Introduction

In today's world, change is the only constant, and the ability to manage that change, is the ***only*** competitive advantage. Success and even survival is dependent upon knowing your enterprise, your stakeholders, your world, and how change affects them all.

Every enterprise has an architecture. Most enterprises simply let their architecture grow and evolve uncontrolled. It is always undocumented and is most often characterized by high maintenance costs, long development cycles, poor quality software, non-interoperable applications, lack of data sharing, limited strategic information, and difficult change management.

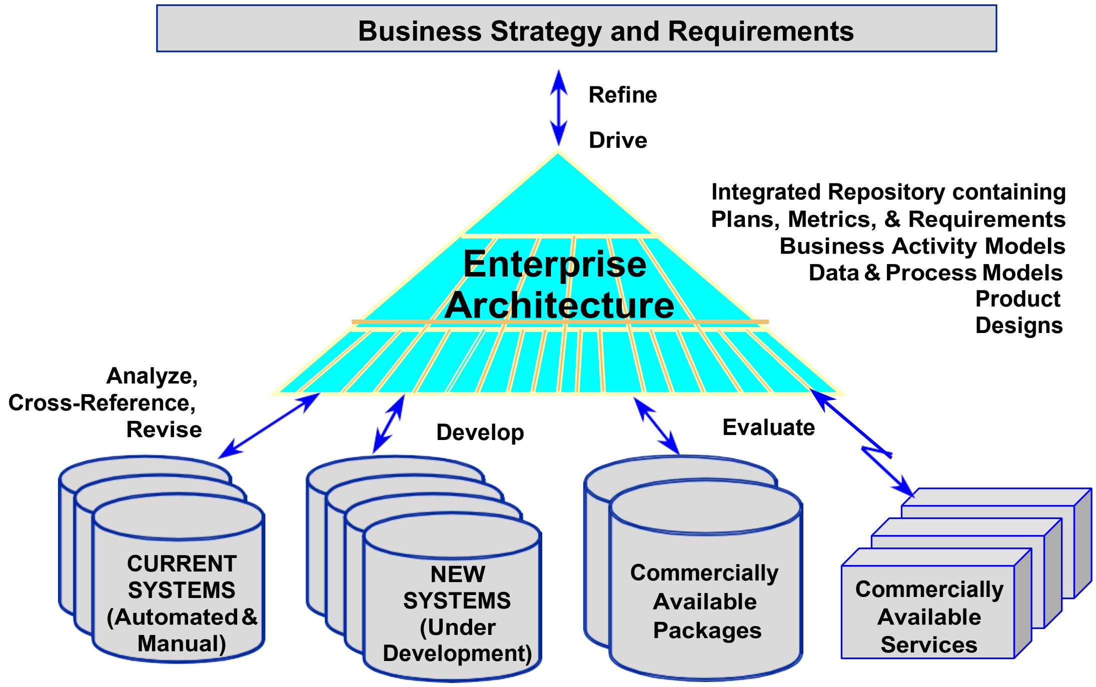
An Enterprise Architecture when properly documented reflects the "business of the enterprise" and becomes a guide for providing the information necessary to manage a successful business and transformation.

What is an Enterprise Architecture?

An Enterprise Architecture (EA) serves as an "business and technology blueprint." It is a repository for designs and specifications of technologies, physical data structures and computer applications, as well as business plans, data models, and process models. Furthermore, it serves as a map of all the linkages among business initiatives, data required to support those initiatives, business processes that use the data, and physical information systems that support data requirements and processes.

It is these links that make the EA a powerful vehicle for business transformation. For example, by providing a complete picture of data and processes – across information systems and functions – an Enterprise Architecture enables the integration between strategy and people, processes and data.

An Enterprise Architecture also enables impact analyses both prior to and during implementation of business or technology changes, to examine potential and actual effects of new business requirements on information resources, and impact of proposed or actual system changes on business plans and requirements. Below is a graphical representation of these various elements and their relationship to an Enterprise Architecture.


Business Strategy and Requirements
Refine
Drive
Enterprise Architecture
Integrated Repository containing
Plans, Metrics, & Requirements
Business Activity Models
Data & Process Models
Product
Designs
Analyze,
Cross-Reference,
Revise
Develop
Evaluate
CURRENT SYSTEMS (Automated & Manual)
NEW SYSTEMS (Under Development)
Commercially Available Packages
Commercially Available Services

How does one go about building an Enterprise Architecture?

