



MODELING THE ENTERPRISE – A PRACTICAL APPROACH (PART 2)

BEST PRACTICES FOR IMPLEMENTING INFORMATION AND
ENTERPRISE ARCHITECTURES

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MODELING: A PRACTICAL APPROACH

Best Practices for Implementing Information and Enterprise Architectures

In this session, we will drill down into best practices required to start and implement an architecture initiative. In moving from project-centric management to enterprise-focused architecture management, there will be many new roles and techniques. We will discuss how best practice organizations worldwide have successfully adopted architecture as a unifying discipline to achieve better business intelligence, succeed with merger and acquisition or other integration initiatives, and prepare for business transformation and IT platform shifts to technologies like service architectures and cloud computing. Areas covered will include roles and responsibilities, frameworks (like Zachman, TOGAF and DoDAF), methodology and tools that are key to architecture initiative success.

WHO AM I?

- I have worked, consulted, and authored articles on application development, database design, and enterprise architecture for over 17 years.
- Clients
 - Fortune 500
 - OEM
 - Government Agencies
- Services
 - Modeling & Architecture
 - SDLC & Governance
 - Application Development
 - Database Design
- Certifications
 - Sybase Certified PowerDesigner Data Modeling Professional
 - Zachman Certified Enterprise Architect



ELEMENTS OF THE CHANGE LIFECYCLE

Changes Require Several Steps to Implement Within Business and IT Systems

- **Business Requirements**
 - Requirements Traceability & Change management
- **Analysis**
 - High-level abstraction models: Business/Architect level
- **Design**
 - Define detailed models for Construction/Builder level
- **Develop, Test, Deploy**
 - Code Construction and Configuration Management
- **Maintenance**
 - The “as-is” & “to-be”, Impact & Gap Analysis, Drive Change
- **Team Work**
 - Repository; version control

PREREQUISITES FOR IMPLEMENTATION

Before Beginning an Implementation, the Following Things Need to be in Place

- **Method and Methodology**
- **Scope of Implementation ('As Is' Or ???)**
- **Gap Analysis (Tool ↔ Methodology, New Tool ↔ Old Tool)**
- **Management Commitment and Involvement**
- **Project Organization and Method**
- **Project Goals and Measurements**
 - Linked to Business Goals, i.e., Operational Excellence
- **Success Measurement**

PREREQUISITES: GAP ANALYSIS

Know Your Biggest Gaps and Blockers: Focus on Best Use of Enterprise Architecture

- Use Gap Analysis to Decide How the Architecture Initiative Can Best Support Methodology
- If the Architecture Initiative Includes Replacing Old Tools, Perform an Analysis to Determine Gaps



