# Creating a Custom Task Type for TCEng

Mark Hoover

# Who is Hoover & Nebrig?

We are a small boutique Teamcenter Engineering consulting firm located in Seal Beach, California and have been providing consulting and programming services to the Unigraphics and Teamcenter communities since 1992.

Our goals are to educate, offer advice and alternatives, and facilitate the entire Teamcenter Engineering implementation process.

We can be found on the web at: **www.HooverNebrig.com**

# Agenda

- Why would I need one?
- What makes up a Custom Task Type?
- A Custom Task in Action.
- Developing a Custom Task Type.
- How tough is this really?
- Tools Used.
- Summary.

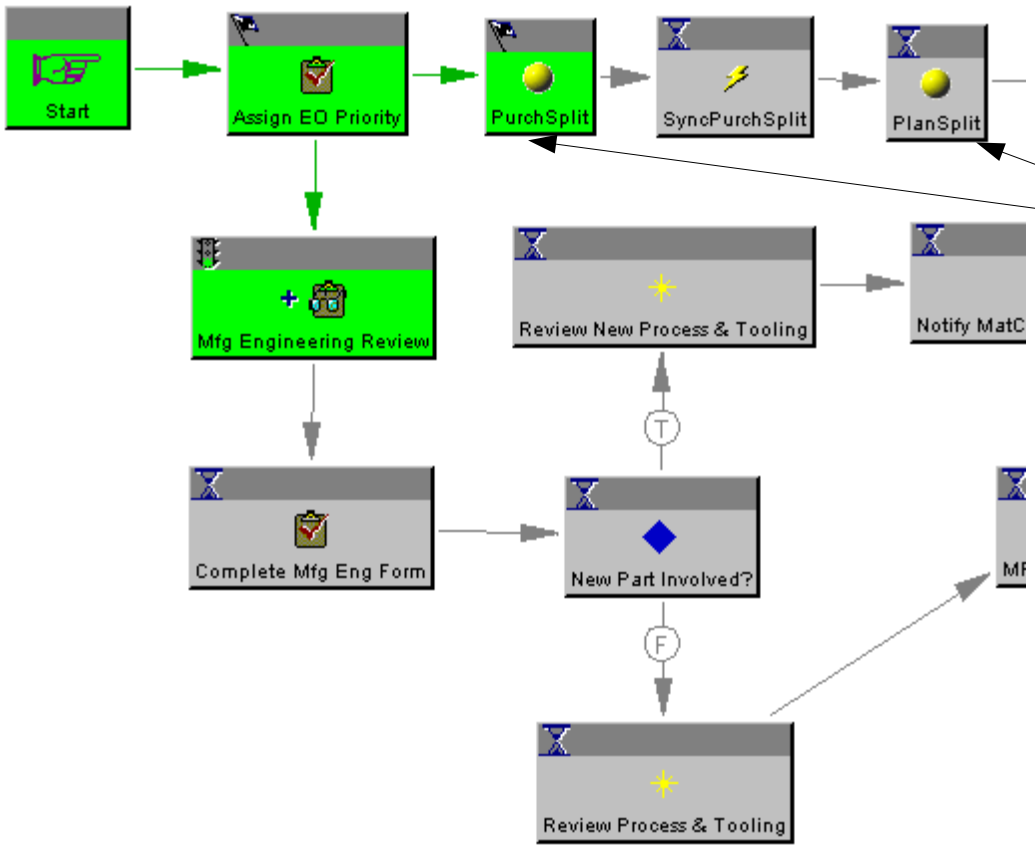
# Special Acknowledgement

Thanks to the Workflow Development Team. Without them answering my incessant questions, you wouldn't be seeing this presentation!