What is needed is a set of models that represents an integrated view of National Marker's business with any gaps, redundancies and discrepancies found in the existing applications resolved and documented. The effort involved to build out an Enterprise Architecture involves two main steps.

To accomplish this, two key activities must be set in motion:

1. Build a conceptual model of forward looking, key activities which include business planning, ascertaining business requirements and understanding performance measures.
2. Build a conceptual model of evolving activities which include analysis and documentation of all existing systems, applications and data structures.

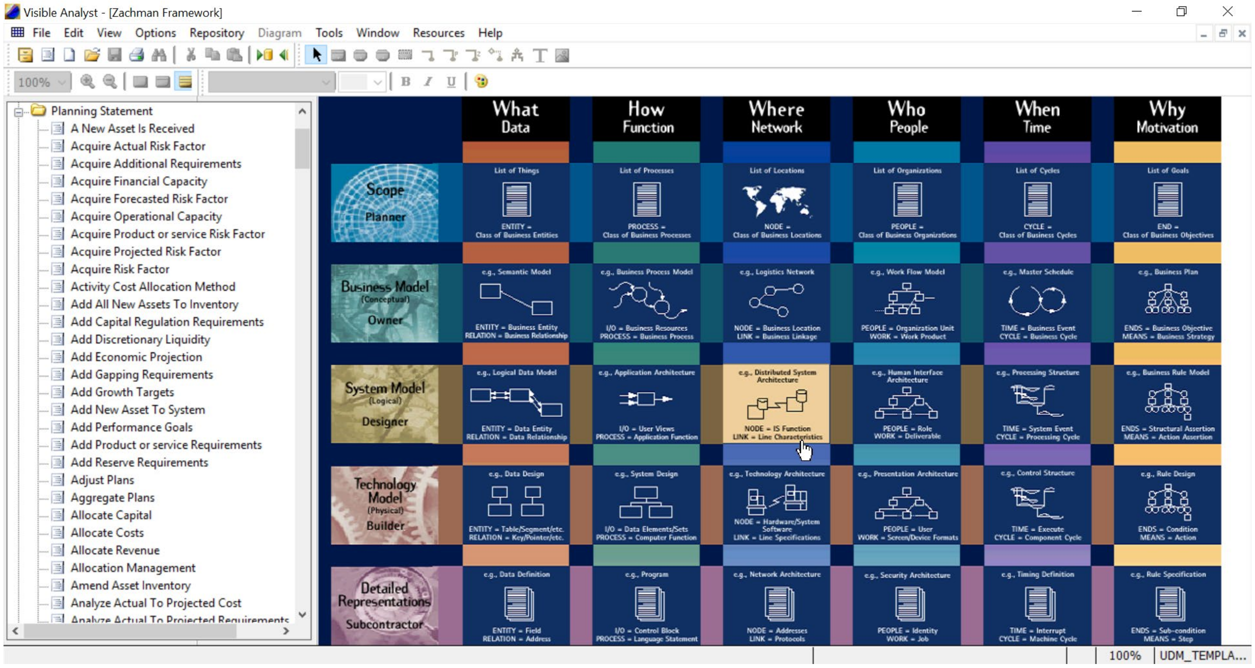
The need for a repository tool:

To be most useful, a conceptual model of the business is something that is developed and maintained by a model-based repository tool. The table below illustrates examples of architecture artifacts that can be captured in a conceptual model and managed in an Enterprise Architecture by a repository tool.

	DATA What	**FUNCTION How**	**NETWORK Where**	**PEOPLE Who**	**TIME When**	**MOTIVATION Why**
SCOPE Contextual (Planner)	Enterprise Data Dictionary	Functional Hierarchy Breakdown	Locations List	Organization & Stakeholder View list	Business Event	Strategic Plan Goals, CSF etc
ENTERPRISE MODEL Conceptual (Owner)	Enterprise Meta Model	Activities within Function & Costing	Location Hierarchy & Geography	Organization & Stakeholder Hierarchy	Business Event Hierarchy	Business & Operational Plan
SYSTEM MODEL Logical (Designer)	Logical Data Model	Process Model or Detailed Activities	Logical Network Model	Organization & Stakeholder Roles	Logical Process Model or Sequence diagram	Business Rules & Sys Requirements w/ Logical links
TECHNICAL MODEL Physical (Builder)	Physical Database Design	Object model/ Components or structured	Network Design[*3]	Security design for App/DB/Net[*4]	Job Scheduler[*5] & App Modules for Events	Rules for DB/App Components
DETAILS Implemented (Sub-Contractor)	SQL DDL/ DBMS Tables[*1]	Source Code/ Executable Applications	Network Cabling & protocols[*3]	Net/App/ DBMS Security	Scheduled Batch & Online apps	App modules & DB tables, Data and Function Details

The repository thereby becomes the single source for every conceptual model, composite model and report regardless of the tool that is used to create it. For that reason the underlying repository identifies metadata on your Data, Function, Network, People, Time, Motivation.

