



**2nd Annual  
MidPoint Community Meetup**

**Tasks Activity and Focus Policies**

# Agenda

- Introduction
- Activity policies (4.10)
- Demo
- Policy rules improvements for 4.11
- Demo
- Conclusion



# Introduction

- Policy rules available for a long time
  - Global policy rules (system configuration)
  - Through role inducements
- Policy rules used for SoD, license management, approvals, compliance
- Policy rule
  - Constraints, thresholds, actions



# Introduction

- Constraints
  - Modification, Exclusion, Min/max assignees, Object/assignment state, etc.
- Thresholds
  - Low/high watermarks
- Actions
  - Enforcement, approval, prune, notification, suspend task



# Introduction

- Task error handling not very robust
  - Some possibilities via error handling strategy configuration
- Everything and always evaluated for each task activity
- Limited actions in terms of task/activity execution management



## Activity policies (4.10)

- Activity policy rules introduced
- Evaluated after each processed object
- New activity related constraints
  - Execution time
  - Execution attempt
  - Item processing result
- New actions
  - Skip activity
  - Restart activity
  - Suspend task

```
<activity>
  <work>
    <reconciliation>
      <resourceObjects>
        <resourceRef oid= CSV: "c92beb62-41b1-4190-bd22-9b45c1a
          type="c:ResourceType"/>
        <kind>account</kind>
        <intent>default</intent>
        <objectclass>ri:AccountObjectClass</objectclass>
      </resourceObjects>
    </reconciliation>
  </work>
  <policies>
    <policy>
      <name>4 seconds notification and suspend</name>
      <policyConstraints>
        <executionTime>
          <name>4 seconds</name>
          <exceeds>PT4S</exceeds>
        </executionTime>
      </policyConstraints>
      <policyActions>
        <notification/>
        <suspendTask/>
      </policyActions>
    </policy>
  </policies>
</activity>
```

## Activity policies Limitations (4.10)

- Evaluated only for iterative activities
  - Not for non-iterative
  - Role analysis, repartition
  - Cleanup
  - Composite
    - Reconciliation (exception)
- Activity policy rule not evaluated if search-based activity fails during initialization
  - E.g. during search of shadows, connector failure

# Activity policies Limitations (4.10)

- Focus policy rules
  - Unavailable in activity policies
  - Only in role inducements
  - Problematic for composite activities
- No GUI for policy configuration

```
<composition>
  <activity>
    <order>10</order>
    <identifier>Roles reconciliation</identifier>
    <work>
      <reconciliation>
        <resourceObjects>
          <resourceRef oid= CSV: "c92beb62-41b1-4190-bd22-9b45c1a20aa2" />
          <kind>entitlement</kind>
          <intent>default</intent>
          <objectclass>ri:AccountObjectClass</objectclass>
        </resourceObjects>
      </reconciliation>
    </work>
  </activity>
  <activity>
    <order>20</order>
    <identifier>HR reconciliation :: simulation</identifier>
    <work>
      <reconciliation>
        <resourceObjects>
          <resourceRef oid= CSV: "c92beb62-41b1-4190-bd22-9b45c1a20aa2" />
          <kind>account</kind>
          <intent>default</intent>
        </resourceObjects>
      </reconciliation>
    </work>
    <execution>
      <mode>preview</mode>
    </execution>
    <reporting...>
    <policies>
      <!--
        Can't define policies with clockwork constraints in here now
      -->
    </policies>
    <tailoring...>
```

Demo

## Policy rules improvements (4.11)

- Focus policy rules can be defined in activity
- Policy references
- Virtual assignments

```
<activity>
  <order>20</order>
  <identifiant>HR reconciliation :: simulation</identifiant>
  <work>
    <reconciliation>
      <resourceObjects>
        <resourceRef oid= CSV: "c92beb62-41b1-4190-bd22-9b45c1a20aa2">
          <kind>account</kind>
          <intent>default</intent>
        </resourceRef>
      </resourceObjects>
    </reconciliation>
  </work>
  <execution>
    <mode>preview</mode>
  </execution>
  <reporting>
    <simulationResult>
      <enabled>>false</enabled>
    </simulationResult>
  </reporting>
  <policies>
    <policy>
      <name>Delete users HR simulation threshold, restart</name>
      <policyConstraints>
        <modification>
          <operation>delete</operation>
        </modification>
      </policyConstraints>
      <policyThreshold>
        <lowWaterMark>
          <count>3</count>
        </lowWaterMark>
      </policyThreshold>
      <policyActions>
        <notification/>
      </policyActions>
    </policy>
  </policies>
</activity>
```