# Why would I need one?

- To do something that is not provided in the standard Workflow task types
  - Add additional information to a perform UI
  - Perform additional processing on targets

# A Process Designer Snippet



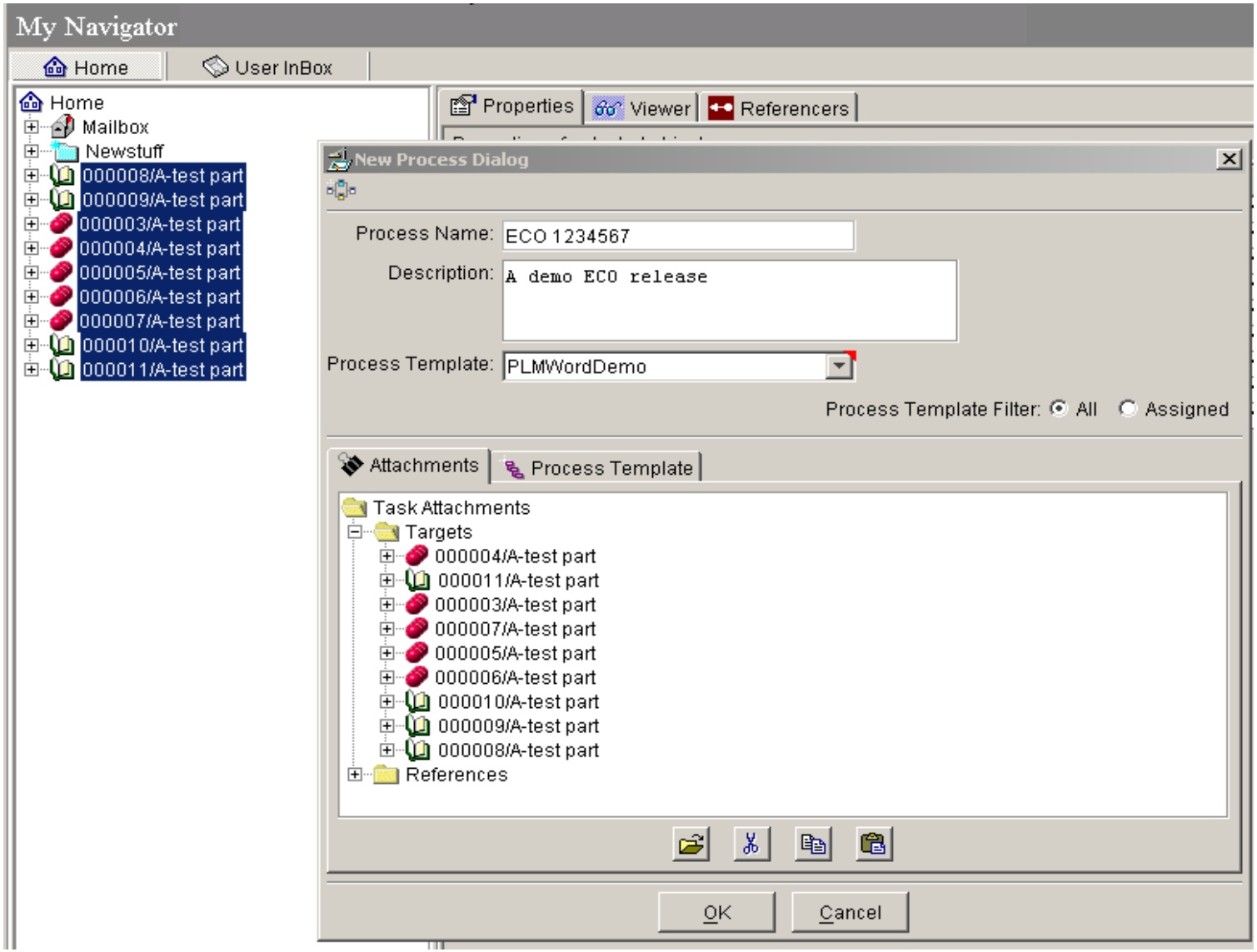

Custom Task Type

# A Complex Custom Task in Action

The following 6 slides and avi file show a complex task type in action.