On the left, you will notice a list of statements, the first of which is “A New Asset is Received”. These statements represent business events or requirements. By clicking on a statement (e.g., “A New Asset is Received”) you will then see the data and processes upon which the statement depends.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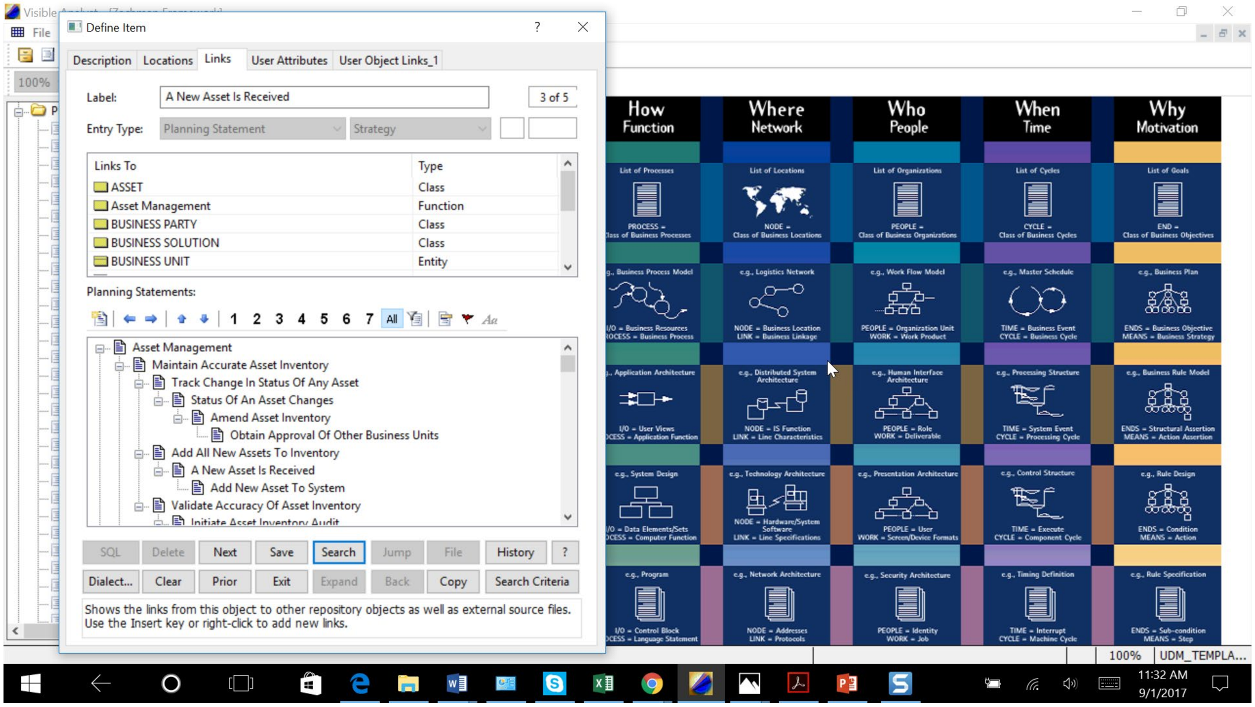
- Planning Statement
  - A New Asset Is Received
  - Acquire Actual Risk Factor
  - Acquire Additional Requirements
  - Acquire Financial Capacity
  - Acquire Forecasted Risk Factor
  - Acquire Operational Capacity
  - Acquire Product or service Risk Factor
  - Acquire Projected Risk Factor
  - Acquire Risk Factor
  - Activity Cost Allocation Method
  - Add All New Assets To Inventory
  - Add Capital Regulation Requirements
  - Add Discretionary Liquidity
  - Add Economic Projection
  - Add Gapping Requirements
  - Add Growth Targets
  - Add New Asset To System
  - Add Performance Goals
  - Add Product or service Requirements
  - Add Reserve Requirements
  - Adjust Plans
  - Aggregate Plans
  - Allocate Capital
  - Allocate Costs
  - Allocate Revenue
  - Allocation Management
  - Amend Asset Inventory
  - Analyze Actual To Projected Cost
  - Analyze Actual To Projected Requirements

