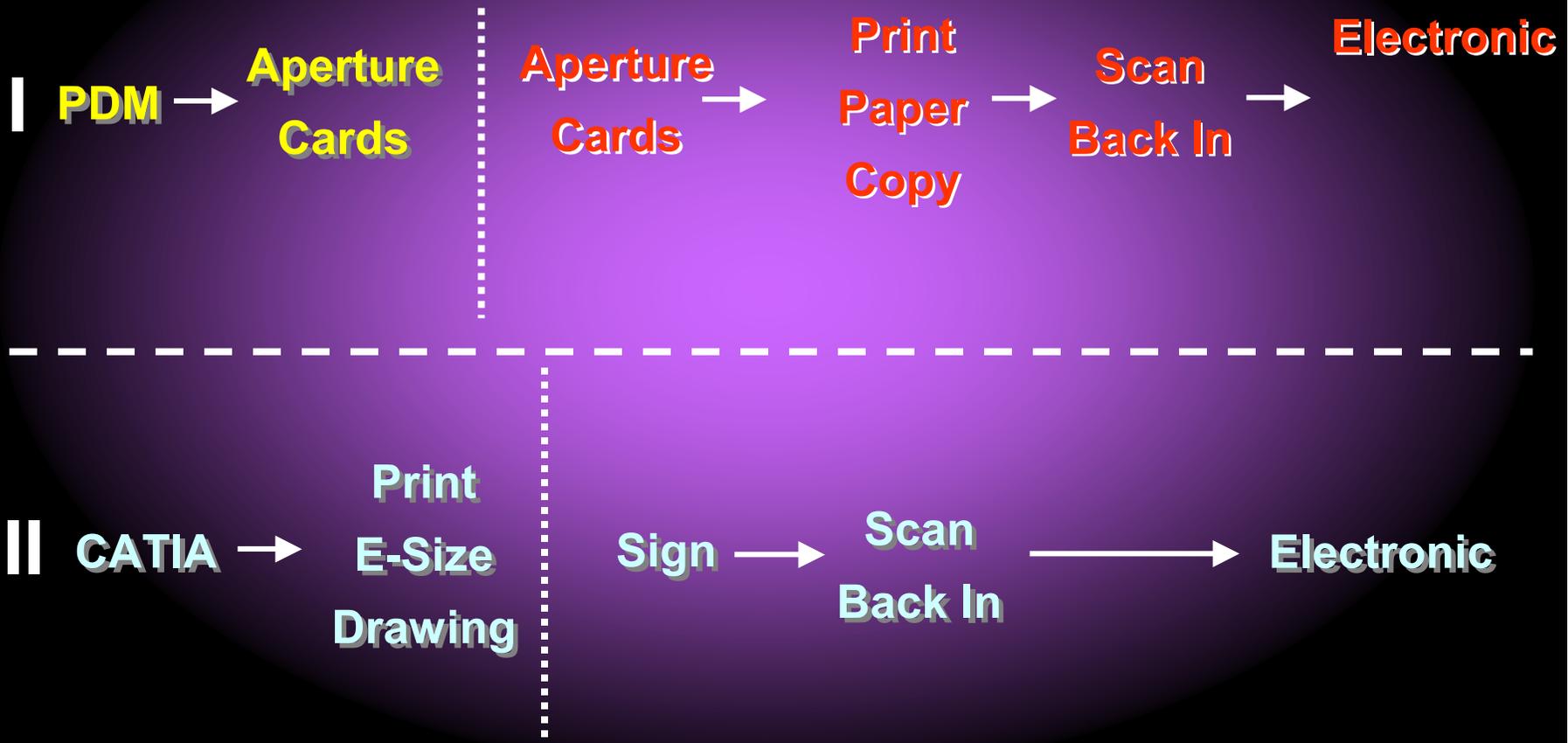


Two Illustrative Problem Cases

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Contractor

Government





Industry Recognition: Technology, Business, and Competitive Edge Change Drivers Are Rapidly Evolving

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- **Technology**

Access, Share, Buy, Delivery, Acceptance Concepts are rapidly changing/evolving

- **Business**

Efficiencies, Effectiveness, Transaction Velocity, Standardization of Practices/Processes, Partnering

- **Competition**

Proprietary Data, Intellectual Capital, Performance Specification
Diminishing Government Market

New Rules to Support New Requirements and Expectations



Recognition: Need for Policy, Guidance from the USG Sector

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- **Recent Past: 973, 649, 2549**
 - Prescriptive
 - Performance specification-unfriendly, streamlining-ineffective
- **Procurement Issues:**
 - IP, Diminishing business partners, evolving acquisition practices, commercial practices/standards
- **Hiatus**
 - CM/DM was “homeless” ... “voted off the island”
- **Awareness-Raising Efforts**
 - Ground swell from industry, practitioners
- **Brokering Occurred**
 - Industry, GEIA, DoD, Services

836 and 859 Activities Initiated and Ongoing



Changing Roles and Functions for Data Management

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“As-Built”

- Traditional DM focused on Program/project management support
- Predominately manual processes
- Largely clerical in nature
- Limited technical expertise required
- Interfaces with but isolated from other functions