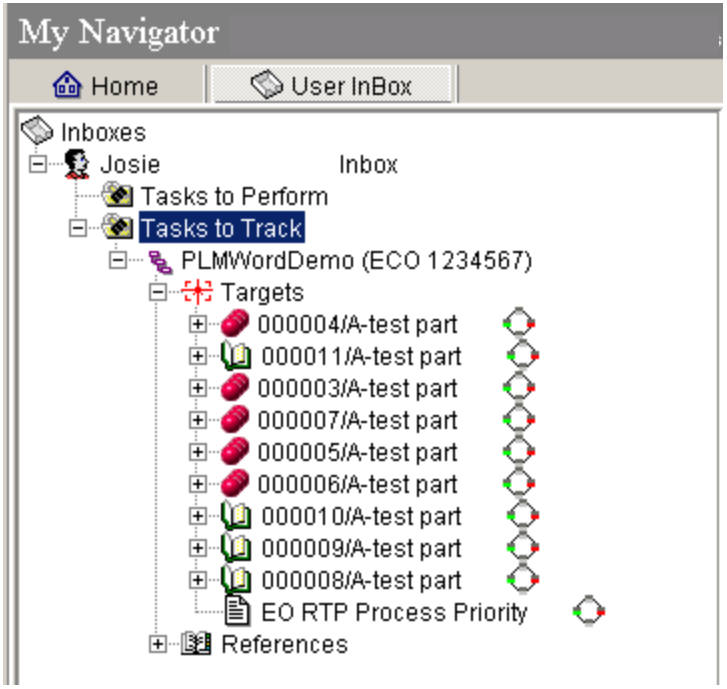
This complex task type presents the user with an interface which allows targets to be split from a parent job and sent off in zero or more child jobs.