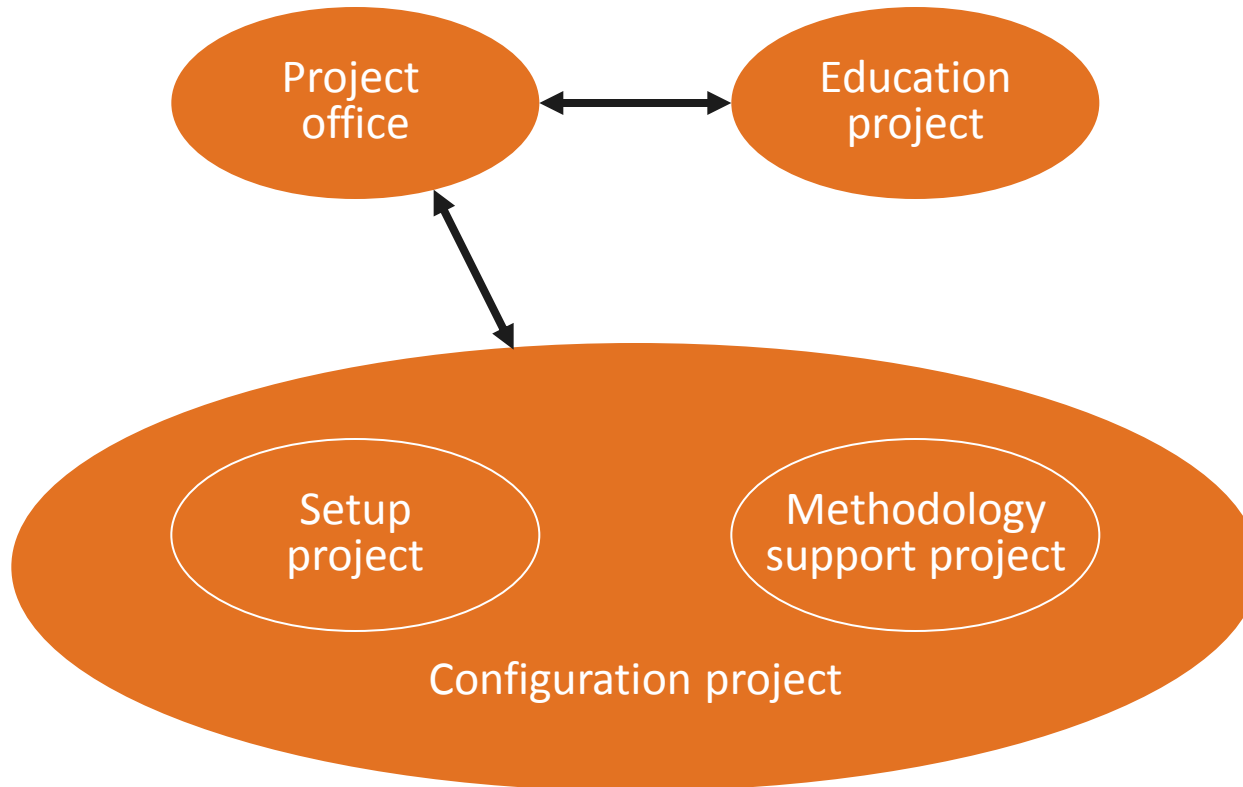
MODELING & METADATA MANAGEMENT

Integrated Modeling and Enterprise Repositories are Most Effective for EA

- **A Business Intelligence Analogy**
 - Best Results Come from a Natural Approach
 - Get More for Less – Integration is the Key
- **Models Are the “Transactional” Metadata**
 - Easy Creation, Visualization, and Maintenance
 - User Interface for Communicating With all Audiences
 - Graphical Tools to Define and Describe
- **Repository is the “Warehouse” of Metadata**
 - Analytics of Metadata
 - Reuse of Metadata
 - Control and Evaluation of Metadata

PROJECT COMPONENTS

Organization Elements of a Successful Enterprise Architecture Initiative



IMPLEMENTATION PRACTICES

Enterprise Architecture Initiatives are Successful when People are Responsible

- **Enterprise Architecture Initiative Management Office**
 - Project Methodology
 - Decision Maker
 - Project/Implementation Support
- **Manages the Intergration and Setup Project team**
 - Set up/install (Standardize Throughout Organization)
 - Integrate with Company's Existing Environment
 - Customize Supporting Tools (Preferences, Defaults, and Other General Configurations)
 - Give Access to Users and Groups

IMPLEMENTATION PRACTICES (CONT'D)