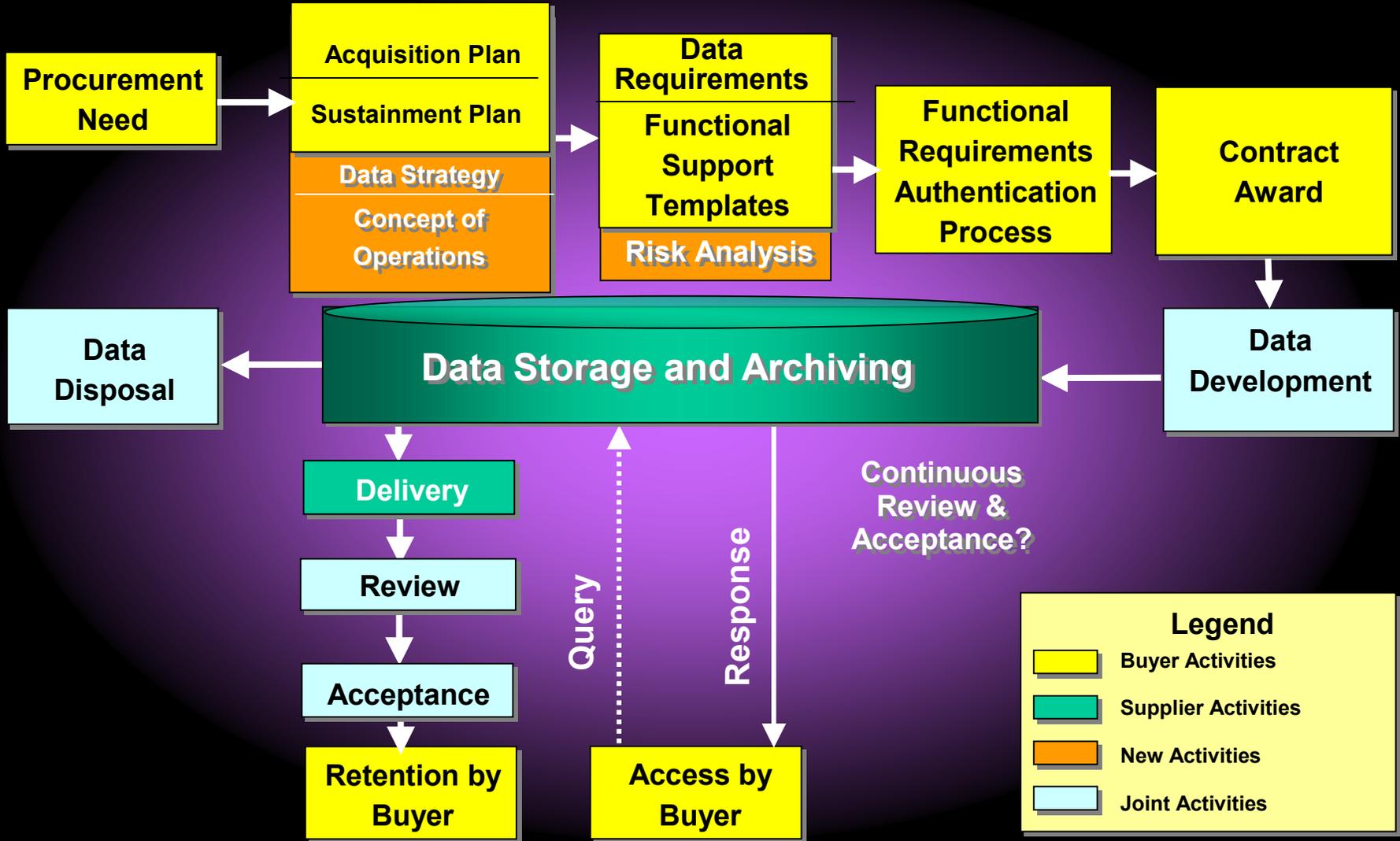
“As-Defined”

- New DM focused on global support
- Electronic library development and management
- New skills and technical expertise required
- Generation and protection of e-data
- Electronic technical expertise essential
- Integral part of functional teams



Evolving Data Management Model

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What Is Required to Support That Model?

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- **A clear understanding of the Acquisition Strategy and/or the Performance Specification**
 - Derived from that: Sustainment intent/planning, system role
- **New processes to define and communicate data requirements**
- **Data strategy**
 - What will be accessed/purchased/deferred/not needed
- **Ongoing mechanisms to authenticate requirements on both sides**

Trust-based relationships, trading partner views, technology application, and buyer/seller philosophies and actions ...



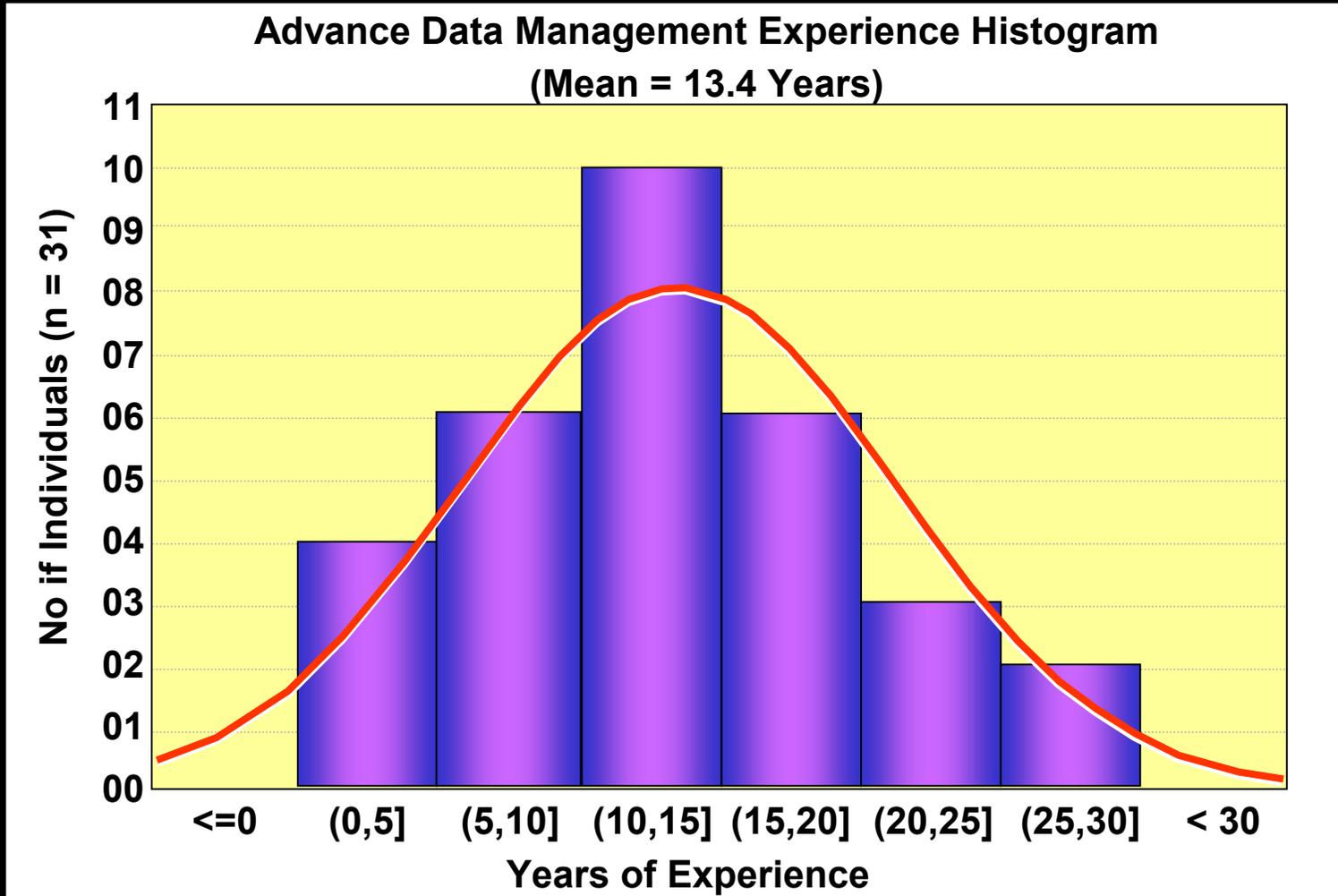
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Origins and Current Status of The 859 Effort



Advanced DM Panel Profile

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Issues Identified and Addressed

