

***Capability-based Architecture Development  
and Integration Environment  
(CADIE)  
Tutorial***

***DoD Enterprise Architecture Conference  
11 April 2011***

US Army TRADOC, ARCIC, AIMD

April 2011

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# *Agenda and Outline*

- CADIE Executive Overview
- Tour of CADIE Capabilities:
  - Single Sign-on, User Authentications, and Role Based Permissions
  - Website Orienteering
  - The Architecture Catalog
  - Reporting and Visualization of Structured Architecture Data
  - The Data Warehousing Concept
  - Managing Authoritative Reference Data
  - Linking Architecture with Army Force Management
- Question and Answer Session

# *Purpose, Problem Addressed, and Solution*

- **Purpose:** Describe what the Army CADIE is and its value to the Army
  
- **Problem Addressed:**
  - No single authoritative source for Army architecture data and information that is both trusted and consistent across the Army's executive architects (TRADOC, ASA(ALT), CIO-G6, OBT)
  
  - Architectures are built in "stovepipe" applications that are not connected, can be found, understood, used, reused, and follow a common set of standards
  
- **Solution:**
  - A common operating environment for the architecture community to collaborate, develop, discover/share/reuse, integrate, and manage architectures to support decision making with authoritative, trusted data....that common environment is an Army CADIE