	What Data	How Function	Where Network	Who People	When Time	Why Motivation
Scope Planner	List of Things ENTITY = Class of Business Entities	List of Processes PROCESS = Class of Business Processes	List of Locations NODE = Class of Business Locations	List of Organizations PEOPLE = Class of Business Organizations	List of Cycles CYCLE = Class of Business Cycles	List of Goals END = Class of Business Objectives
Business Model (Conceptual) Owner	e.g., Semantic Model ENTITY = Business Entity RELATION = Business Relationship	e.g., Business Process Model I/O = Business Resources PROCESS = Business Process	e.g., Logistics Network NODE = Business Location LINK = Business Linkage	e.g., Work Flow Model PEOPLE = Organization Unit WORK = Work Product	e.g., Master Schedule TIME = Business Event CYCLE = Business Cycle	e.g., Business Plan ENDS = Business Objective MEANS = Business Strategy
System Model (Logical) Designer	e.g., Logical Data Model ENTITY = Data Entity RELATION = Data Relationship	e.g., Application Architecture I/O = User Views PROCESS = Application Function	e.g., Distributed System Architecture NODE = IS Function LINK = Line Characteristics	e.g., Human Interface Architecture PEOPLE = Role WORK = Deliverable	e.g., Processing Structure TIME = System Event CYCLE = Processing Cycle	e.g., Business Rule Model ENDS = Structural Assertion MEANS = Action Assertion
Technology Model (Physical) Builder	e.g., Data Design ENTITY = Table/Segment/etc. RELATION = Key/Pointer/etc.	e.g., System Design I/O = Data Elements/Sets PROCESS = Computer Function	e.g., Technology Architecture NODE = Hardware/System Software LINK = Line Specifications	e.g., Presentation Architecture PEOPLE = User WORK = Screen/Device Formats	e.g., Control Structure TIME = Execute CYCLE = Component Cycle	e.g., Rule Design ENDS = Condition MEANS = Action
Detailed Representations Subcontractor	e.g., Data Definition ENTITY = Field RELATION = Address	e.g., Program I/O = Control Block PROCESS = Language Statement	e.g., Network Architecture NODE = Addresses LINK = Protocols	e.g., Security Architecture PEOPLE = Identity WORK = Job	e.g., Timing Definition TIME = Interrupt CYCLE = Machine Cycle	e.g., Rule Specification ENDS = Sub-condition MEANS = Step


Define Item
Description Locations Links User Attributes User Object Links_1
SQL Delete Next Save Search Jump File History ?
Dialect... Clear Prior Exit Expand Back Copy Search Criteria
How Function
Where Network
Who People
When Time
Why Motivation
100% UDM_TEMPLA...
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9/1/2017

Label: A New Asset Is Received 3 of 5

Entry Type: Planning Statement Strategy

Links To	Type
ASSET	Class
Asset Management	Function
BUSINESS PARTY	Class
BUSINESS SOLUTION	Class
BUSINESS UNIT	Entity

Planning Statements:

- Asset Management
  - Maintain Accurate Asset Inventory
    - Track Change In Status Of Any Asset
      - Status Of An Asset Changes
        - Amend Asset Inventory
          - Obtain Approval Of Other Business Units
    - Add All New Assets To Inventory
      - A New Asset Is Received
        - Add New Asset To System
    - Validate Accuracy Of Asset Inventory
      - Initiate Asset Inventory Audit

Shows the links from this object to other repository objects as well as external source files. Use the Insert key or right-click to add new links.

Summary:

An EA enables you to see the relationship between a business strategy and the data and processes upon which the strategy depends. A well-documented EA reveals

- Strategic goals, objectives, and strategies
- Business rules and measures
- Information requirements
- Processes, systems and applications
- Relationships architecture elements
- Technology infrastructure

Enterprise architecture also establishes guidelines, standards, and operational services that define the enterprise’s software engineering environment. When an enterprise’s architecture is so documented, it can be used to accomplish the following:

- Facilitate change management by linking strategic requirements to systems that support them and by linking the business model to application designs
- Enable strategic information to be consistently and accurately derived from operational data
- Promote data sharing, thus reducing data redundancy and reducing maintenance costs
- Improve productivity through component development, management and reuse
- Reduce software development cycle time
- Evaluate commercial products and services
- Integrate enterprise applications
- Re-engineer applications

For more information or to arrange a demo, contact:

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