

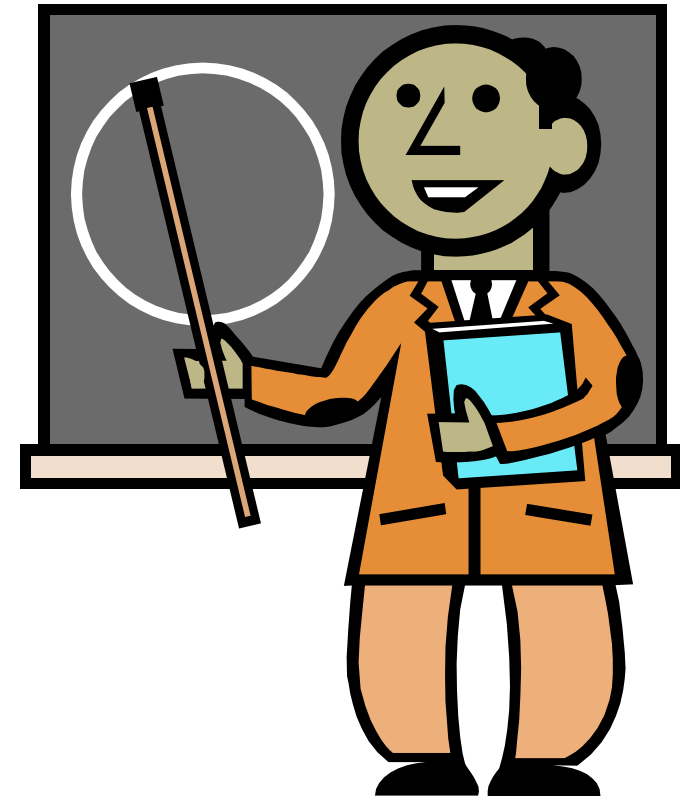


Getting Started with Enterprise Architecture using System Architect

Rational. software

Welcome!

- About your workshop leader
 - ▶ Scott McBride
 - ▶ 10 years+ experience with System Architect
 - ▶ Started with Popkin Software → Telelogic → IBM
- About you
 - ▶ Your organization
 - ▶ Experience with System Architect (none is required)
 - ▶ EA experience, current projects
 - ▶ What you are looking to take away from this session



Outcomes for this Session

- Why enterprise architecture?
- Drivers, domains and metamodels
- Open and navigate an existing encyclopedia
- Create encyclopedia artifacts – diagrams and definitions
- Use matrices to create links
- Visualize alignment with reports and Explorer diagrams
- Link artifacts to show line-of-sight



Why Enterprise Architecture?



Typical EA Activities	Outcomes
Employ enterprise-wide standards	Increase interoperability; reduce number of distinct technologies and products
Construct baseline and target architectures	Plan for coordinate and predictable change to bridge the gap in capabilities
Build an inventory of “components” with standard interfaces	Decrease life cycle costs; decrease total development time
Adopt formal business case approach for evaluating new investments	Make investment decisions that are informed and in line with the enterprise strategy
Identify metrics at all levels	Understand where the gaps are; achieve strategic alignment

Critical Success Factors for EA



- Know **why** you are doing EA.
- The EA effort will not be able to **address issues** at levels above the program sponsor.
- Identify the stakeholders early, and **enroll** them in identifying and validating program requirements.
- Anything less than one year is not a program – it is a **pilot**.
- Find **seasoned and experienced** architects to lead the program.
- Make artifacts, reports and analyses **accessible**.
- If EA is not **integrated** into existing governance processes, it will not take root.
- Be realistic on timelines, but also know that you will be able to **deliver value** for selected areas early on.

What are Drivers?

Drivers are forces, environmental factors, opportunities, changing consumer tastes, promising technologies, demographics and regulations that define the world in which the enterprise exists.



Strategic drivers

Identifying drivers is essential to being able to justify investments and to develop certain capabilities.

Business drivers

Organizations can either respond proactively, reactively, or ignore these factors altogether.