## Focus policy rules (4.11)

- Focus policy rules can be defined in activity
  - They are evaluated only in clockwork context
- Focus and activity policy constraints can't be mixed together

```
<activity>
  <order>20</order>
  <identifier>HR reconciliation :: simulation</identifier>
  <work>
    <reconciliation>
      <resourceObjects>
        <resourceRef oid= CSV: "c92beb62-41b1-4190-bd22-9b45c1a20aa2">
          <kind>account</kind>
          <intent>default</intent>
        </resourceRef>
      </resourceObjects>
    </reconciliation>
  </work>
  <execution>
    <mode>preview</mode>
  </execution>
  <reporting>
    <simulationResult>
      <enabled>>false</enabled>
    </simulationResult>
  </reporting>
  <policies>
    <policy>
      <name>Delete users HR simulation threshold, restart</name>
      <policyConstraints>
        <modification>
          <operation>delete</operation>
        </modification>
      </policyConstraints>
      <policyThreshold>
        <lowWaterMark>
          <count>3</count>
        </lowWaterMark>
      </policyThreshold>
      <policyActions>
        <notification/>
      </policyActions>
    </policy>
  </policies>
</activity>
```

## Policy references (4.11)

- Policy references
- Policy references should point to role-like objects
  - Inducements with policy rules must not contain order, condition expression
  - Preferably policy objects

```
<identifier>HR reconciliation :: simulation</identifier>
<work>
  <reconciliation>
    <resourceObjects>
      <resourceRef oid= CSV: "c92beb62-41b1-4190-bd22-9
      <kind>account</kind>
      <intent>default</intent>
    </resourceObjects>
  </reconciliation>
</work>
<!-- simulation related configuration omitted for brevity -->
<policyRef oid="1bea8949-4065-4bd1-8b54-e3fdbf91d1f6" type="P
</activity>
```

```
<role xmlns="http://midpoint.evolveum.com/xml/ns/public/common/common-3"
      oid="1bea8949-4065-4bd1-8b54-e3fdbf91d1f6">
```

```
<name>Role with policies</name>
```

```
<inducement>
```

```
  <policyRule>
```

```
    <name>Delete users HR simulation threshold, suspend</name>
```

```
    <policyConstraints>
```

```
      <modification>
```

## Virtual assignments (4.11)

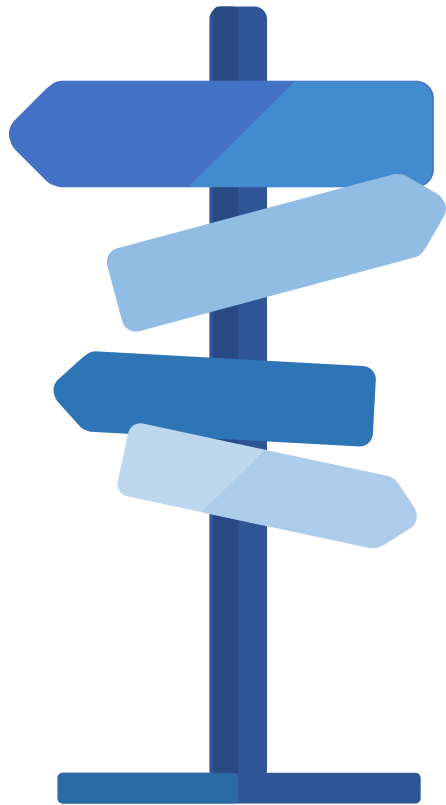
- Assigned to object only during processing
  - Assignment not stored in object at all
- Full potential of assignments

```
<activity>
  <order>20</order>
  <identifier>HR reconciliation :: simulation</identifier>
  <work>
    <reconciliation>
      <resourceObjects>
        <resourceRef oid= CSV: "c92beb62-41b1-4190-bd22-9b45c1a20aa2" />
        <kind>account</kind>
        <intent>default</intent>
      </resourceObjects>
    </reconciliation>
  </work>
  <!-- simulation related configuration omitted for brevity -->
  <virtualAssignments>
    <assignment>
      <targetRef oid= Role with policies: "1bea8949-4065-4bd1-8b54-e3fdbf91d1f6" type
    </assignment>
  </virtualAssignments>
</activity>
```

## Limitations (4.11)

- Notification & suspend task action together in focus policy don't play along
- No GUI for policy configuration

Demo



- midPoint 4.10
  - Activity policy rules with new types of constraints and actions
  - Can't define focus related constraints in activity policy
- midPoint 4.11
  - Policies with focus constraints can be defined per activity
  - Policy references
  - Virtual assignments

# Evolveum

## Thank you for your attention

Feel free to ask your questions now!



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