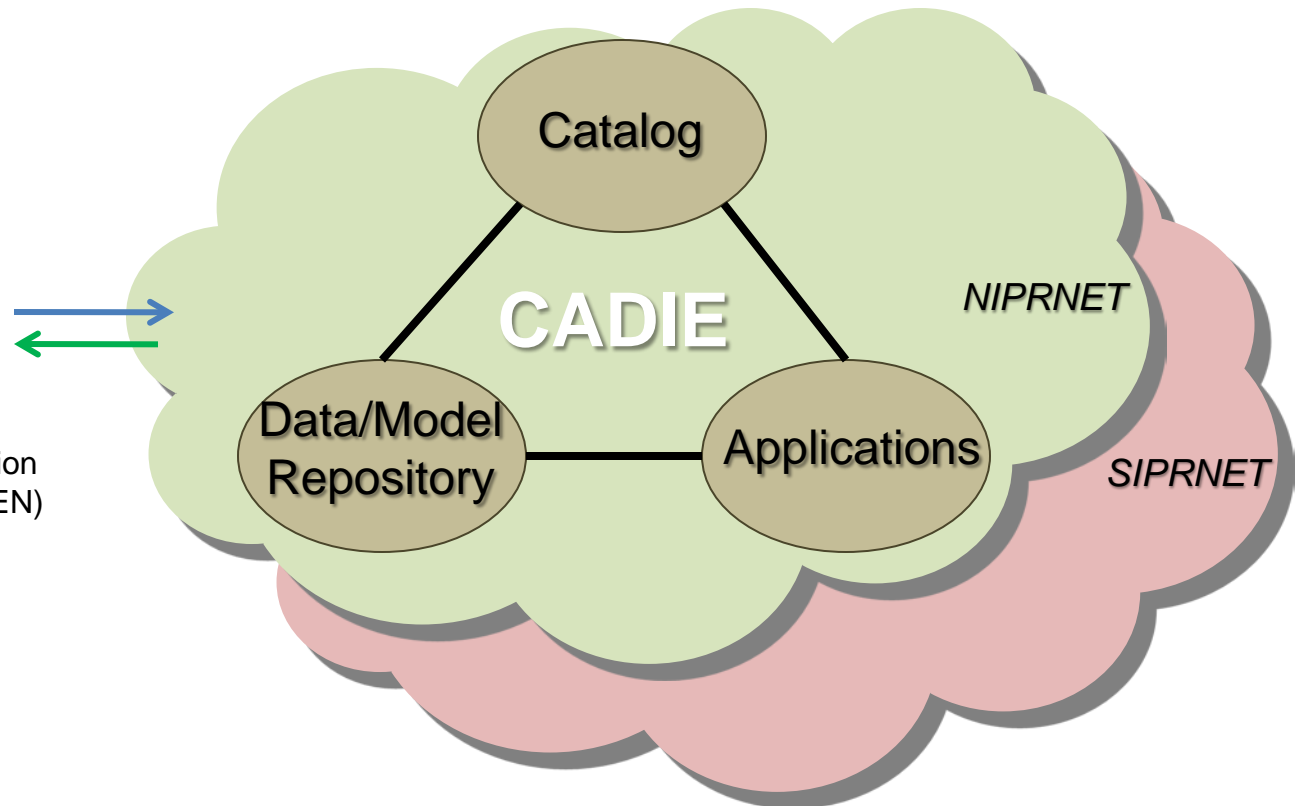
# *What CADIE Provides*

- **Access to authoritative data for analysis and decision making:**
  - Ability to go to a single place on the Army LandWarNet to find trusted, managed, and protected architecture data and information
  - Ability to use architecture data and information in a way that makes sense to a non-architect
  - Ability to tailor reports and visuals of the data to meet a stakeholders purpose in support of their specific process (e.g. JCIDS, NSWG, Force Management, etc.)
  
- **Saves the Army money:**
  - Reduces redundancy across the Army architecture community (TRADOC, ASA(ALT), PEO/PMs, CIO G-6, OBT, CERDEC) and creates efficiencies
  - Enables integrated architecture data to be used for cost based analysis and trade decisions

# CADIE OV-1: Basic Concept

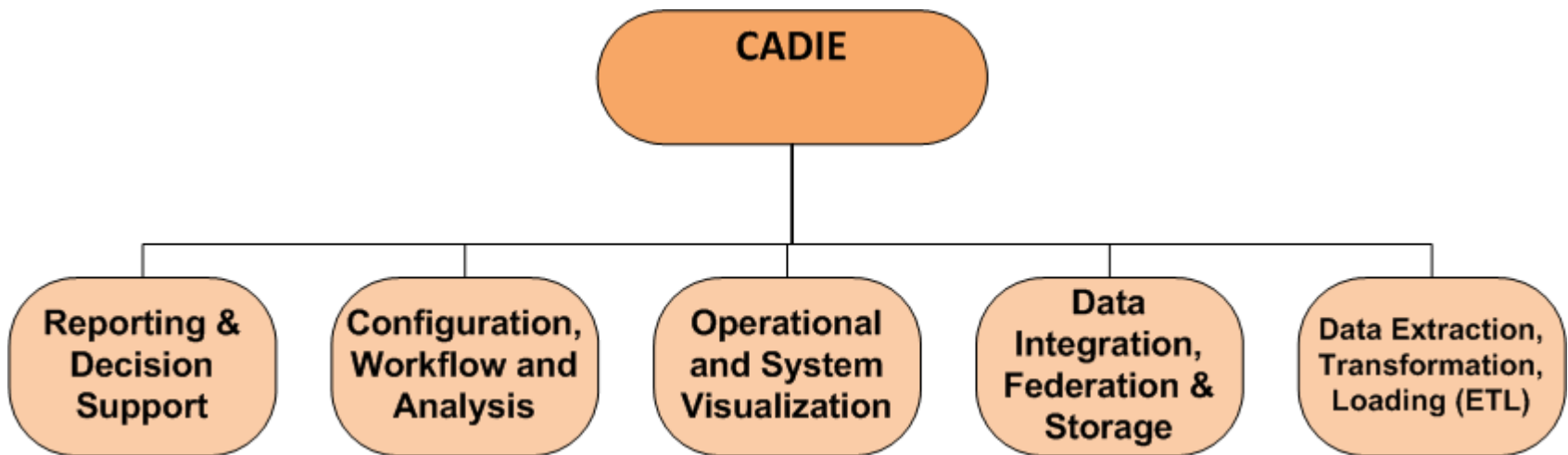


- SoS Engineering
- Acquisition
- Architecture
- Configuration Management
- Spectrum Feasibility Assess.
- Information Assurance
- IT Portfolio Management
- Testing & Certifications
- Requirement Validation
- Force Integration & Documentation
- Prioritization (DARPL/ARFORGEN)
- Programming (PPBE)
- Fielding Capability Packages
- Operational Analysis (M&S)
- Capabilities Development