Technology drivers



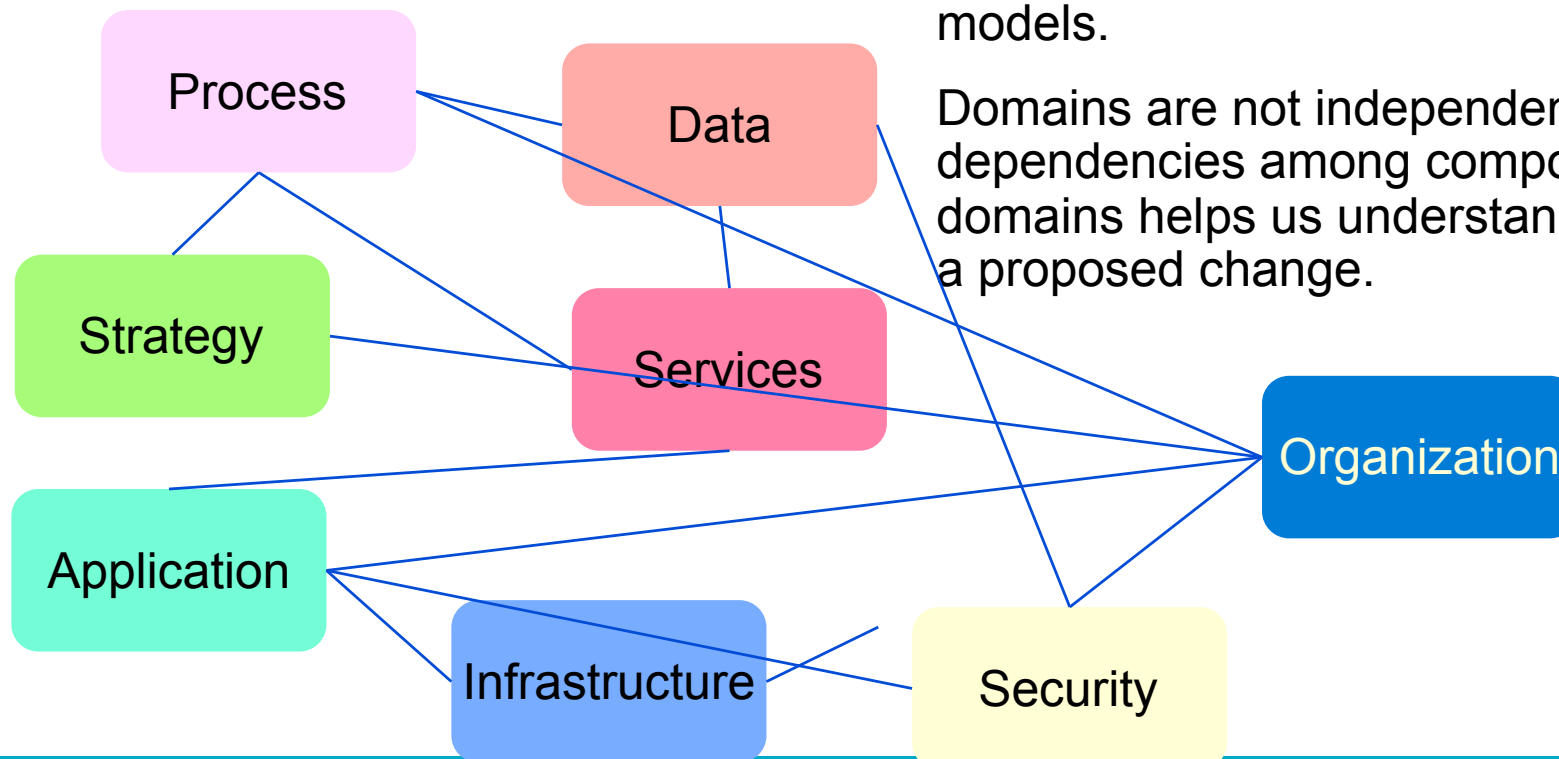
What are Domains?

A domain is an aspect of the enterprise that can be modeled and analyzed separately.

Domains typically have a set of standard notations, disciplines and a community of practitioners.

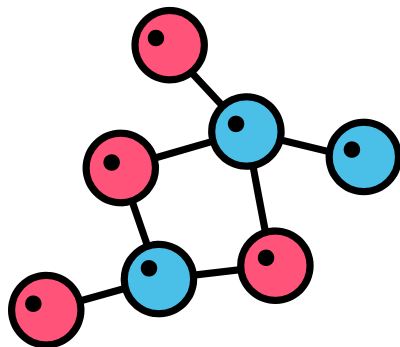
Each domain will have a set of artifacts or models.

Domains are not independent. The dependencies among components across domains helps us understand the impact of a proposed change.