Governance and Consistency Comes From Clear Guidance and Support

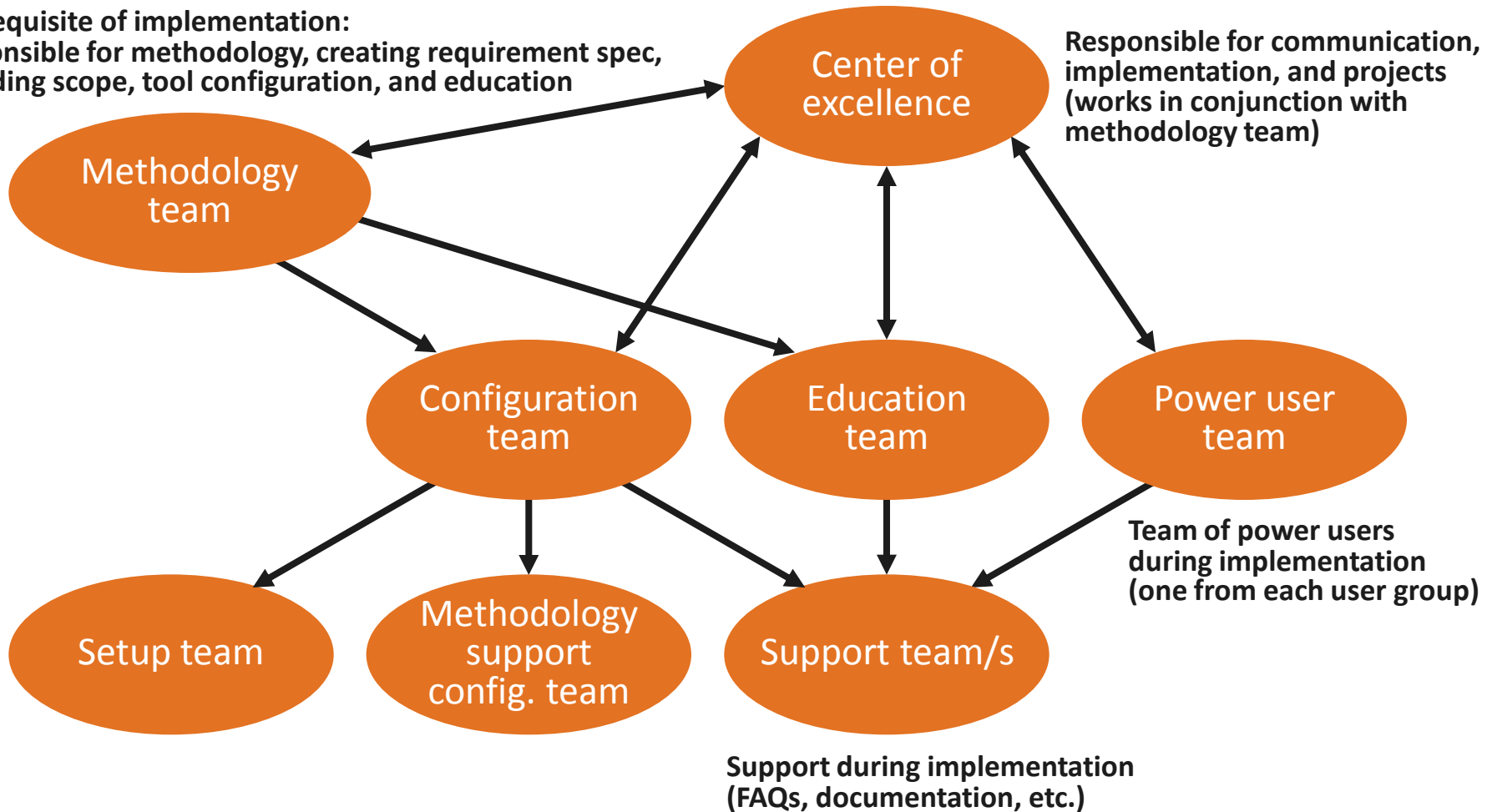
- **Manages the Methodology Support Team**
 - Customize Architecture Tooling to Support Method
 - Documentation Templates
 - Model Templates
 - Guidelines (Documentation, Best Practices)
- **Manages The Education Team, And Support For:**
 - The Configuration Team
 - Setup/Configuration
 - All Users
 - Method/Methodology
 - Basic Tool Knowledge
 - Tool With Methodology

IMPLEMENTATION ORGANIZATION

Overview of the Whole Organization by Role (One Person can have Many Roles)

Prerequisite of implementation:

Responsible for methodology, creating requirement spec, deciding scope, tool configuration, and education