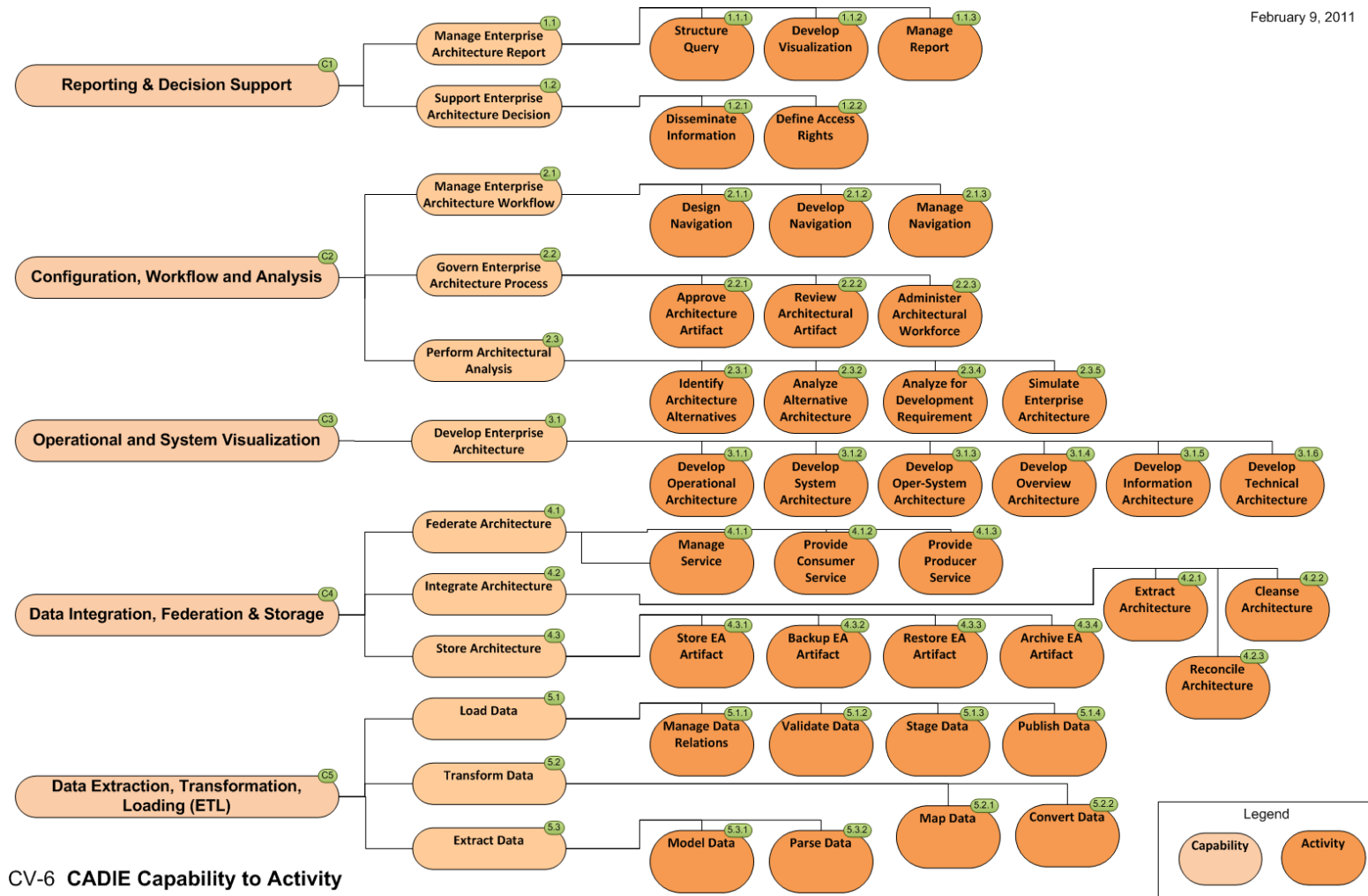
CADIE is an Army asset that is not a single system or tool rather it 's a collection of systems synchronized to achieve a set of outcomes in support of stakeholder requirements

# *CADIE CV-2: Hierarchy of Capabilities*



# CADIE CV-6: Required Capabilities to Activities

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# ***Tour of CADIE***

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# ***CADIE Data Warehousing Concept***

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# *Data Warehouse Three-tiered Approach*