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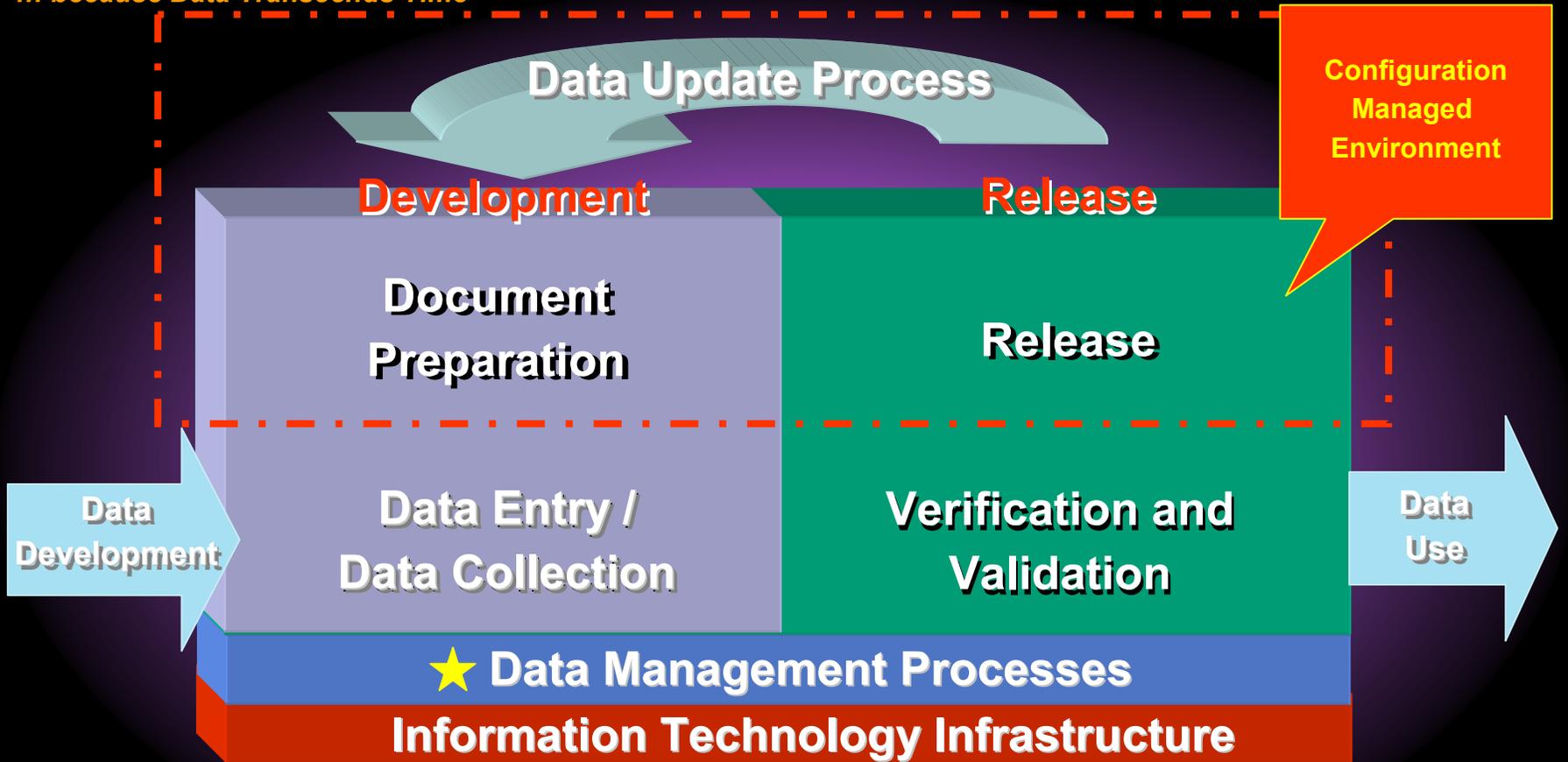
Questions, Elements, and Outputs Defined

- Process Development & Control
- ID & Management of Life Cycle Data by Phase/Activity
- Work Instructions
- CITIS
- Intellectual Property
- Data Acquisition for Functional & Re-procurement Support
- Reducing Data Ownership Costs
- Subcontracts & Contracts data
- Programmatic & Administrative Data
- Metrics
- e-Data and Web Interfaces
- Release Management Delivery & Distribution of Software Products
- Risk Mitigation
- Intellectual Property/Capital
- Export/Import Issues



Enterprise Lifecycle Information Architecture Model

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Data Attributes:
 Form: Paper/Graphic, Text
 Status: In Development/Released
 Location: File Server/File Cabinet

Environment:
 Content-managed
 Configuration-managed
 Activities Recursive/Iterative



The Principles in the 859 Standard Will Be the Basis For...

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***Articulating the data performance and
functional requirements in support of ...***

- ✓ **Internal Program Management During the
Acquisition Phases**
- ✓ **Review and Management of Contract
Performance**
- ✓ **Operation**
- ✓ **Sustainment--Including Both Maintenance and
Materiel Management**



Translation: The Objective

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A Standard That Provides ...

- ✓ **The concise guide for the Data Management Community of Practice**
- ✓ **An industry consensus document for trading partners**
- ✓ **Principles and processes for the management of data**
- ✓ **Best Practices for DM**



Vision Statement For EIA-859

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Data management is defined as the principles, processes, and systems for the *sharing, integration and management* of data, through which government and industry trading partners ensure that their data (information), products, and those of their suppliers, *meet or exceed customer requirements and provide consistently high quality data, over the life-cycle, to their customers at an affordable cost.*



Purpose and Content of Standard

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- **Provide uniform principles for the sharing, exchange, integration and management of system acquisition data (engineering and programmatic)**
- **Voluntary consensus standard**
- **Although the standard is not intended to be a definitive treatment of the intellectual property rights**
 - Puts forth case for establishing linkage between data management and IP strategy
 - Provides best practices for doing so



Defining the New DM

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- **“What is Data Management?”**
 - **Enterprise Information Management**
 - The functional discipline that develops and administers common processes and systems for data sharing - to ensure the highest quality, lowest cost product is available to the enterprise.
 - The management of contractual delivery that provides assurance that customer requirements are met or exceeded - consistently and uniformly.
- **“Who does it, and why?”**
 - Business trading partners who must apply the principles of data management - irrespective of the body of data, the type of industry, or the product or service produced.