# User initiates a job with multiple targets



# Initiator's Tasks to Track

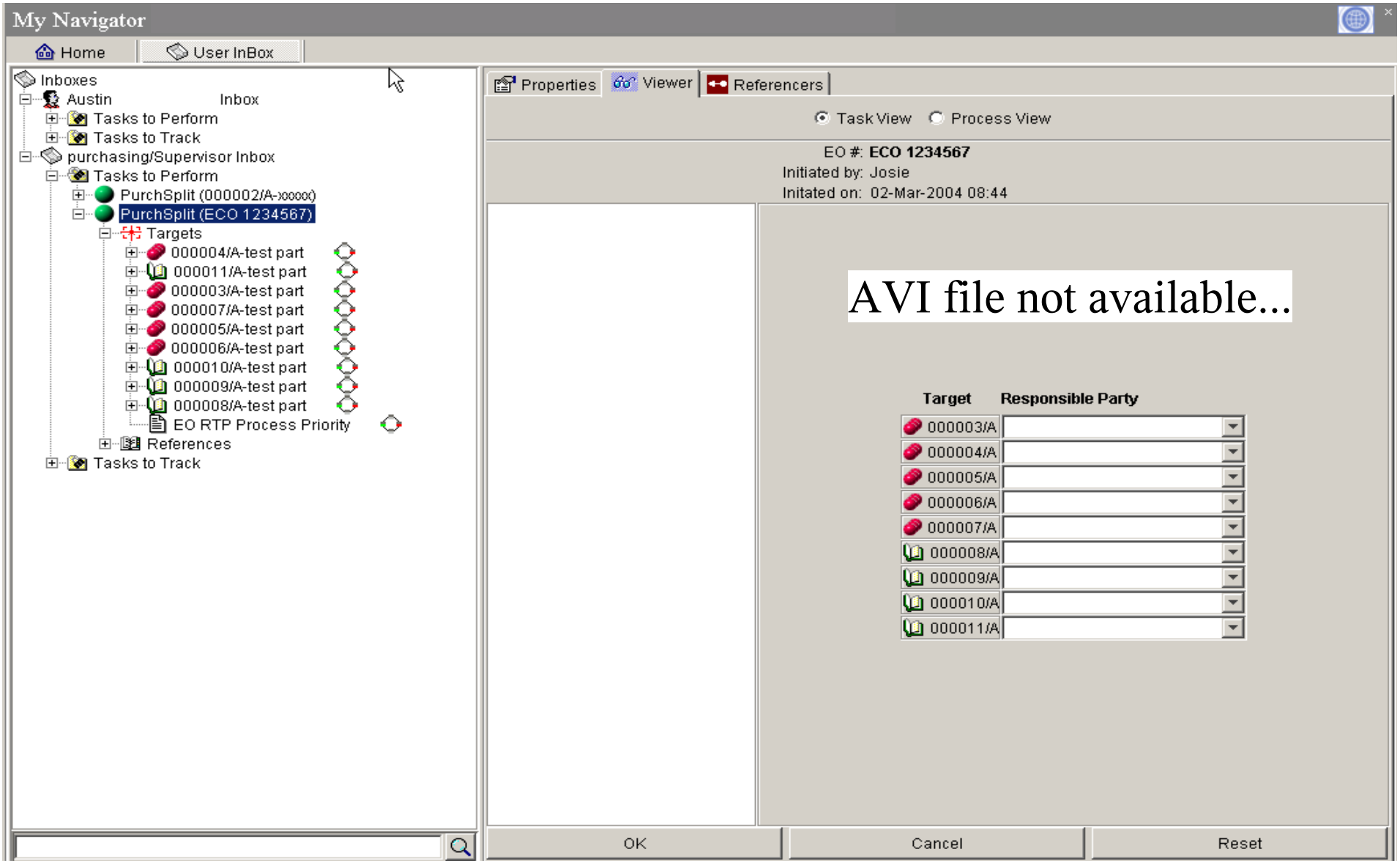
Before the custom task




Note that all 9 targets are in a single Job.

