



# AWF

ESSENTIAL ELEMENTS OF THE WORKFLOW ENGINE

# ELEMENTS OF THE PROCESS

- NODES
- LINKS OR CONNECTIONS
- ACTIONS
- ROLES
  - PEOPLE
  - GROUPS
- CONDITIONS



# ELEMENT: CONDITIONS

- Wide-ranging and significant to all other elements
- An evaluation of the current state of owner and/or related records
- Multiple conditions can be associated with each Node, Link, Action, etc.
  - Result is Binary (TRUE/FALSE)
  - Result can be quantity based (Any / All / n)
  - Individual Conditions can be Absolute
    - These conditions must pass if the entire set is to pass
    - Regardless of Quantity selection

# NOTES ON NODES

- Each node supports very different activities
- Some are higher-order actions that could be accomplished in basic nodes but with less overhead
- All except Start have one Input Port
  - All input ports can have multiple links associated with them
- All except Stop have one or more Output Ports
  - Single Positive/Negative Output : Allows only one output link to another Node
    - Positive is most common as Negative Ports are default routes when there are no other options
  - Multiple Positive Output : Allows one or more positive links to other nodes
    - Used with Matrix or Decision Nodes



# ELEMENT: NODES

- Different Types
  - START : The Highlander
  - CONDITION : The fork in the road
  - TASK : Giving the user something to do
  - WAIT : A pause to reflect
  - ACTION : Makes things happen
  - MATRIX : The Cascading Condition
  - DECISION : e pluribus unum
  - SUB-PROCESS : A Modular Approach
  - STOP : We're Done! I hope you enjoyed the trip.

# START NODE (“THERE CAN BE ONLY ONE.” – C. MCCLOUD)

- ONLY one (1) allowed per process (and sub-process)
- Logical start to the Workflow in execution
- Unconditional
- Single Positive Output



# CONDITION NODE

- There can be many
- Evaluates a Primary set of Conditions
- Has two Output ports
  - TRUE = Single Positive Output
  - FALSE = Single Negative Output
- Restriction
  - Cannot have self-referencing Links (infinite loops are bad)

# TASK NODE

- Issues an Assignment
  - To a Role (Person or Group)
- Can issue an Email Notification \*
- Bypass Conditions \*
  - Data shows task is already completed
- Time Limit \*
  - Used for escalation assignments
- Pauses Instance
  - Assignments require User Interaction
- Single Positive Output



# WAIT NODE

- Pauses the Active Instance until:
  - Time Limit (waiting Period) has elapsed
  - Release Conditions are met
  - Or Both
- Scheduled Job Evaluates these instances
- Single Positive Output

# ACTION NODE

- Each Action Node can have multiple Actions
  - Execute according to sequence
  - Can be conditional
- Many variations
  - Set Value (owner, related, or process variable)
  - Run Method (Function or Procedure)
  - Set Alert
  - Send Notification
  - Set Session State (APEX specific future idea)
- Single Positive Output



# MATRIX NODE

- Call it a Cascading Condition
- Single Negative Output (Default if no other)
- Multiple Positive Output
  - Each Link SHOULD be Conditional
  - Evaluated in sequence
  - First to evaluate TRUE is the path taken
  - Negative Path taken if none of the positive links evaluate to TRUE

# DECISION NODE

- Like the Task Node
- Issues an Assignment
- Presents user with a list of possible choices, that they select one from
  - Choices represent links away from the node
  - Can be Conditional
  - Node can be set to Continue if only one choice is available
- Time Limit for Escalation Assignments
- Multiple Positive Output



# SUB-PROCESS NODE

- Node in the Parent Process that points to one or more Processes to execute
  - Parallel
    - Each is started in sequence,
    - When one completes or pauses the next is fired
    - All must complete before node is released
  - Tangent
    - Starts as a separate Workflow Instance with no return to the Parent Process
- Sub-Processes can have all of the same nodes as a Main process
- Single Positive Output

# STOP NODE

- Logical Stop to the Process
- Causes the Workflow Instance to stop processing and close
- Can be more than one Stop node in a workflow process



# NODE LINKS

- Connective Tissue of the Process
- Tell the process where to go next
- Can be Conditional
  - Matrix & Decision Node Links

# BUT, WHAT'S IT CALLED?

- AWF: APEX Workflow (working title)
- Domino
- Cascade
- Conductor
- Transit
- Relay