Future Roles & Goals for Data Management

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- **Data “Requirements” Management**
- **Performed in a digital environment**
- **Focused on the Life Cycle of Data**
 - **Products, Services**
 - **Phases, Evolving Needs**
- **Consistent, standardized processes**
- **Complementing CM, as well as other business functions**
- **Integral to the business process - rules for business**
- **Comprising all business data (programmatic, contractual, administrative, and technical)**
- **“Purchase Phase” support for “Operations and Supply” Phase” data needs**
 - **Both commercial and government**
- **Corporate Data Bankers**

***Reflecting New Acquisition Realities and
Trading Partner Roles***



The Evolutionary Path For Data Management

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- **Knowledge brokers who augment and guide Information Technology: Content Managers**
- **Enterprise data traders & providers**
- **Enablers of data access, sharing, and storage**
- **Interpreters, characterizers of data**
- **Metadata architects/developers for database applications**
- **Data Miners for Data Warehousing tools**
- **Process and improvement objective/development specialists**
- **The center of knowledge for data users - *super users***

Information and Knowledge Engineering



New Definitions and New Paradigms for DM

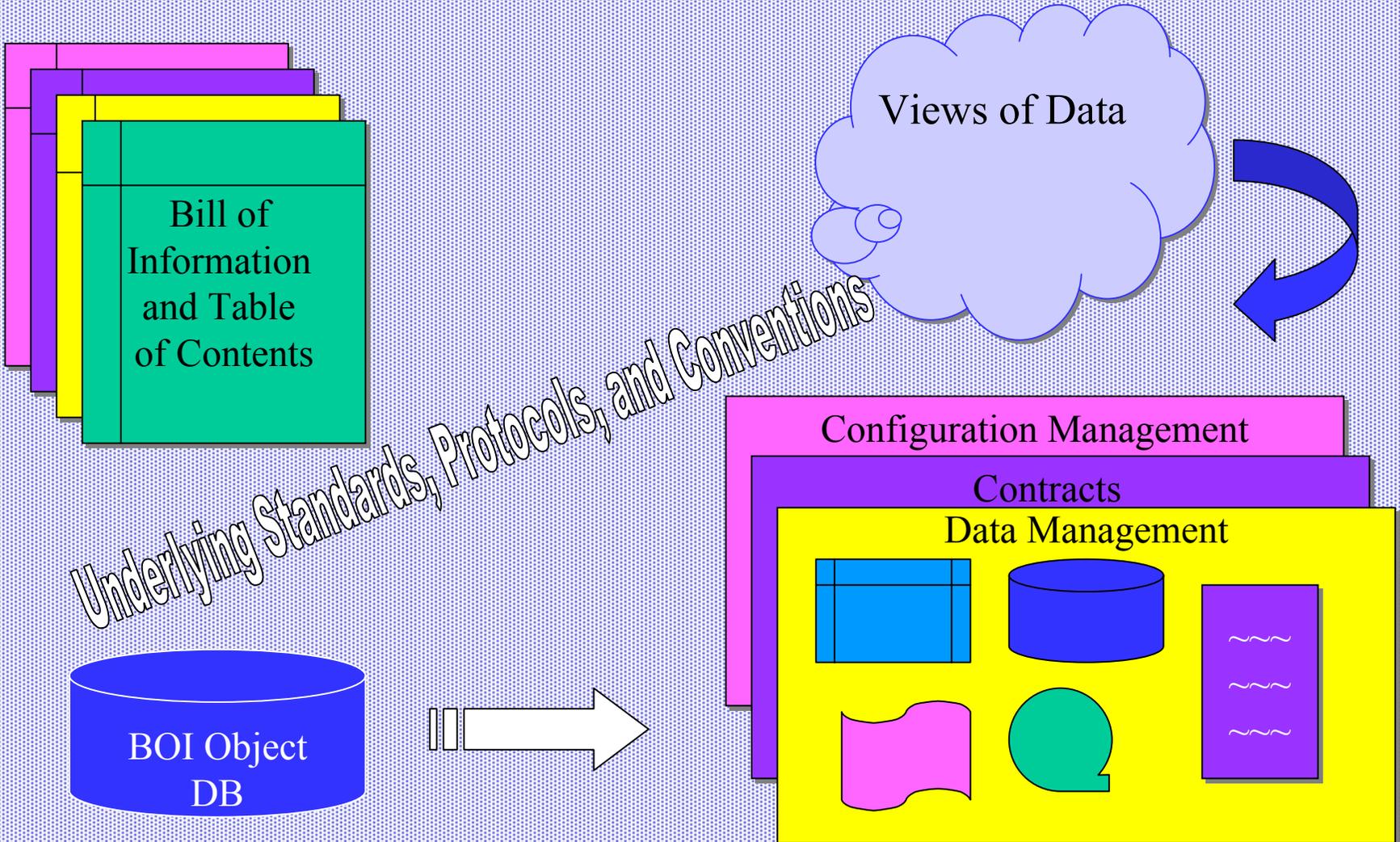
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- **CDRL**
 - List of Information Objects (AKA Bill of Information)
- **DID (on contract)**
 - Specific statement of expected content for each item on the BOI, or tailored Table of Contents.
- **DID (generic)**
 - Statement of complete, available potential or available (for access or delivery) content of a Bill of Information
- **AMSDL**
 - Database of BOI objects
- **Views**
 - Instantiations of categorized, germane, or applicable data to satisfy queries from users of data



New Terminology and Roles: CDRLs, DIDs, AMSDLs, and DSLs As Digital Tools and Processes

