“An Introduction to Process Mapping for Systems Planning”
Process ‘101’ Topics (Today’s Agenda)

Process Mapping Overview, Definitions
Value Proposition
   Potential Benefits of Process Mapping
Why and When to capture Process?
Notation Symbols and Event Flow
Process Capture roles and approach
Standards, Styles, Examples
Useful Resources and Contacts

Wrap-up and Feedback
Mapping for the Organization

Process Mapping is about...

The practice of capturing the various components of what an organization, department, or business unit’s functions perform under routine operation which has impact on the organization in some measurable way. The linkage between these often disparate yet linked models is the essence of Process Mapping. An understanding of the Organizational Structure is essential to the arrangement of these activities in a way that catalogues and can document the organization’s overall capabilities.
Why Process Mapping Matters

Defining Processes leads to a common understanding; by easing communication, empowering efficiency, raised awareness leads to improvement.

Helps encourage wider participation: knowledge of participants’ roles/responsibility allows ideas and insights to flow in, for effectiveness and productivity.

Enables the organization to also base-line itself to establish performance standards and goals, gauge effectiveness, and ensure results meet business purpose.
Definitions

“Process Model”  [from UC EA Glossary]
A representative depiction of a sequence of Events [or “steps”] which trigger action and the associated sequence of events and rules involved in decision making and information flow along the event “steps” that progress to achieve the desired end state or outcome.

“Process Modelling”
“A set of practices or tasks that companies can perform to visually depict or describe all the aspects of a business process, including its flow, control and decision points, triggers and conditions for activity execution, the context in which an activity runs, and associated resources.”

-Josuttis, N. SOA in Practice, 2007
Process Diagrams and Formats

A Flowchart for Choosing Your Religion

Start here. How many gods do you want to worship?

- A Ton of Them
  - Do you want to be reincarnated?
    - No
    - Yes
      - Do you own a black cat?
        - Yes
          - Be a Wiccan.
        - No
          - Do you prefer Indian takeout or Chinese takeout?
            - Indian
              - Be a Hindu.
            - Chinese
              - Be a Buddhist.
      - No
        - How do you feel about hummus?
          - Meh...
          - I LOVE hummus.
    - No
      - How do you feel about bacon?
        - Meh...
        - I LOVE bacon.
  - Only One
    - How do you feel about hummus?
      - Meh...
      - I LOVE hummus.
    - How do you feel about hummus?
      - Meh...
      - I LOVE hummus.
    - Do you think underwear can be magical?
      - No
        - Be a Jehovah’s Witness.
      - Yes
        - Be a Mormon.
  - None
    - Are you rich and insane?
      - No
        - Be an Atheist.
      - Yes
        - Be a Scientologist.
    - Are you a naturally annoying person?
      - No
        - Be a boring, generic Christian.
      - Yes
Process Overview and Workflows
A familiar UC Workflow?
The benefits of color coding for information flow and system usage are significant!
When Processes are most useful

- For examining the function/product of a business unit, or analyzing activities.
- In reviewing all the contexts in which it is leveraged, assessing “value” to business.
- To raise awareness of “effectiveness” and “quality”, toward ultimate Optimization.
- During redesign: as the basis for proposed functional enhancements; also in widespread / transformational change.
Process – Workflow Hybrid Model

UC Solution Architecture Engagement Model

Functional Gap
Articulate Need
Notify
Confirm
Refine
Socialize
Attract Contributors
Active Collaboration, Joint Authorship
Promote
Active Collaboration, Joint Authorship
Refine
Final Draft Candidate
Endorse
Finalized Document Available for Wider Access
Official Sign-off
Iterate, Evolve and Steward Versions

Modify
Confirm Need, Utility
Request information, Clarify details
elaborate
Prioritize
Ready
Consent
Stasis
Promote

Assess Resources
Program or Project
Business Process, Capability Evolution
Request Input, Distill Package
Validate Artifact Format & Accuracy

Preview Input

Understand the context and flow of the workflow hybrid model. The model includes phases such as Articulate Need, Develop Draft, Active Collaboration, and Final Draft Candidate. It emphasizes collaboration, joint authorship, and iterative improvements. The model is designed to facilitate a structured approach to solution architecture engagement, incorporating feedback and refinement at various stages.
Workflow-style Process-role Overview

Moderate detail: in a Flow-chart style -- great for broad topic coverage – or redesign
Process Capture roles and ‘perspectives’

The following are useful during process capture efforts:

- Facilitator – guides the process/discussion path
- Modeler* – organizes steps in sequence, builds model
- Stakeholder – Business sponsor + interested party
- Steward – Manages the evolution of the process/functions. Responsible for currency/update
- Program / Project Lead – keeps time, flow, interactions on point and coordinates resources
- Documenter* – annotates w/details, context, format
- SME* – historic, human workflow perspective
- Architect – delineate system, internal interactions

*Required*  |  Ideal-state  |  Optional
Flow capture and chaining

The general manner used in the progression of the Process; chaining into a sequence.