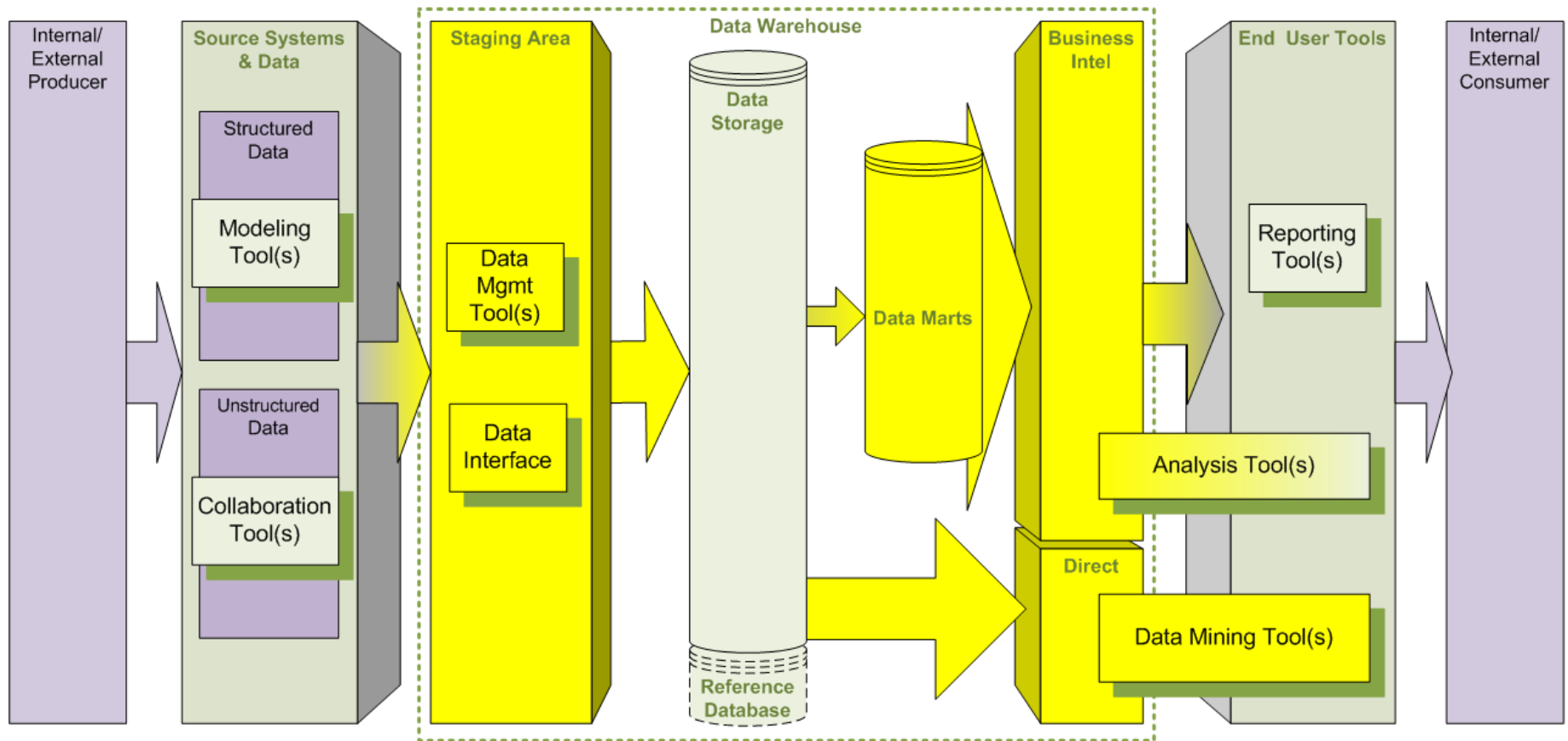
- Expand current three-tier data warehouse with enhancement of:
  - **Staging & Integration Area** to support optimal ETL
  - **Data Marts** to support OV, SV, TV, reference
  - **Business Intelligence** for Analysis and Data Mining Tools

One of the industry best practices describes a 3-tier data warehouse as the most efficient structure for top-down business intelligence.