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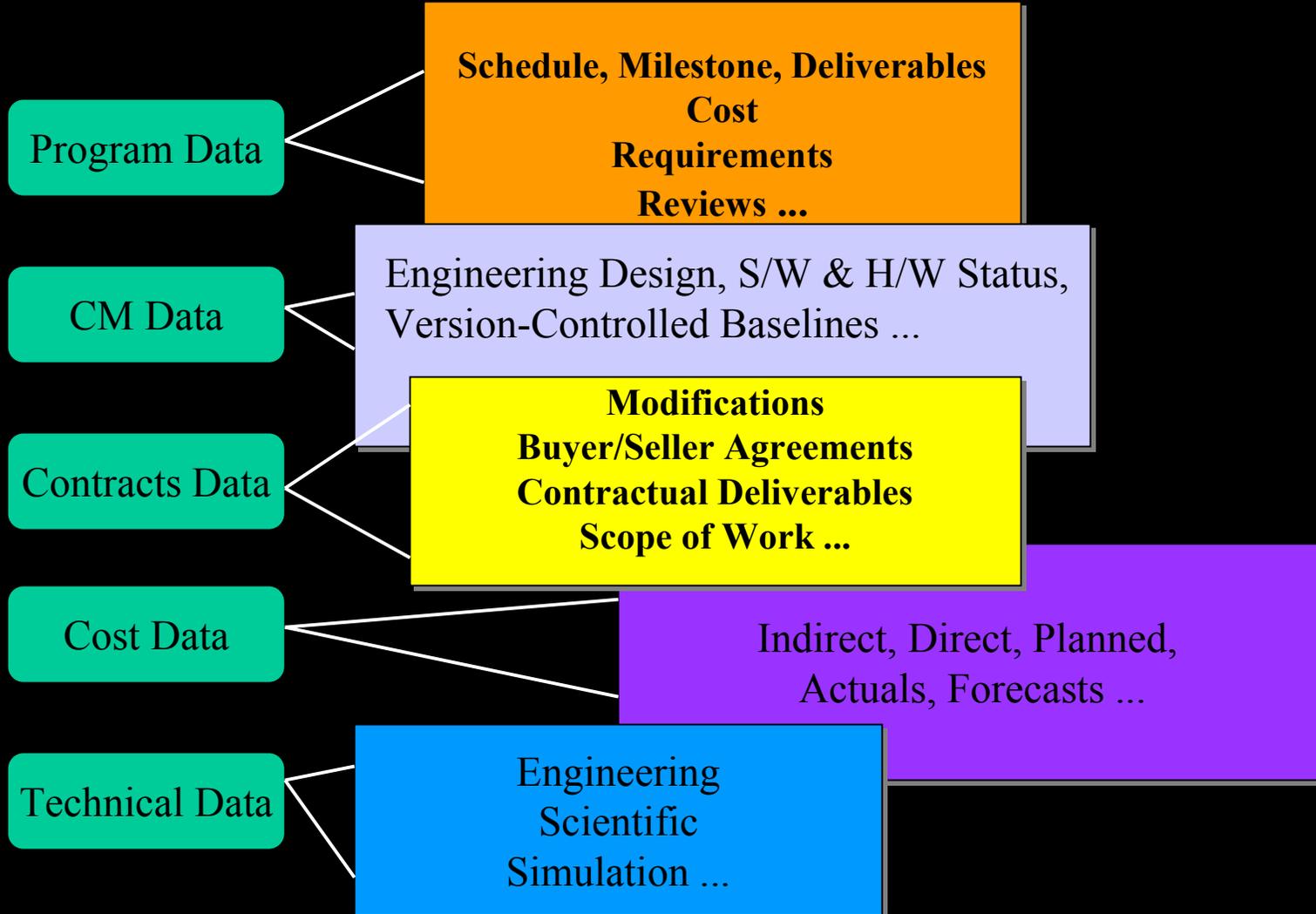


<-- Data Management Principles, Processes, Procedures -->



The IVRL: Information View Requirements List

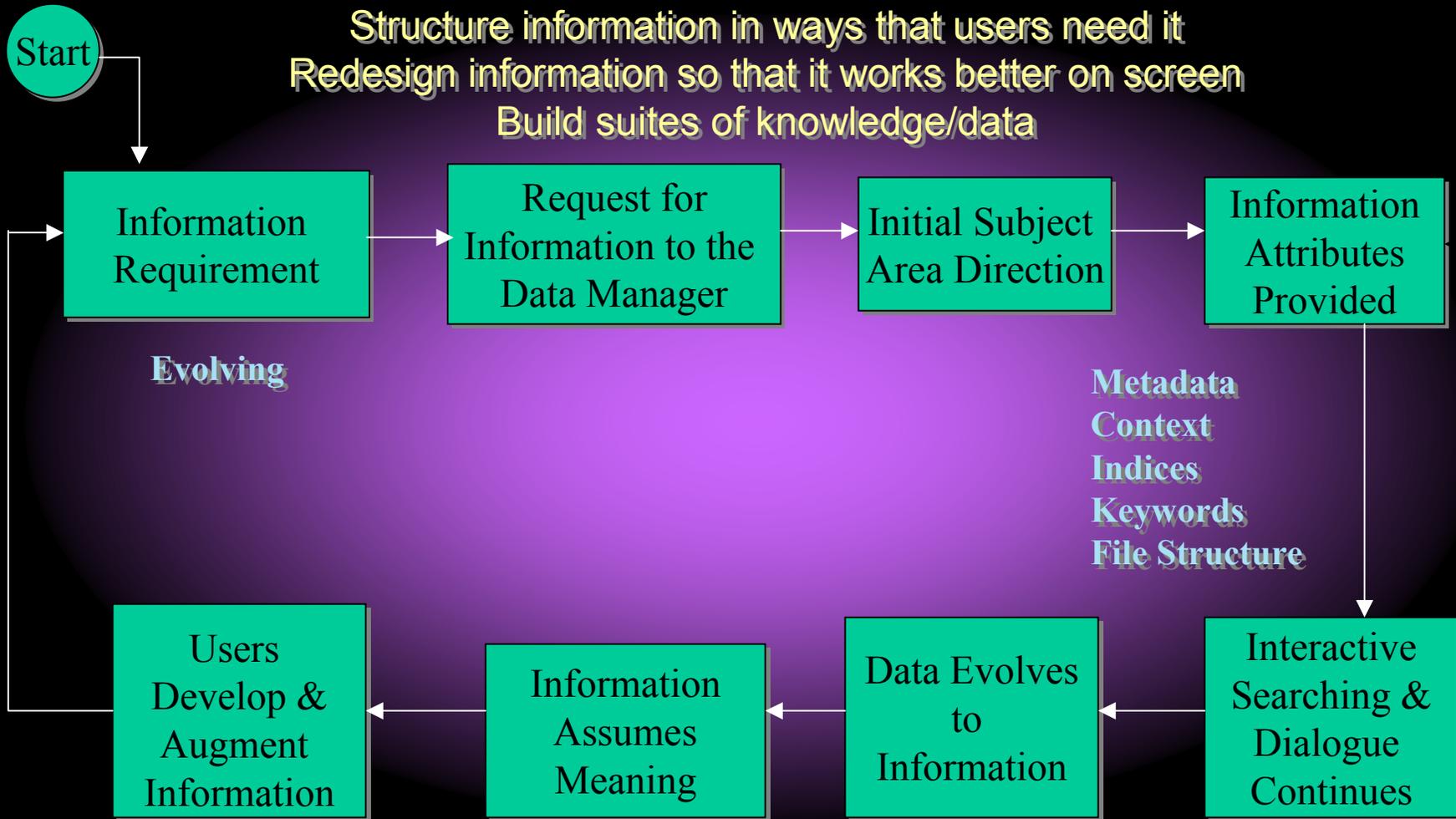
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DM "Views" Process Model

