Process Architecture
What is it? Why do I need one? Picking a Winner…

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Agenda

• Defining Process Architecture
• Importance of Process Architecture
• What’s in Process Architecture?
• How do I use Process Architecture?
• What makes a winner?
Defining Process Architecture

Process Architecture
The ordering, interfaces, interdependencies, and other relationships among the process elements in a standard process. Process architecture also describes the interfaces, interdependencies, and other relationships between process elements and external processes (e.g. contract management).

CMMI-DEV V1.2

5 references in OPD + Glossary
Other “Useful” Terms

Process Element
The fundamental unit of a process. A process can be defined in terms of sub-processes or process elements. A sub-process can be further decomposed into sub-processes or process elements; a process element cannot.

Standard Process
An operational definition of the basic process that guides the establishment of a common process in an organization. A standard process describes the fundamental process elements that are expected to be incorporated into any defined process…
Ah Ha!

Diagram showing a process hierarchy with labels like «process», «sub-process», and «process-element».
Importance – ML/CL 3 Features

- Life-cycle Models
- Organization’s Set of Standard Processes
- Tailoring Guidelines
- Process Architecture
- Organization’s Measurement Repository
- Process Asset Library
- Work Environment Standards

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Importance – ML/CL 4/5 Features

- Performance Measures
- Organization’s Measurement Repository
- Process Architecture
- Process Asset Library
- Performance Baselines and Models
- Organization’s Set of Standard Processes
- Performance Objectives
- Tailoring Guidelines
- Process Composition

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Process Definition

Hierarchy

- «process»
  - «sub-process»
    - «process-element»
  - «sub-process»
    - «process-element»
  - «sub-process»
    - «process-element»

Definition

- Trigger
- Signal
- Inputs
- Controls
- Outputs
- Process Elements
- Execution Risks
- Avoidance Risks
- Roles
- Tools & Techniques
Structure and Tailoring

Decomposition
  Sequential
    Iterative

Concurrent

Optional

Alternative

How Many

Yes or No?

Which?
Plus All The Rest…

Organizational’s Measurement Repository

Life-cycle Models

Organization’s Set of Standard Processes

Process Architecture

Tailoring Guidelines

Process Asset Library

Work Environment Standards
Process Architecture Features

- **Information Rich**
  - All aspects of process definition
  - Many different types of asset
- **Relationally Rich**
  - Inter-process relationship types
  - Conditional relationships (tailoring guidelines)
  - Relationships to all types of assets
- **Analytically Rich**
  - Support measures, baselines and models
  - Performance-based Process Composition
  - Quantitative Management, Innovation and Deployment
  - Project Use of Process
- **Presentation Rich**
  - Complex information
  - Easy to use
Obstruction…
Automate the Legacy!

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Make it Work For You

Standard Process

Defined Process

Project Plan

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Supply and Harvest

Assets Supplied with Standard Process

Work Products submitted as candidate Assets

Standard Process

Defined Process
Keys to Success

- Start Process Architecture Early
- Collect and Catalogue Assets Early
- Standardize on Process Definitions
- Assist Early Process Adopters
- Have a Strategy to Manage the Legacy
- Make the Process Architecture Work for YOU!
Summary

• Process Architecture is Critical to Process Success
  • Central to CMMI CL/ML 3 → 5
  • Not Clearly Defined in the Model
  • Implicit not Explicit Presence in the Model (6 mentions!)

• Critical Obstacle is the Legacy
  • Different Origins, Different Formats
  • Making Legacy Conform

• Make Process Architecture work For YOU!
  • Active, Intelligent Supply of Processes
  • Supply and Harvest of Assets
  • Benefits Obvious to Practitioners not just Process Gurus