What are Metamodels?

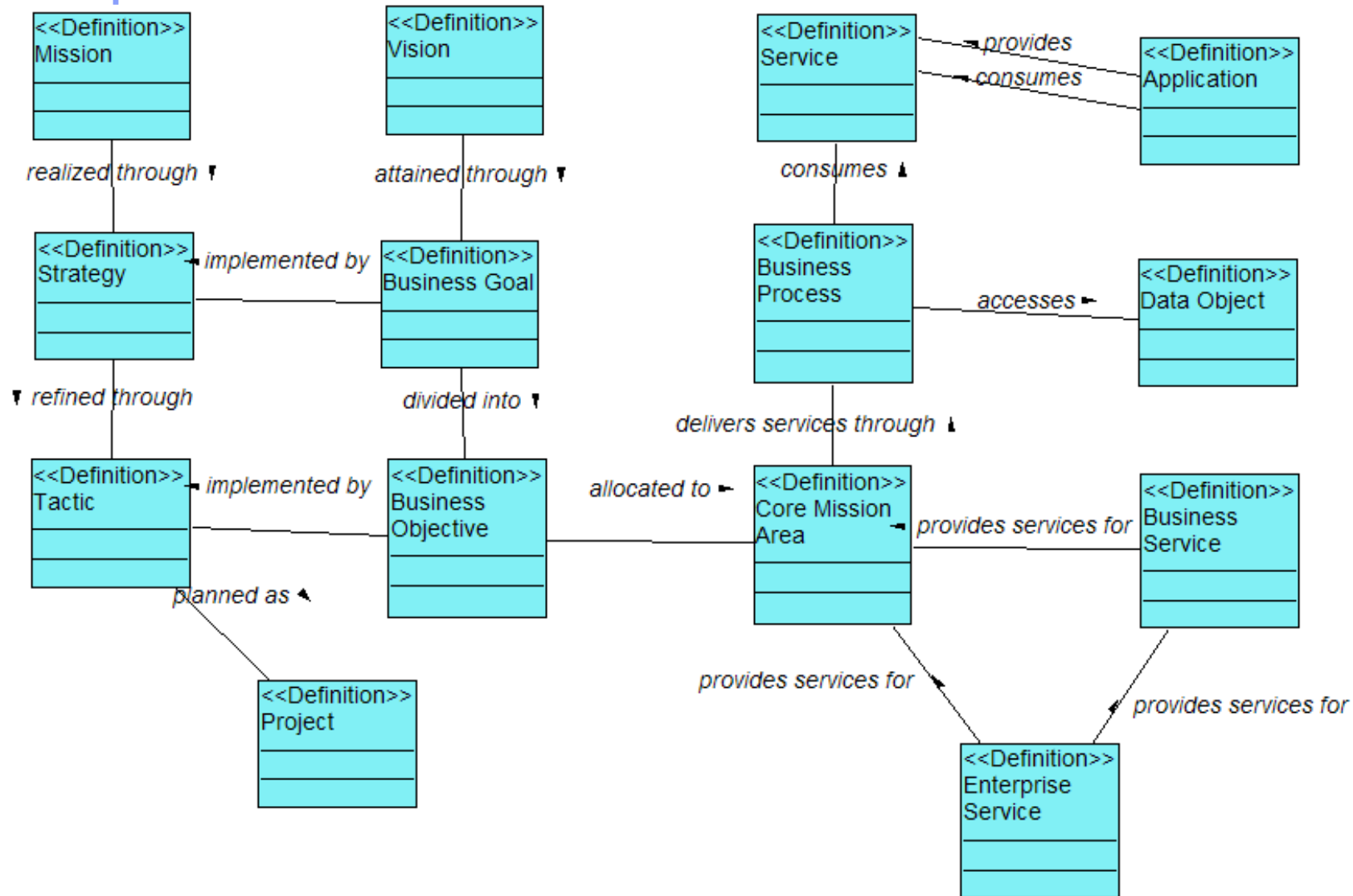
- A metamodel is a refinement of a domain in that it identifies the component types within the domain.
- A metamodel reflects how you intend to think about, reason through and analyze the enterprise.
- Metamodels are sometimes driven by the types of reports and views that you will need to generate.