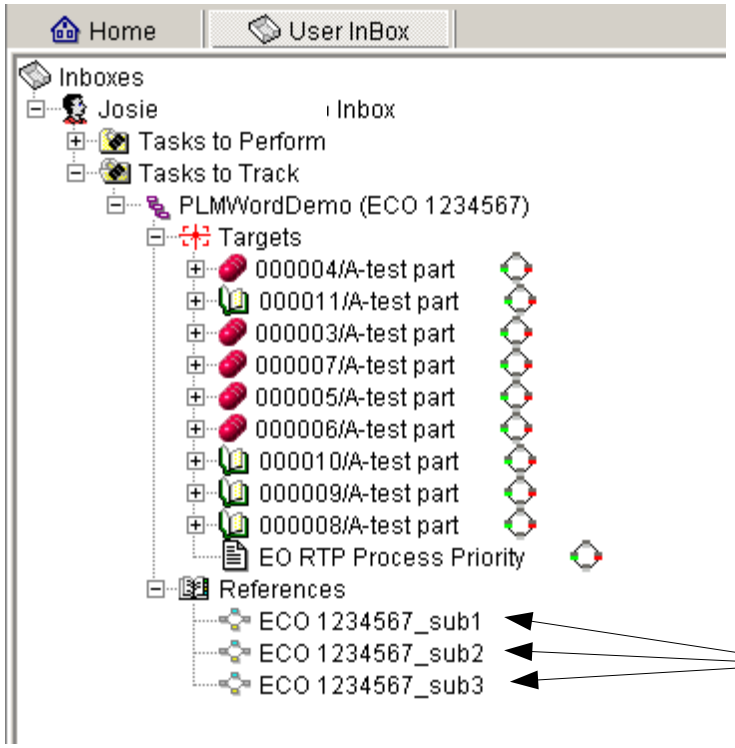
# Purchasing's Tasks to Perform

## Splitting the Targets using the Custom Task



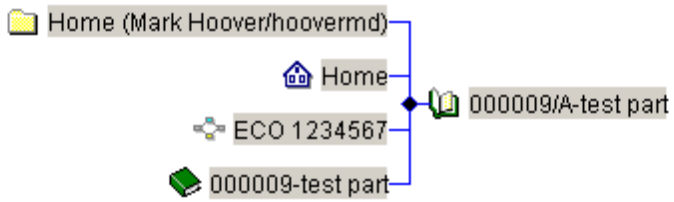
# User's Tasks to Track

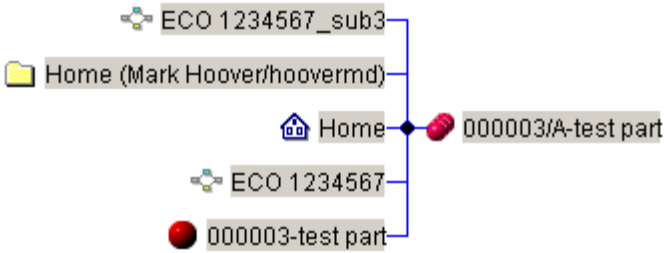
After the split

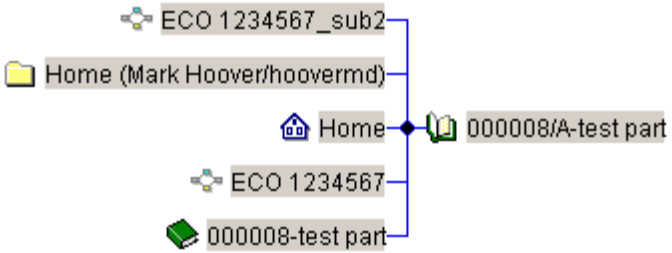



Note the three tasks as reference targets

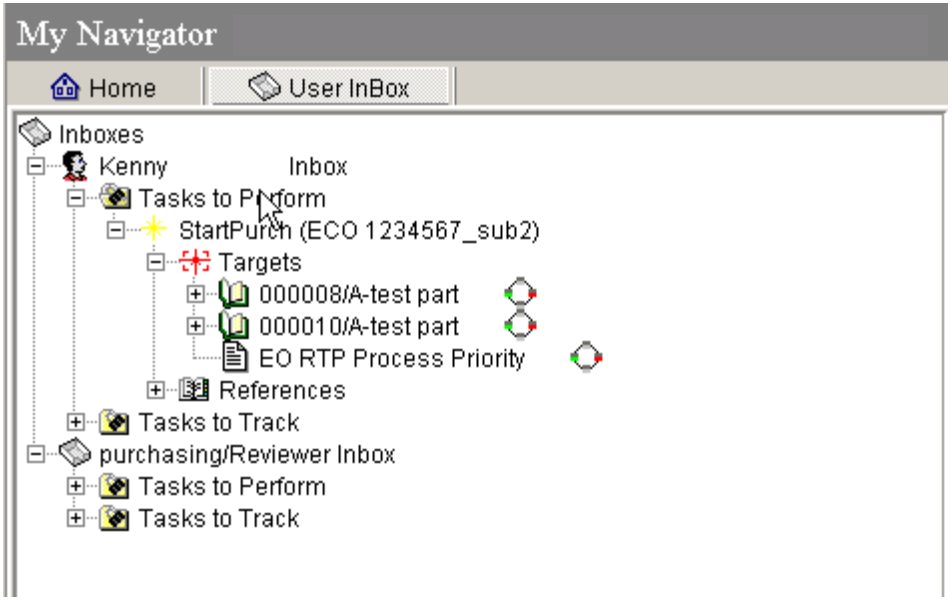
# Referencers



# Another Purchasing Reviewer Tasks to Perform



# What makes up a Custom Task Type?

- A new Iman Type (no schema mod required)
- An addition to the Task Definitions file
- A set of Icons
- JAVA code
  - Properties files
  - Code for the perform action