Input

State change

Activity, Task or “Event”

Verb, Transitive

Output

Result set or Activity, action or ‘next event’

Can be an [human] interaction or an “Inbound object” or even a causative event
Modelling Notation (basic overview)

Core symbols and their meanings:

- **Activity or Task** [Step] – denotes a procedure, function or series of them, depending on nesting level

- **Terminus** – can represent a starting/entry point or end of the Process, depending on location.

- **Decision** – indicates conditional logic, with either values, events, choices or calculations.

- **Document** – denotes organized input, output of information flowing into or out of a step.
Process Capture – ‘Noble’ end-goals

Some longer term potential to explore:

• **Base-lining** allows process to be captured at a point in time: later on analysis, learning and “playback” can be performed for optimization.

• Ensure a common **understanding** of steps, methods, objectives and gaps, **bottlenecks**.

• **Benchmarking** against external references and best practices, productivity bottlenecks can be Optimized or simplified, modularized.
Standards and Methods

Core Standards: BPMN \[\text{[WS-]}\text{BPEL}\]

Business Process Execution Language is an orchestration language for specifying business process behavior based on Web Services, with a focus on “executable,” as opposed to abstract business processes. XML-based business process models that can be executed, stored, and exchanged. Contains no graphical notations.

[WS-]BPEL is an execution language to describe the behavior of business processes in a standards-based environment. This language describes the syntax for the elements of a process, such as the partner links, service invocations, data variables, correlation sets, defining a format in XML. Having a standard means that a process defined by one vendor’s tool set can be consumed by the run-time of another vendor, though WS-BPEL from one vendor might require modification prior to running another’s run-time engine.
Standards and Methods

Core Standards: BPMN  [ws-]BPEL

Business Process Modelling Notation aims to be readily understandable by all business users, from the business analysts that create the initial drafts of the processes, to the technical developers responsible for implementing the technology that will perform those processes, and finally, by the business people who will manage and monitor those processes. Thus, BPMN creates a standardized “bridge” for the expected gap between the business process design and the process implementation.

Added Benefits of BPMN: …to ensure that XML languages designed for the execution of business processes, such as WSBPEL (Business Process Execution Language), can be visualized with a business-oriented notation.
Swimlane Diagrams and Variations

Business Technology Activities Phases

IDENTIFY

- Business Function Request
- IT Leadership Engaged
- Feature Summary
- High-Level Impact Assessment, Portfolio Review

Elaboration

- Engage IT Architecture and Strategy
- High-Level Elaboration and Portfolio Analysis
- Business Requirements Document
- Business and Technology Workshop "Base Case"
- Project Justification Document

Commitment

- Process Templates and Maps (finalized)
- Process Definition and Repository
- Enterprise Capability Impact/Analysis
- Business Value Statement (realize by phase)

Planning & Architecture

- PMO Planning & Communication
- Resource Allocation/Assignment
- Solution Patterns, EAR/SME Review
- Solution Architecture & Decisions

Inception

- Project and Resource Planning Workshops
- SOW, Project Plan, Comm. Plan
- Stakeholder Engagement
- Project Planning Update (PSR)
- ARB Notification & Scheduling

Detailed Design

- Detailed Architecture & Platform Design
- Summary of Findings and Architecture Decision Notes
- Deployment Model & Application Architecture Package
- Peer-inclusive ARB Review
- PMO (Continuous) Support & Coordination

Development & Prod. Planning

- Development & System Architecture
- Application Config., Deployment Plans (final)
- CAB/PSM Notification & Review
- System Architecture Document (final)
- Application Configuration Document(s)

Deliver

- Signoff Docs for Deployment Approval & CM DB Repository update
- Expedited / Issue Resolution

Highest Level of Detail, Suitable for Information technology audience, Process Leads, & SMEs
Process Diagrams & Formats (3/3)

O2 Paper Flow

CSR
- Paper flow initiation
- Prepare (digitize) pkg of form (Intake Order Form)
- Add to build QC packet (electronic form)
- EMR System QC packet “ready to send”
- Check completeness: Authorization, PSIC, DT, DIC, Rx
- Transmit to reimbursement
- Email to AR Rep
- End