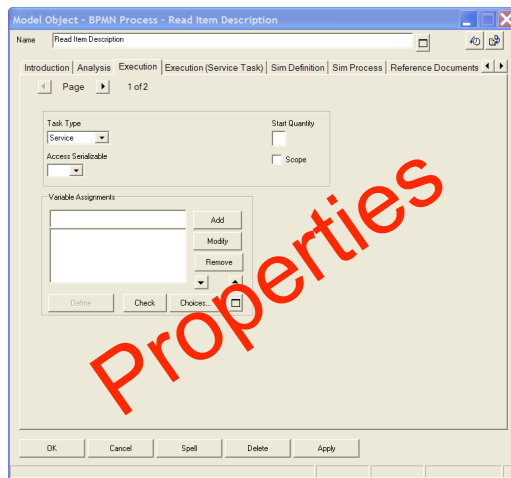
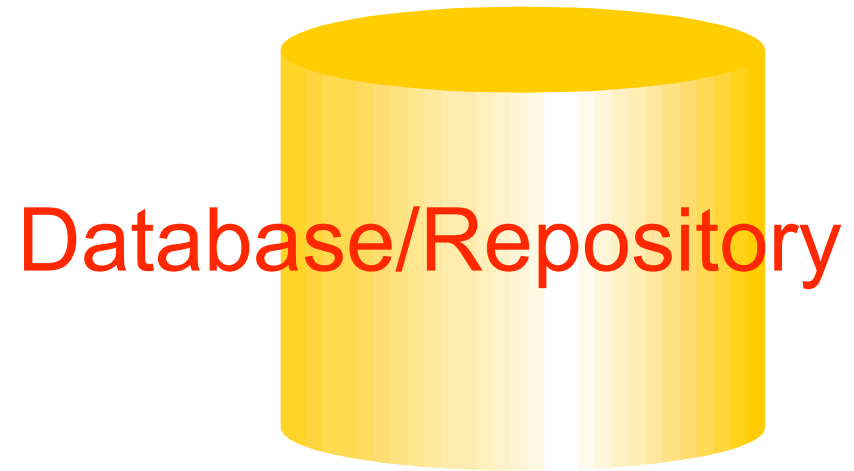
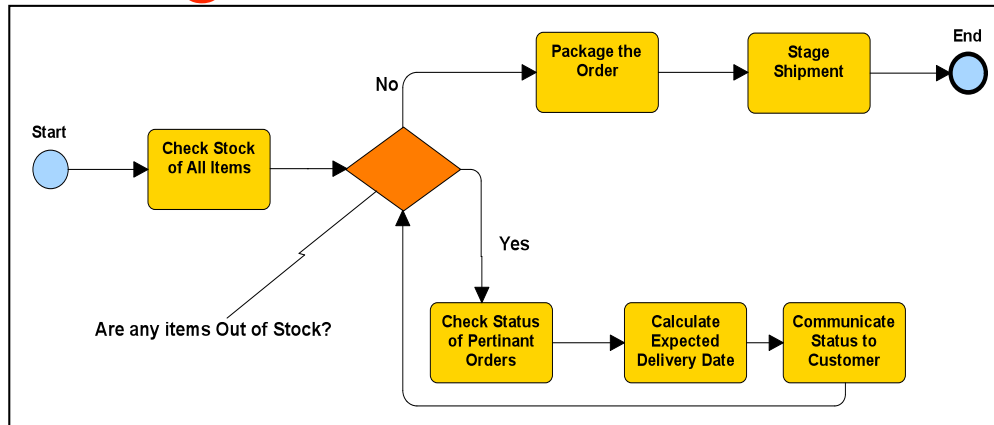
The metamodel defines the underlying structure of how the components of the enterprise are linked.

Metamodels also reflect the semantics of what is represented by the objects and relationships.

Sample Metamodel



What is IBM Rational System Architect? Diagrams



System Architect Generated Report

Page last updated

All BPs and Defintions

This is a list generated from the report generator engine!

BP Name	Description
Add Pictures and Details	Add a digital picture of the item to description.