# CADIE Data Warehouse Design

## CADIE Three-Tier Data Warehouse Contextual Model

February 15, 2011



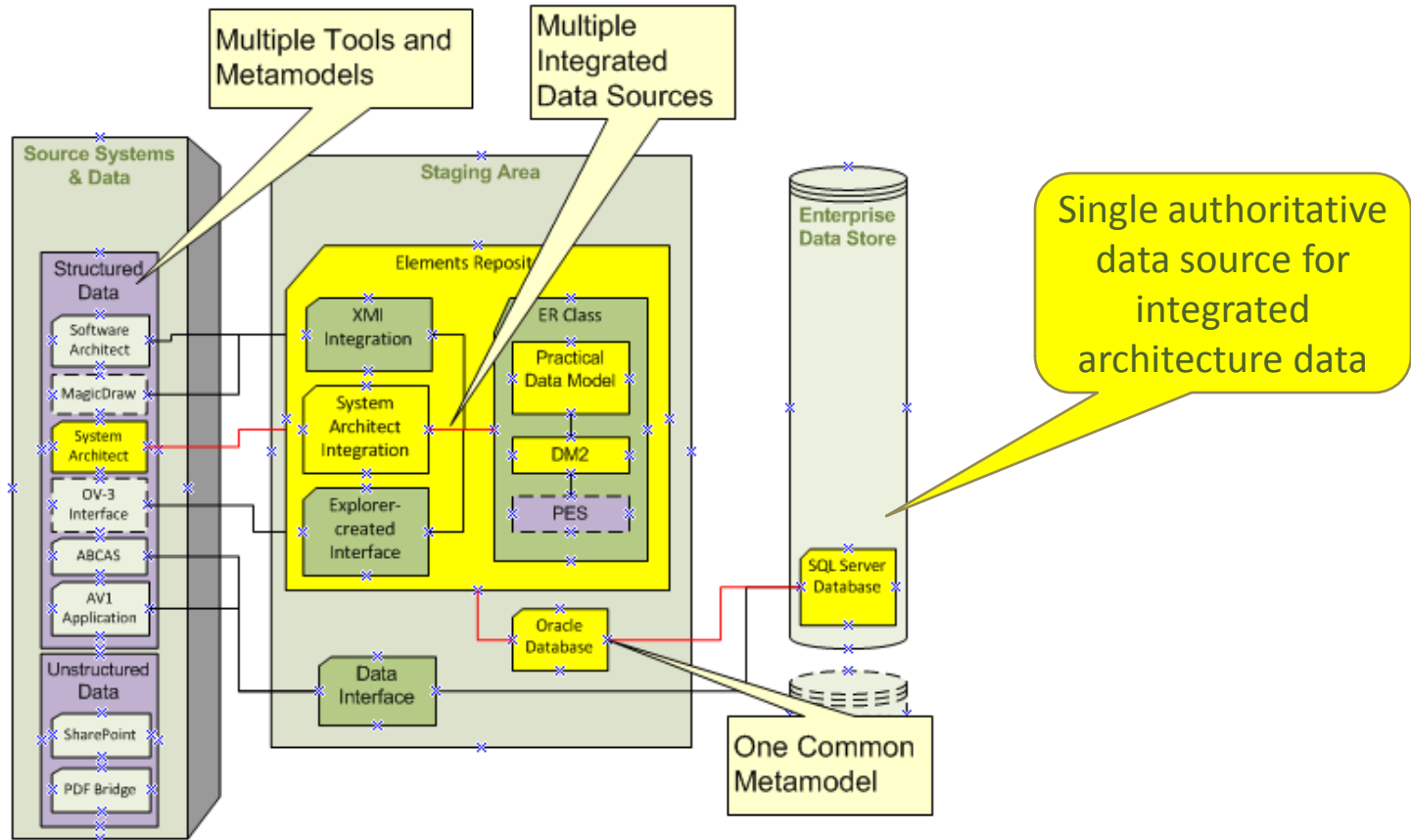
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# Data Warehouse *Staging & Integration Area*

- Staging & Integration Area is a location where data can be extracted, integrated & transformed to load to the enterprise data store.
  - Maximize EA tool **integration** through staging
  - Leverage current vendor implemented mappings
  - Enable one data model for connection to data warehouse
  - Support multiple tools and let vendor staging tool handle complexities of keeping up with EA tool outputs

Staging & Integration area enables operational data storage to minimally impact data warehouse.