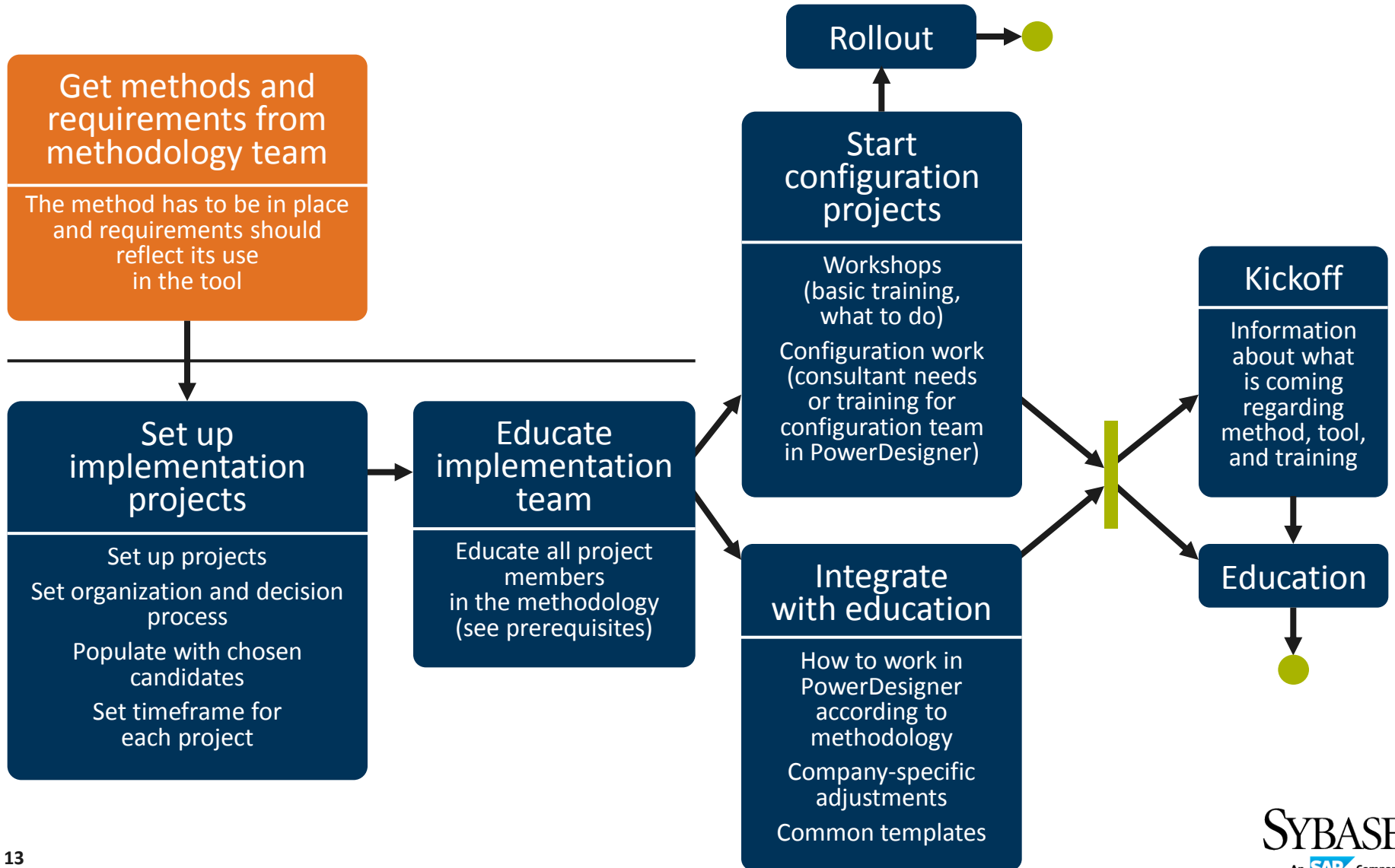
KEY SUPPORT: IMPLEMENTATION TOOLS

Effective Tools are Tools that Assist in Implementation Tasks

- **Tools to Prepare for Adoption**
 - Enterprise Repository
 - Model Templates
 - Architecture Frameworks and Methodology
- **Tools to Provide Governance and Standards**
 - Custom Checks and Event Handlers
 - User Profiles and Role-based User Configuration
- **Tools to Provide Immediate Value and ROI**
 - Reverse Engineering and Metadata Import
 - Automatic Dependency Derivations and Tracking
 - Business Layer Rollup and Architecture Layer Connections