Report Generator



The IBM Rational System Architect Workspace

Server Name (points to the title bar)

Database Name (points to the title bar)

Open Diagram (points to the Explorer window)

Selected Diagram (points to a diagram in the Explorer window)

Encyclopedia Explorer Window (points to the Explorer window)

Diagram Navigation Tabs (points to the tabs at the top of the diagram editor)

Editing Area (points to the main diagram canvas)

Property Preview of selected Artifact Editable (points to the Property window)

Preview of selected Diagram (points to the diagram preview window)

Audit ID (points to the bottom right corner of the diagram preview window)



Thought question

- How are the following three related?
 - ▶ Diagrams
 - ▶ Definitions
 - ▶ Symbols
- Diagrams use Symbols, which reference Definitions
 - ▶ Think of a Symbol as an *instance* of a definition
- Only Diagrams and Definitions appear in the Encyclopedia Explorer.



Diagram Basics

System Architect - Local Server YPAPADAKTLOGICSA(DoDAFABM)

File Edit View Format Draw Tools Dictionary Reports Window Help

10 B I U Search Text

Explorer: Welcome Guide Manage UAV Data Acquisition (OV-06a O... UAV (OV-06b Op State Transition)

OV-6b UAV States

Note: The states through during the process of taking pictures

Diagram

Definitions referenced by the symbols on the diagram

- CRUISING [State]
- Model Explanation [Referent]
- ORIENTING [State]
- READY [State]
- SHOOTING PICTURE SEQUENCE [State]

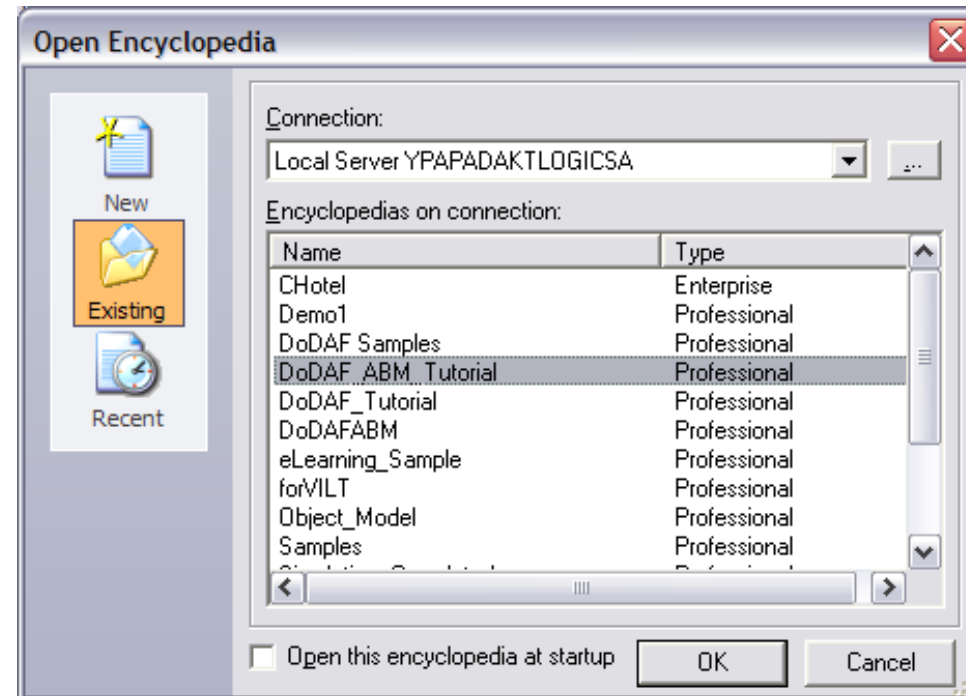
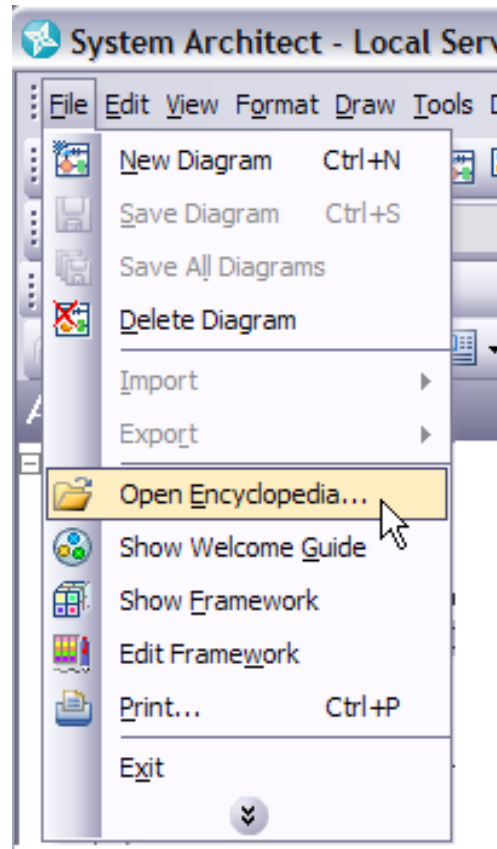
Symbols