# Data Warehouse *Staging & Integration Area*



Significant enhancement to enable data steward functionality in standardizing

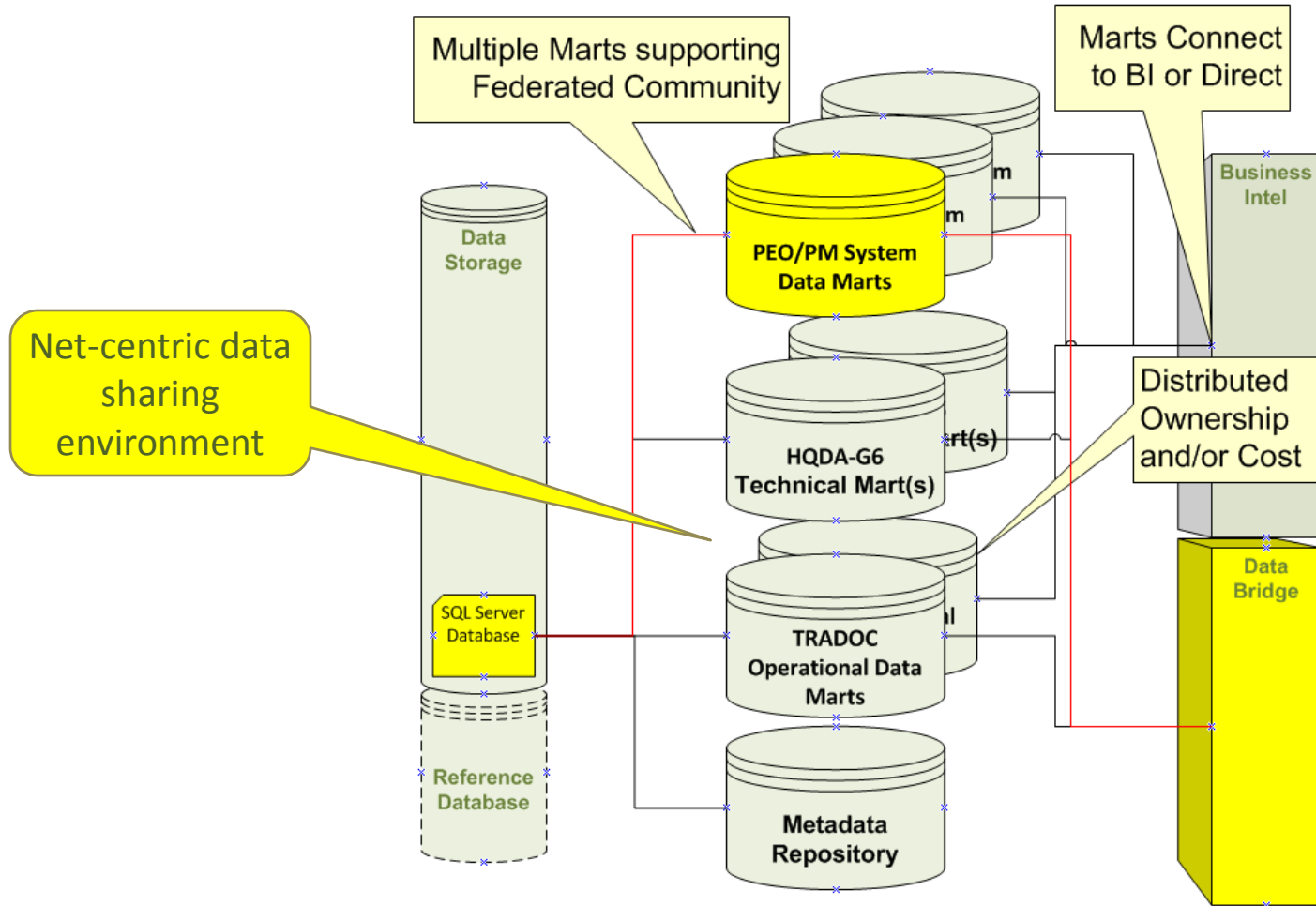
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# Data Warehouse *Data Marts*

- A data mart is a subject specific data storage area optimized to enable reporting and analysis.
  - Optimize speed and efficiency of access to users
  - Reduce network traffic
  - Security and restricted access
  - Users can **retain ownership** of federated data
  - Flexibility in creating or changing Data Marts w/o affecting data warehouse

Industry best practice describes data marts as the way for optimal efficiency.