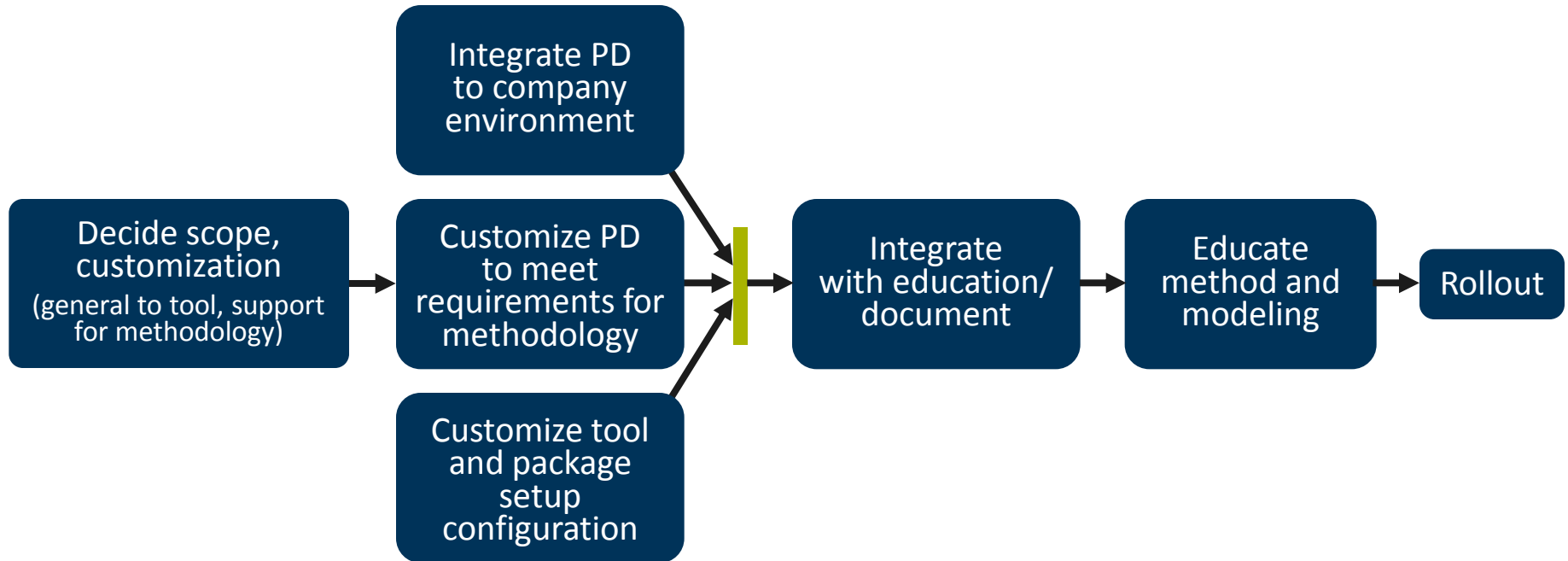
PROCESS FLOW: ROLLOUT

Process for Rolling Out an Enterprise Architecture Initiative



PROCESS FLOW: CONFIG & EDUCATE

After Rollout, EA Leadership Continues with Configuration and Education



IMPLEMENTATION RISKS

Checklist to Ensure a Successful Rollout and Adoption of the EA Initiative

- **Management Commitment**
 - Ensure that Management is Committed
 - Agree on Measurement
 - Include Management on Steering Committee
- **Success Criteria**
 - Agree on Clear Success Criteria
- **Prerequisites**
 - Make Sure All Prerequisites are in Place

IMPLEMENTATION RISKS (CONT'D)

Checklist to Ensure a Successful Rollout and Adoption of the EA Initiative

- **Time**
 - Avoid New Methods
 - Always Implement Tool Using Existing Methods
- **Adoption**
 - Ensure Method & Customization are Part of Training
 - Get it Right From the Beginning
 - Use Templates, Customizations, and Documentation To Support 'Best Practice'
 - Support Team and Superusers for the Method ↔ Tool

CONSULTING SERVICES ROLES

Services can Provide Best Practice Support and Training to Streamline Process

- **Services provide:**
 - Training for Trainers and the Configuration Team
 - Advice/Knowledge of Combining Method and Tool
 - Competence and Support During the Configuration Phase
- **Service Consultants Should be Part of the Steering Committee and Configuration Team**
- **Service Consultants Should Act as Advisors to the Education Team**



IMPLEMENTATION SUCCESS CRITERIA

Achieving Increased Productivity with Architecture Initiatives Requires:

- **A Well-defined Decision Process**
 - Management Team with Full Authority to Make Necessary Decisions
- **A Clear And Efficient Methodology**
 - Create Method/Methodology Team with the Necessary Authority
- **A Well-defined And Flexible Project Scope With**
 - Well-informed, Cooperative, and Efficient Management
 - Supporting Methodology Teams

IMPLEMENTATION SUCCESS CRITERIA (CONT'D)

Achieving Increased Productivity Requires:

- **End-user Confidence in Outcome**
 - Methodology Team Completes
 - Customization
 - Templates
 - Documentation
 - Prior To End-user Training
- **User-oriented Training**
 - Methodology Team Clearly Documents how Method Tool are Meant to Work
- **Clear Support Structure Both For Projects And End Users**
 - Contact Persons' Scope and Authority Clearly Communicated and Support Structure in Place