- Nodes
- Lines

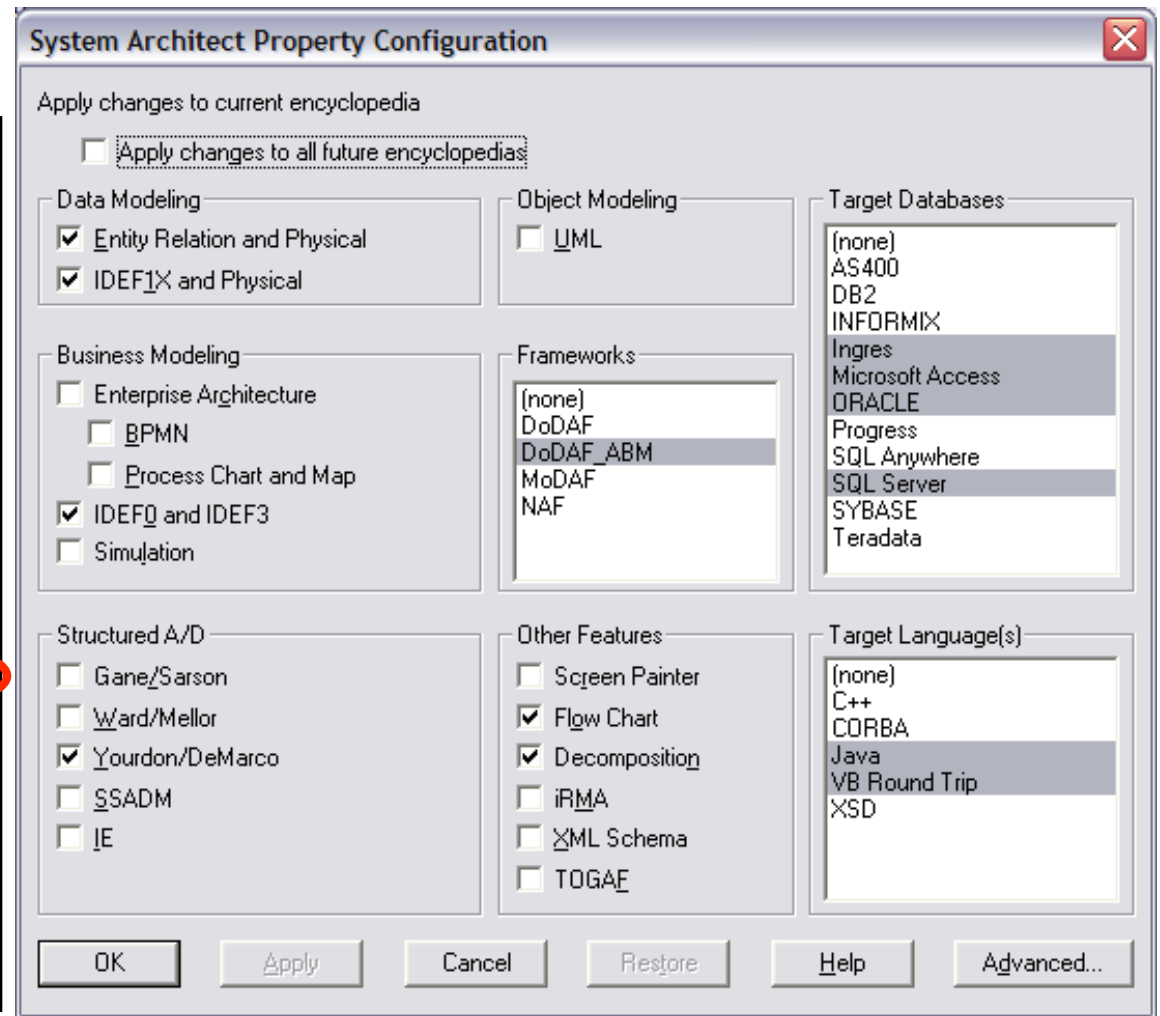
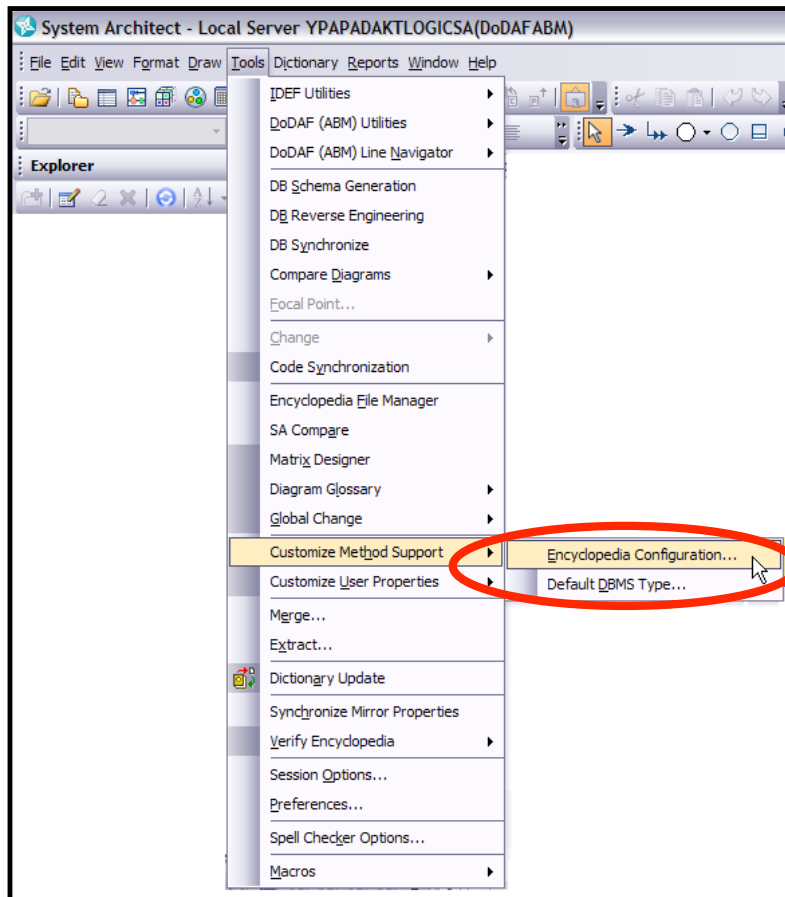
```
graph TD; Start(( )) --> CRUISING((CRUISING)); CRUISING -- "Time To Orient Camera" --> ORIENTING((ORIENTING)); ORIENTING -- "Camera Aimed" --> READY((READY)); READY -- "Picture Sequence Started" --> SHOOTING((SHOOTING PICTURE SEQUENCE)); SHOOTING -- "Another Sequence Required" --> CRUISING; SHOOTING -- "No Further Sequence Required" --> CRUISING;
```