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Issues and Challenges

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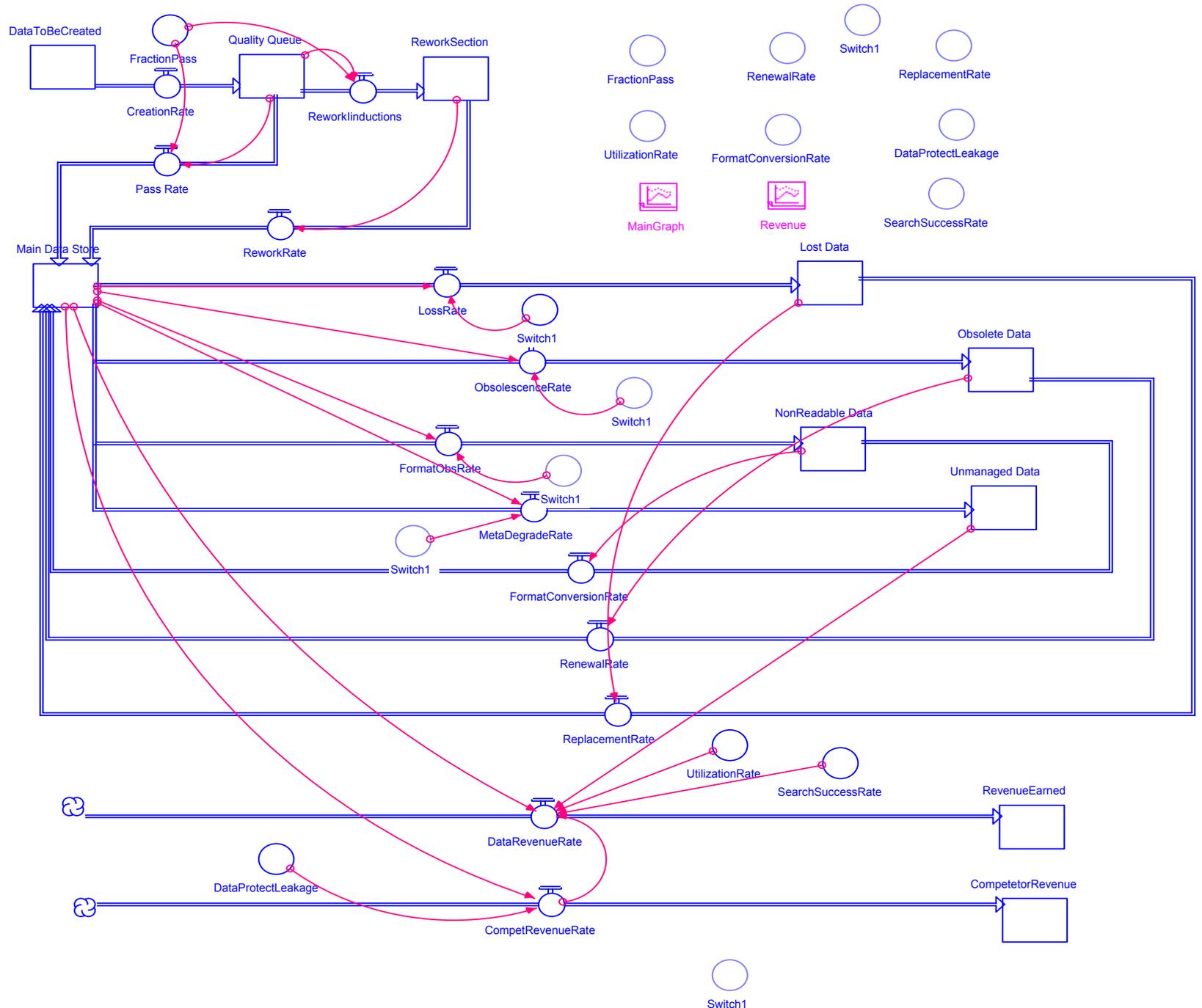
- **Relationships, roles, and responsibilities**
 - (Acquisition) data management
 - Information data administration management
 - Information Technology Data Management
- **Demonstrating clear business rationale for investment in DM**
 - Internally
 - Externally



Modeling the Problem to Illustrate the Solution Pathways

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- Tool: iThink
- Objectives:
 - Modeling the phenomena
 - Envisioning the problem
 - Understanding the Impact
 - Communicating the Need





1: Main Data Store

Case 1: No Data Lost

1: 600000000.00

1: 300000000.00

1:

0.00

1.00

69.75

138.50

207.25

276.00

Months

2:48 PM Mon, Mar 04

SimpleModel

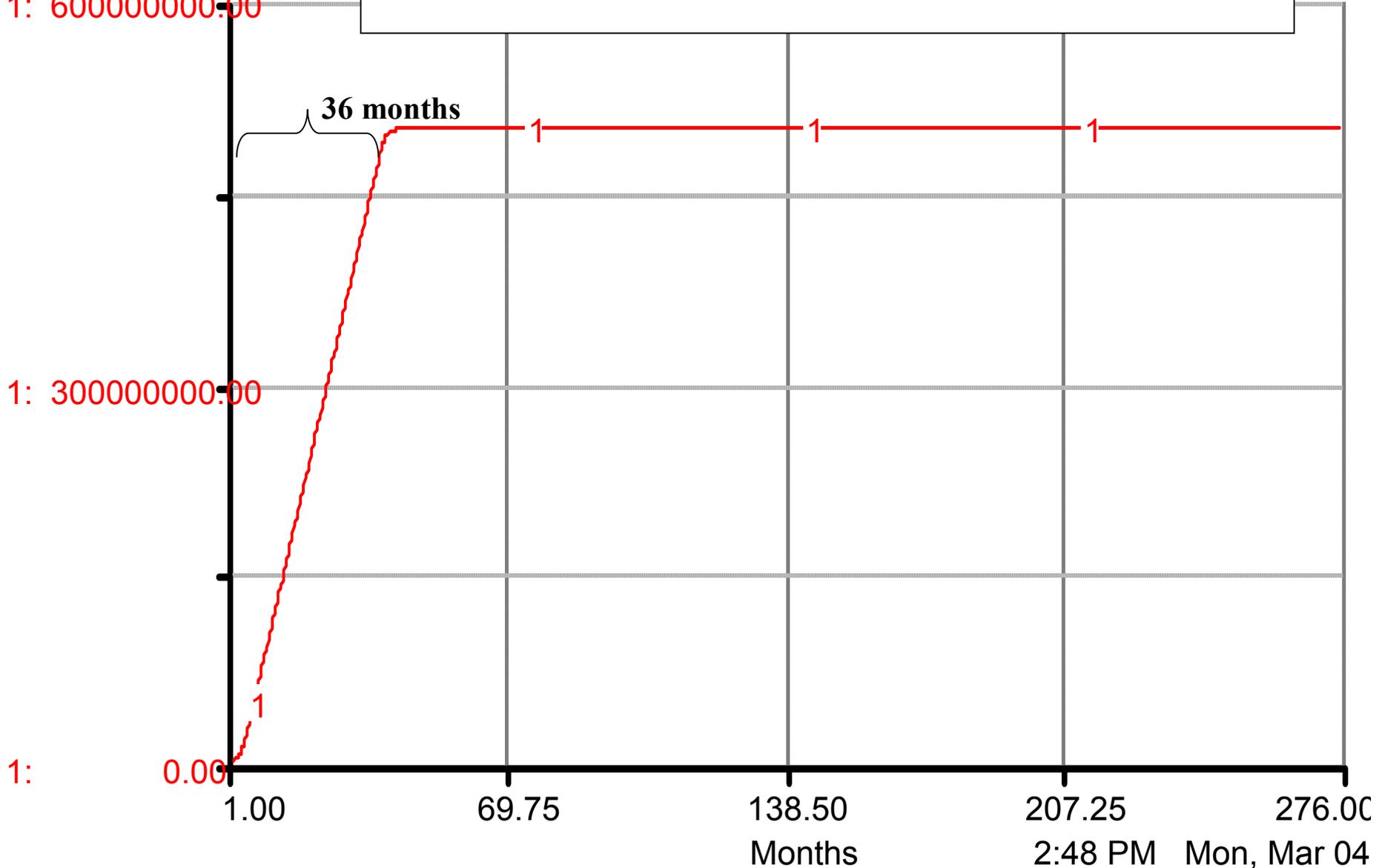
36 months

1

1

1

1



1: CompetitorRevenue

2: RevenueEarned

1: 300000000.00

2: 400000000.00

1: 150000000.00

2: 200000000.00

1: 0.00

2: 0.00

1.00

69.75

138.50

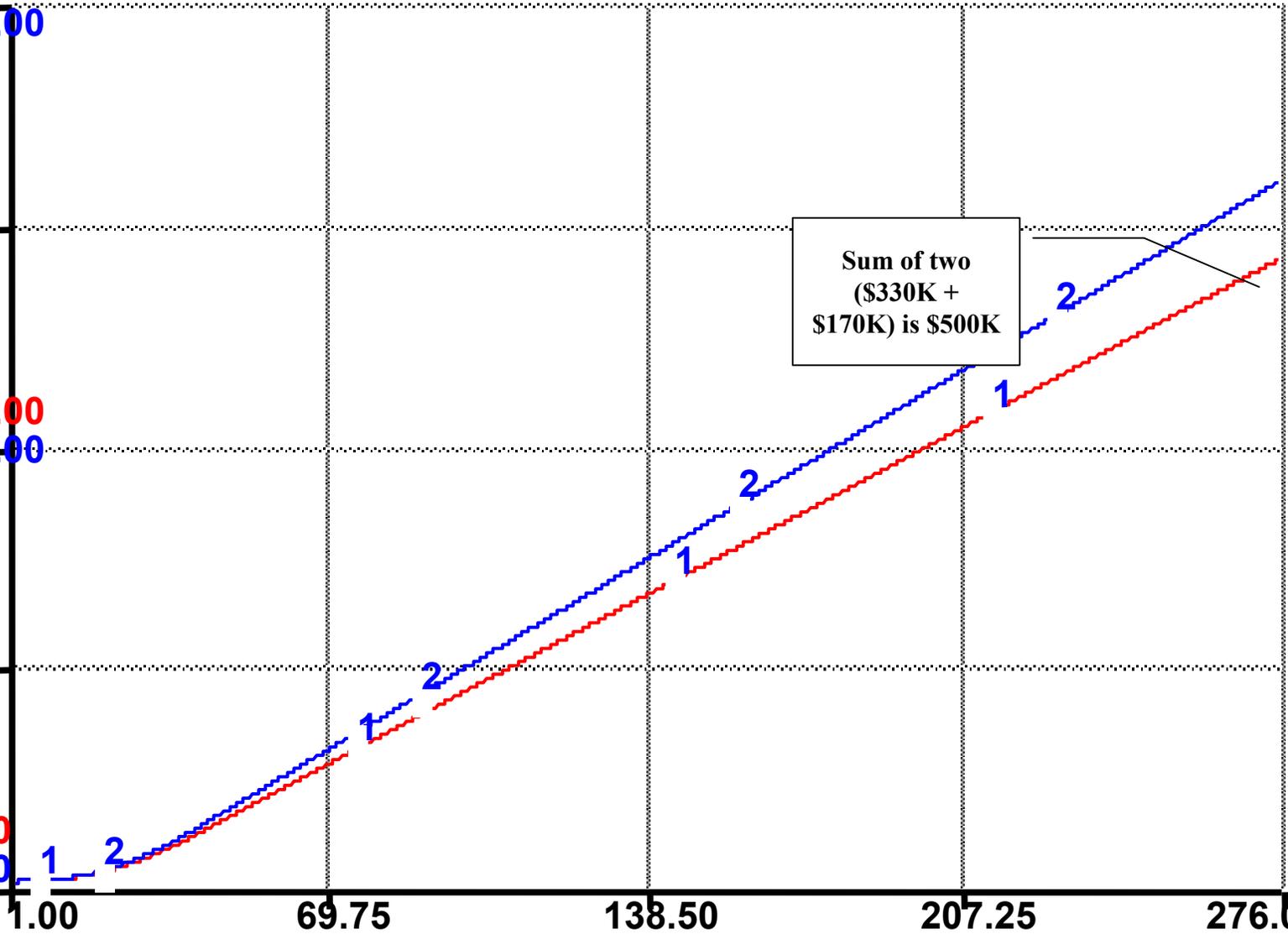
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276.00