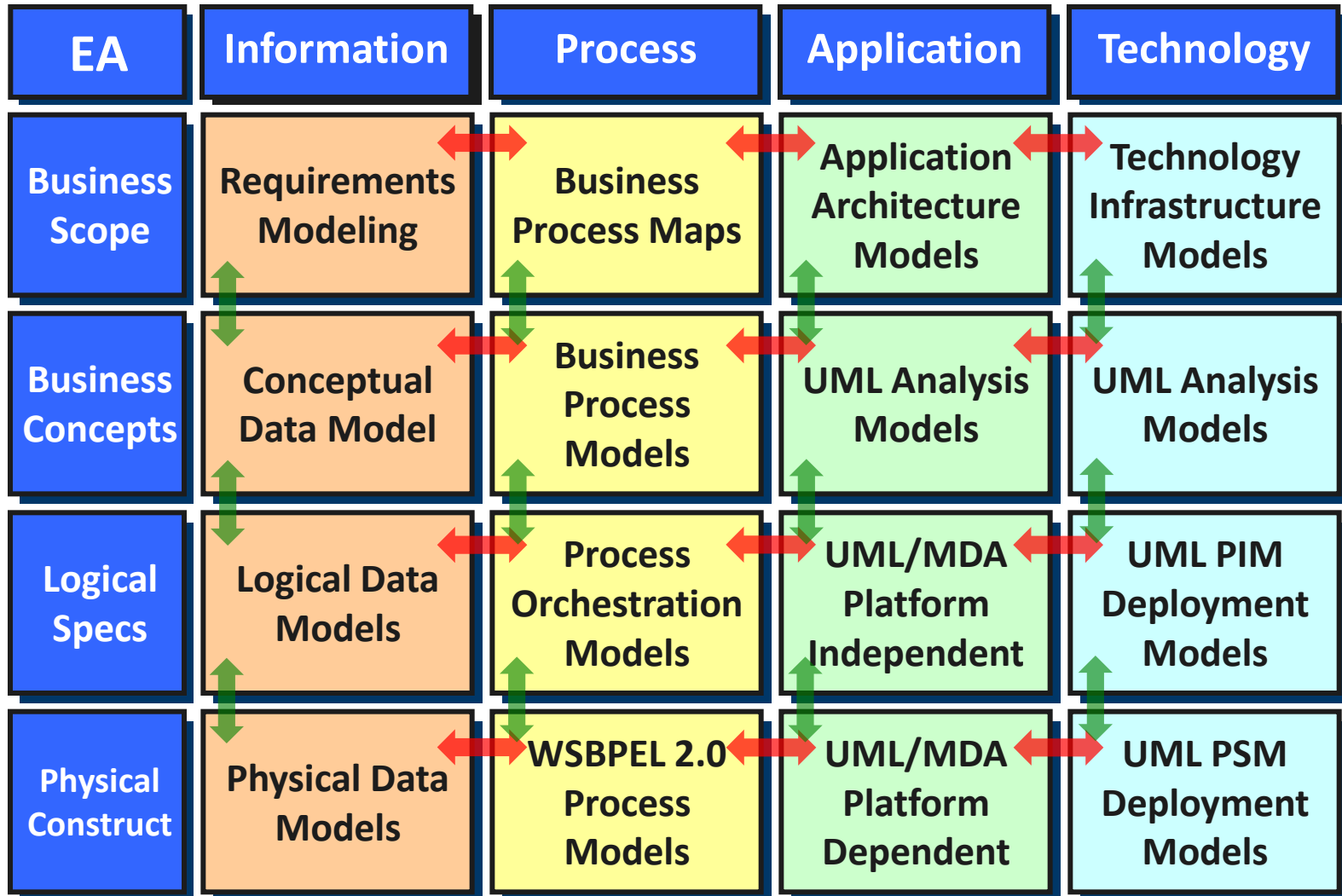
HOW DO I GET THE MOST FROM MODELS?

Models are Best When They Span the Entire Enterprise – But How Can We Do That?

- **The “Big Picture” Goes Beyond A Project**
- **How To Achieve:**
 - Consistency of Use and Purpose?
 - Reuse and Reduced Redundancy?
 - Clear Impact Analysis Across the Enterprise?
 - Business and IT Infrastructure Decision Consensus?
 - In a Limited Amount of Time?
 - Traceability Between All Projects and Programs?
- **Enterprise Architecture Covers The Enterprise**
 - But How do I Manage That Without Adding a Lot of Work?
- **Build Within Enterprise Architecture Framework**

ENTERPRISE FOCUS, PROJECT SCOPE

Enterprise Models are Abstract while Project Models are Concrete Representations



LAYERS AND PERSEPECTIVES

Moving Up and Down Between Layers of Abstraction and Implementation Domains

- **The Value is in the Intersections**
 - How does Business Concept Relate to IT Systems?
 - How are Process, Data & Business Logic Interdependent?
- **Different Layers Of Abstraction**
 - Transform Up and Down -> Remember the Heritage
- **Different Perspectives**
 - Relating Data to Process to Application to People to ...
 - Relate Between Perspectives -> Remember the “Joins”
- **The Value Is In Remembering:**
 - How Something Was Defined/Refined & Related to Others
 - Complete Cross-enterprise Analysis (Impact, Change, Etc.)