To Open or Create a New Database...



Encyclopedia Property Configuration

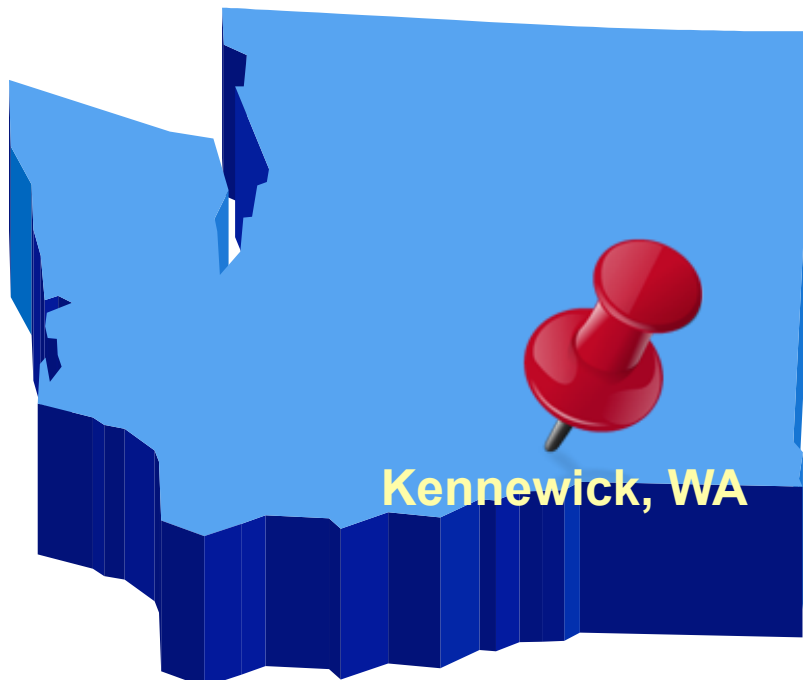


Let's Get Started!