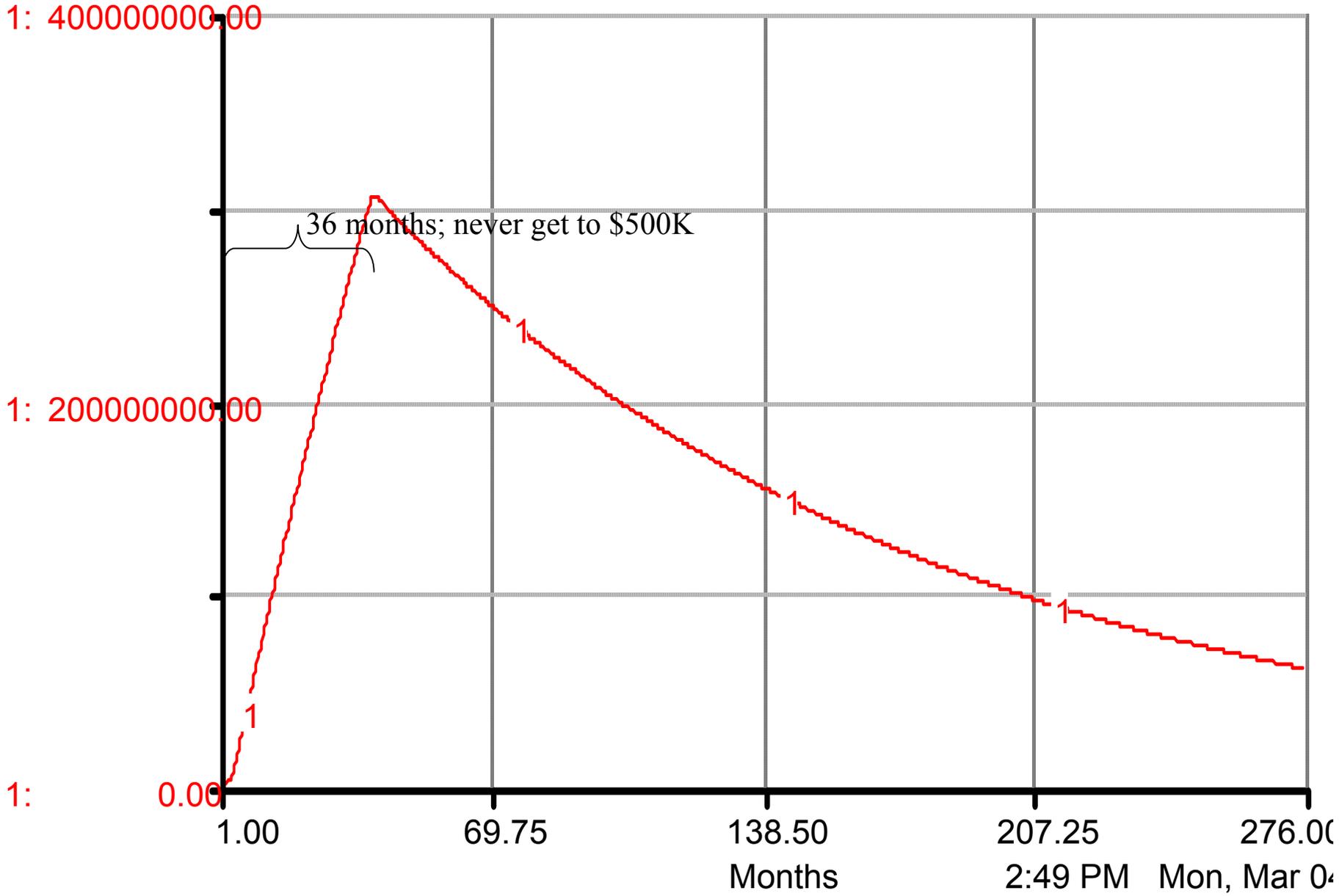
Months

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Untitled



1: Main Data Store



1: CompetitorRevenue

2: RevenueEarned

1: 70000000.00

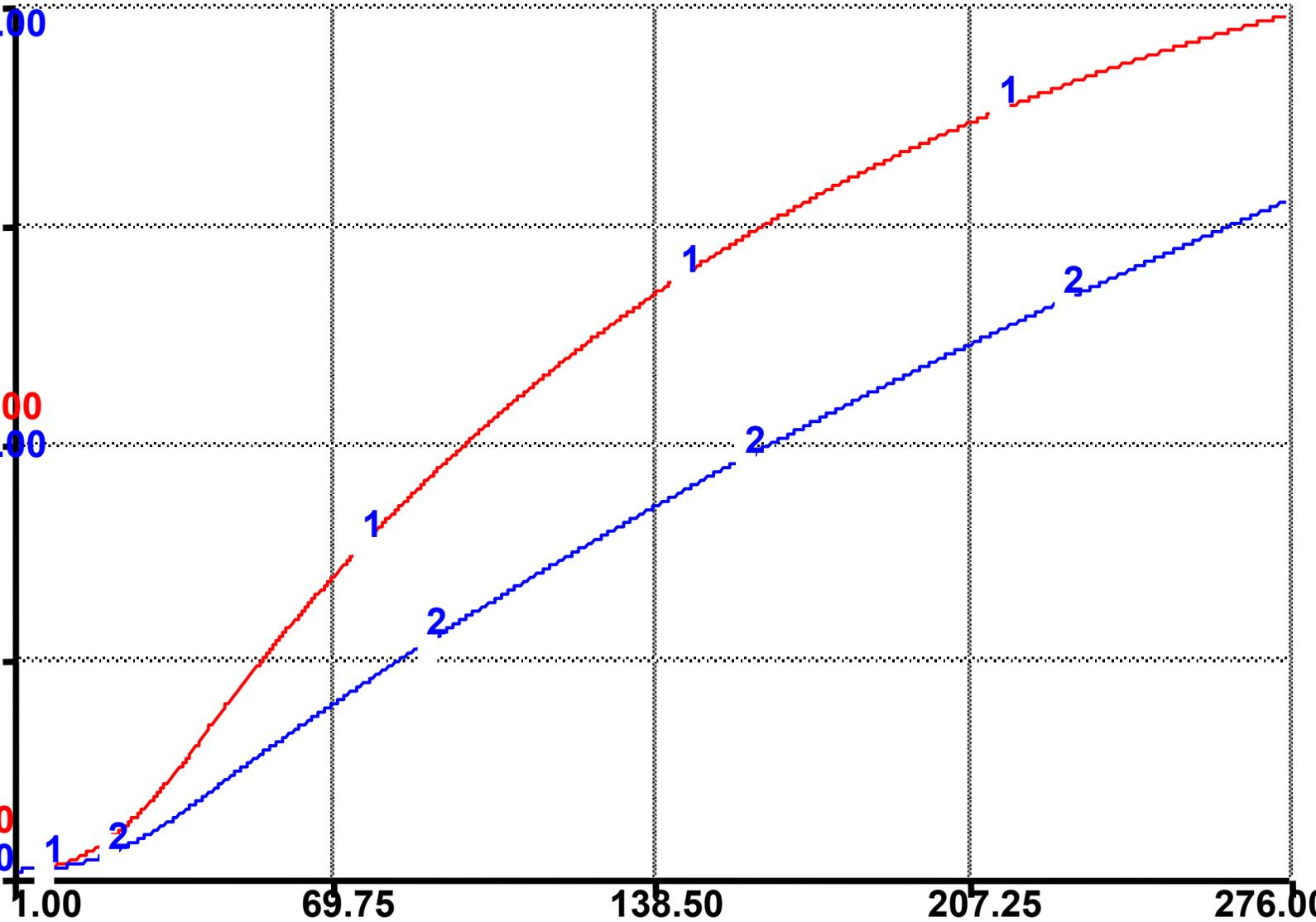
2: 200000000.00

1: 35000000.00

2: 100000000.00

1: 0.00

2: 0.00



Months

Untitled



Summary

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- DM is evolving
- Much remains to be done
- Industry Consensus is consistently maturing
- “Business Case” is Critical for DM
 - No one participates or supports activities that are not clearly value-added and obviously beneficial
 - The business model is becoming clearer and more convincing
- DM is becoming more process-based than organizationally-focused
 - Using the quality model, with quantified goals and value
 - Adopting the 649 approach
- There is a “future” for DM
 - Challenges must be addressed, roles defined, and skills deepened/broadened
- *Questions?*