# Data Warehouse *Data Marts*



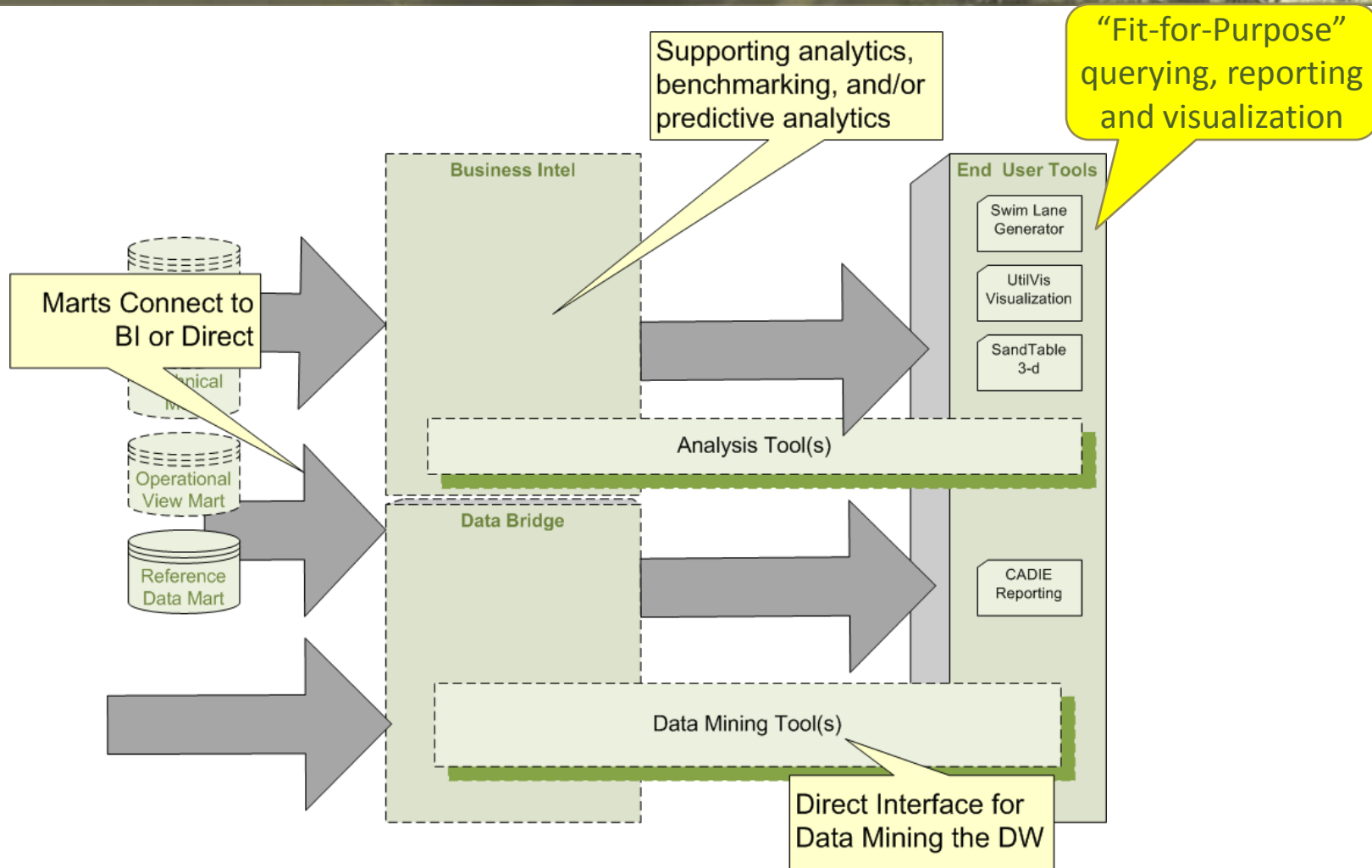
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# Data Warehouse *BI and Data Mining*

- Business intelligence is a broad category that covers data mining and analysis tools
  - **Analytics** for informed decisions
  - Use models to drive predictions of a possible future state as **predictive analytics**
  - **Benchmark** against defined standard “*Reference Models*”
  - Enable user to **mine data** in multiple dimensions:
    - **social network analysis** (recognized communities within large groups of people);
    - **locality analysis** (grouping similar functions within a geographic locality);
    - **hierarchical clustering** (structured analysis for solution level or enterprise level architectures) and many others.