Winged Bicycles, a fictitious manufacturer of bikes, will be the enterprise whose architecture you will document and analyze in today's workshop.



Winged Bicycles was founded in 1995 in Kennewick, Washington*, by Eddie Thompson (a fictitious person). Starting in his garage, Eddie created custom-built bikes and was successful as a one-person company. Until ...



* Kennewick is not a fictitious city.

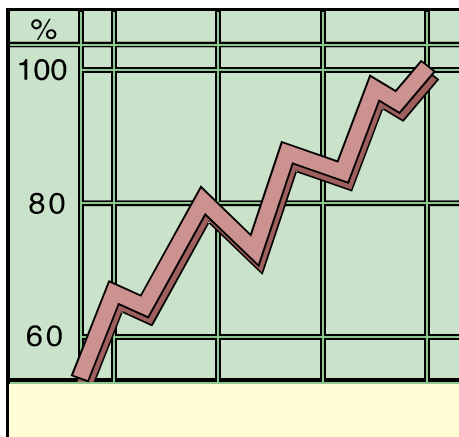
From One-person Shop to Small Business

Eddie soon outgrew his garage.

He realized he could no longer keep up with the demands of the business by himself.

He hired people to handle ordering materials, servicing bicycles, promoting the business and keeping the books.

Eddie insisted on dealing directly with customers himself.



Winged Bicycles started a line of production bicycles as well as the custom bikes.

The company also developed a special line of bikes for use by police officers.

Winged Bicycles expanded to locations in Seattle, Portland and Vancouver, British Columbia.

From Small Business to Growing Company

Winged Bicycles sponsors a racing team and regularly hosts bicycle recreation events.

Winged Bicycles is looking to expand beyond the northwest and become an internationally recognized brand for production and custom bicycles. And maybe taken seriously by the Europeans!



There are plans to ramp up production and to establish WB bike shops in bicycle-friendly communities across the country.

Through all the changes and growth, one thing hasn't changed: **uncompromising personal service**. Whenever possible, that *person* is Eddie himself.



“A rider for life” – Eddie Thompson



Eddie's dream is to help people enjoy riding throughout their lives and to have Winged Bicycles be the bicycle of choice for the young, old and everyone in between.



To be successful, WB will need to establish lifelong relationships with their customers and offer products and services that enrich their lives.



Winged Bicycles Today

- To expand geographically, WB purchased a number of regional bicycle retail stores.
- To add capacity, they acquired production facilities in the upper Midwest and are outsourcing some manufacturing to firms in Asia.
- Started new lines of business –
 - ▶ Apparel (jersey, shorts and socks)
 - ▶ Bike components (brakes, derailleurs)
- Partnered with localities to help commuters earn “Greenbucks” when they take alternative transportation. Greenbucks can be used to pay city utility and garbage collection bills.



Challenges and Pain Points

- Supply chain issues result in missing inventory item and lost sales.
- Inconsistent quality from contracted manufacturers.
- Although individual sales are recorded, there is no comprehensive means of tracking customers long-term.
- Other manufactures have entered the “cops on bikes” market, increasing competition and decreasing margins.
- Branding of “Winged Bicycles” has been diluted by their entrée into other lines of business.
- Store managers are not being supported.
- Worst of all, Eddie is no longer the face of the company.

Here's where You come in

The CIO, Tanya Williams, is sponsoring an enterprise architecture initiative to help address the pressing business problems Winged Bicycles is facing.

Tanya believes that repository-based enterprise architecture, led by experienced architects with support by LOB and IT managers, will help align the company's operations and investment decisions with its strategy.



You are a member of the EA team.

Creating Artifacts in Each Domain

- In this technical workshop, you will be creating or editing artifacts in the following domains:
 - ▶ Strategy
 - ▶ Business process
 - ▶ Application
 - ▶ Services
- You will also run predefined reports and create line-of-sight views using the Explorer diagram

QUESTIONS

Thank You

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