ENTERPRISE ARCHITECTURE FRAMEWORKS

Purpose & Examples of Frameworks for Enterprise Architecture

- **“Perspectives” and “Layers” and “Rows” and “Columns”**
 - All Sound Familiar?
 - Foundation for All Modern EA Frameworks
- **The Zachman Enterprise Framework**
 - Provides Industry Leading Classification System
 - Ensures Business Abstraction and Technology Align
- **The Open Group Arch. Framework (TOGAF/DoDAF/MoDAF)**
 - Provides Process/Method for EA Initiatives
 - Ensures EA Efforts Follow TOGAF Best Practices
- **Open, Customizable Framework Editor**
 - Methods, Reference Models, Templates, etc.

ZACHMAN FRAMEWORK

PowerDesigner's Elaboration of the Zachman Framework

PowerDesigner - [PRJ Zachman Framework 2, Zachman Framework for Enterprise Architecture 2 - C:\Documents and Settings\dichman\...

File Edit View Model Report Repository Tools Window Help

Workspace

- Application Architecture Model *
- FEAPMO EA Assessment Framework 2.2
- Federal Enterprise Architecture Business Ref
- Zachman Framework 2 *
 - Contents
 - Zachman Framework for Enterprise Arch
 - Work Deliverable Traceability Diagram

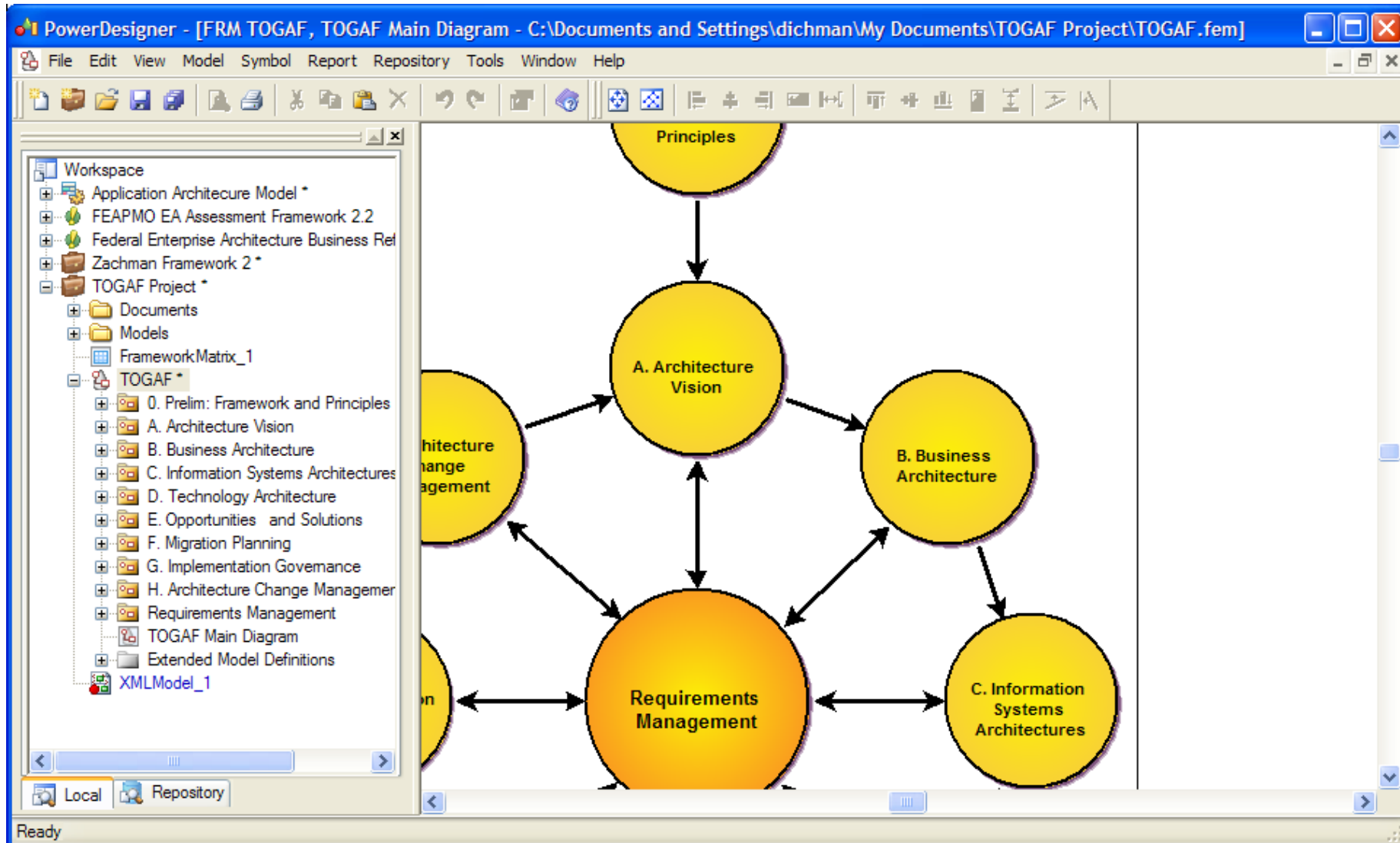
	What	How	Where	Who	When	Why
Scope Contexts	Inventory Identification	Process Identification	Network Identification	Organization Identification	Timing Identification	Motivation Identification
Business Concepts	Inventory Definition	Process Definition	Network Definition	Organization Definition	Timing Definition	Motivation Definition
System Logic	Inventory Representation	Process Representation	Network Representation	Organization Representation	Timing Representation	Motivation Representation
Technology Physics	Inventory Specification	Process Specification	Network Specification	Organization Specification	Timing Specification	Motivation Specification
Component Assemblies	Inventory Configuration	Process Configuration	Network Configuration	Organization Configuration	Timing Configuration	Motivation Configuration
Operations Classes	Inventory Instantiation	Process Instantiation	Network Instantiation	Organization Instantiation	Timing Instantiation	Motivation Instantiation