Business intelligence enables informed decisions through structured analysis.

# Data Warehouse *BI and Data Mining*





# ***Back to Tour of CADIE***

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*Questions?*



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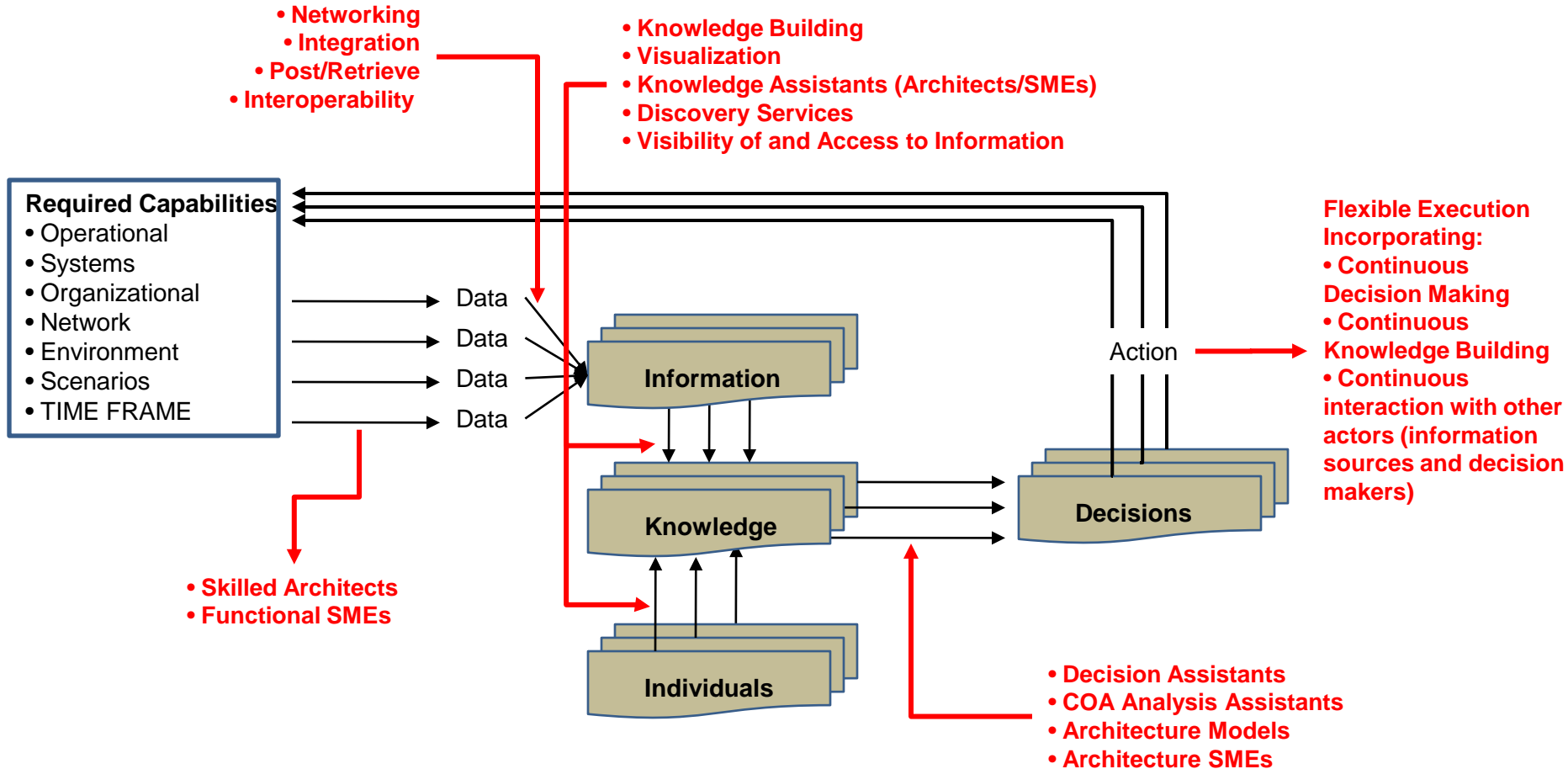
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# CADIE's Net-Centric Value Chain



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