Tech
- Tech dispatch
- Technician delivers
- Captures customer CIC, PSIC, DT

Partner
- 3rd party contacted by
- Patient Testing at Facility

Revenue Rep
- Assess Worked Queue for tasks
- Decision: Valid or Invalide the received order
- Invalide
- Return to center w annotation
- Disposition Note "Invalide"
- "Select" packet (can comment)
- Disposition note(s) added "Valid"
- Match selected packet to order
- End

Legend:
- = Integration Point

Core EMR Components:
1. EMR Intake Service
2. Barcode App
3. Patient DB (EMR Tab)
4. RightFax, Appliance
5. Barcode W.I.S. Interface
6. Email Custodian Service
7. Order Entry
8. TMS.net AP
9. Ticket App
10. Miss. Components
11. Revenue Task Management
12. Revenue DB
13. TMS

Highest Level of Detail, Suitable for Information Technology audience, Process Leads, & SMEs
Process Diagrams & Formats

highest Level of Detail, Suitable for Information technology audience, Process Leads, & SMEs
When to do Process Modelling

Popular times:
• Coincident with start of ‘Change’ efforts
• On customer request i.e. “new delivery”

‘Required’ Times:
• Gathering Business requirements, input
• Understanding perspectives on Trade-offs
• Deciding on an approach to System Design

Optimal Times:
• Strategic Planning and Issue analysis
• Organization Transformational change
Useful Modelling Tools *(you can try)*

**Microsoft [Office] Visio** – upgrade std. UCOP Office license

**SmartDraw** – a personal favorite, versatile and intuitive

**Adonis CE** – freeware BPMN2 tool, try before you buy

**Dia** – *Apache project*; **Pencil Project** - [Download](browser-accessed)

**Draw.IO** – comes equipped w/Confluence Wiki/ JIRA plug-ins

**Lucid Chart** – currently used by UCOP EA Team, so many diagrams already exist; has modest folder and share capabilities.

**Gliffy.com** – slightly simpler than LucidChart, w/BPMN template and color themes included. Also has Confluence Wiki plug-ins.
How to Start your efforts

Where to go for help in organizing or planning a process capture for my group?

@ UCOP & ITS

Prepare a short description of the context, frame the need and choose target domain, send to Jonathan Kahn or Jerome McEvoy

@ Berkeley - BPAWG – Business Process analysis working group, best practices / networking with practicing Analysts. Contact: Isaac Mankita

Reference Models and Standard Organizations

BPMN.org; XPDL.org; APQC.org
Q & A, Wrap-up

Questions: [chat or live]

Feedback, Sharing
Appendix Content

Resources and Background Info / Groups

Glimpse of Follow-on Topics
Additional Resources & Background Info

Key Reference Standards / Sponsor Groups

**OMG – Object Management Group** ([www.omg.org](http://www.omg.org)) stewards:
- Business Process Modeling Notation ([BPMN.org](http://BPMN.org))
- Business Process Definition Metamodel (BPDM); [XPDL.org](http://XPDL.org)

**Workflow Management Coalition** ([www.wfmc.org](http://www.wfmc.org)) stewards:
- XML Process Definition Language ([XPDL](http://XPDL))

**W3C – or World Wide Web Consortium –**
- Web Services Choreography Description Language (WS-CDL)

**OASIS** ([www.oasis-open.org](http://www.oasis-open.org)) evolves:
- Business Process Execution Language ([WSBPEL](http://WSBPEL)) - and ebXML
Modelling Approach (future topics)

Process Capture Best Practices (how to begin)
Selecting the right Notation Method
Effort Timing, Objectives and Scope
Process Family Maps and Layering
As-is vs. To-be - mapping the transition

Capture Methods and Tooling
Facilitation: Setting perspective, mindset
Requirements Elicitation and Role Assignment
Tool Benefits and complexities

Process Stewardship and Maintenance

Project Estimation: Capture Planning and Scoping
Modelling Approach Tips

Best Practices for “Process Capture” Session

• Choose a starting point or state to focus on
• Decide on what will be captured and how
• Define the viewpoint[s] and style
• Invite key participants
• Assign roles or view[s] to individuals
• Know the process delimiters and endpoints.
• Keep conversation moving, revisit details
• Try to keep detail level consistent in drafts
• Identify and note informational “soft spots.”
• Validate findings leveraging SMEs & Leads
Process Capture – Best practices

Start with the value or issues as “Motivation”

• Target gaps, to derive real cost and project benefits
• Try selling up chain – to gain Executive Buy-in

Scope and set capture expectations early on

• Short circuit confusion, resistance and sabotaging
• Align with corporate direction and initiatives
• Solidify value by delivering early observations

Start with core or common process areas

• To stimulate fuller, widespread engagement
• Higher Visibility can drive recognition and power with added momentum to cover more ground.