Local Repository

Framework Matrix 'Zachman Framework for Enterprise Architecture 2' Copyright 1987 John A. Zachman; hexagon model copyright 1998 Zachman Framework Associates; derivative work copyright

THE TOGAF 9 FRAMEWORK

PowerDesigner TOGAF 9 Framework Implementation



	Information Architecture	Business Architecture	Application Architecture	Technology Architecture
Enterprise Scope	Information Scope 	Business Scope 	Application Scope 	Technology Scope
Enterprise Conceptual	Information Conceptual Model 	Business Conceptual Model 	Application Conceptual Model 	Technology Conceptual Model
Logical Representation	Information Logical Model 	Business Logical Model 	Application Logical Model 	Technology Logical Model
Physical Implementation	Information Physical Model 	Business Physical Model 	Application Physical Model 	Technology Physical Model

INTEGRATED MODELS AND REPOSITORY

Link and Sync Combined with Central Repository: Effective Metadata Management

- **Link & Sync Technology Ensures Dependencies are Tracked**
 - Integration Across the Different Architecture Elements
 - Transformation from Abstraction to Detailed View
- **Frameworks Provide Mechanism To Organize Work**
 - Provides Containers for Different Work Deliverables
 - Provides Method to Go from One Stage to the Next
- **We Want Enterprise Scope And Centralized Control**
 - Integrated Metadata Repository
- **Modeling And Repository Together Ensures**
 - Consistent Integration of Metadata for All Participants
 - Enterprise Scope can be Achieved Without Extra Work

MODEL DRIVEN ENTERPRISE ARCHITECTURE

Practical and Applied Best Practices with Effective Tooling Provide ROI with Modeling

- **Modeling and Metadata Management are Mainstream**
 - Convergence Has Occurred, Integration is Essential
- **Powerdesigner Leads The Way In Integrated Modeling**
 - Modeling & Metadata Management for EA
- **Best Practices for Modeling Projects**
 - Organization and Support from Management are Key
 - Effective Tooling and Tool Consistent Use Empowers EA
 - Increase Productivity – Not Add New Work to Front End
- **Enterprise Focus With Project Implementation**
 - Enterprise Focused Abstractions With Project Details
 - Frameworks Help Keep Enterprise “Connected”

Repository

Enterprise Architecture Model

Data Models

- Conceptual DM
- Logical DM
- Physical DM
- Information Liquidity Model
- XML

Requirements Model

Business Process Model

Application Architecture Models

- UML
- XML

Repository

Repository

Repository

QUESTIONS & ANSWERS



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THANK YOU

MODELING THE ENTERPRISE
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