# Sample Custom Task

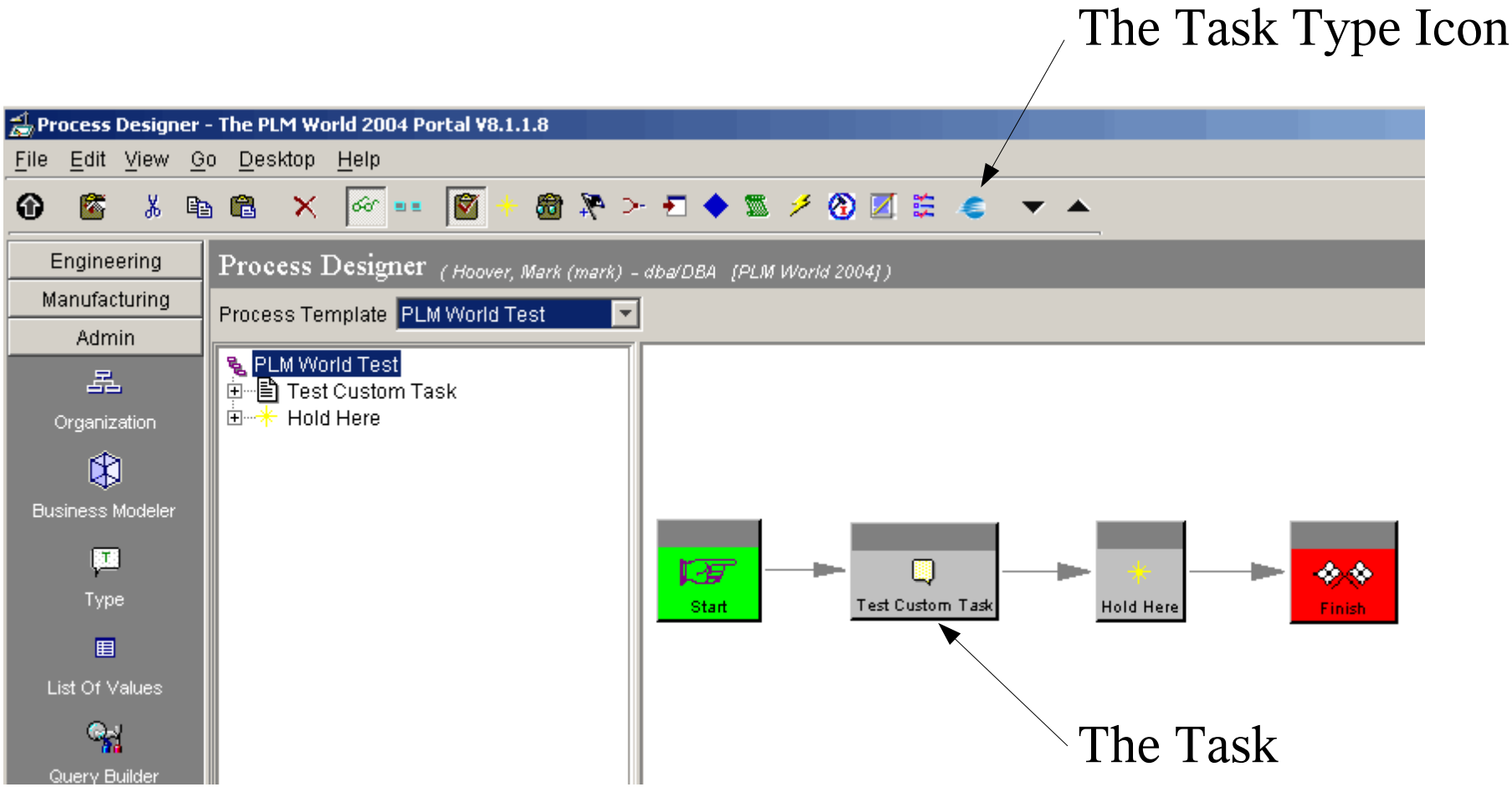
Demonstrating creation of a custom task type in a simple fashion presents a challenge.

Keeping the sample code simple enough to be understood by someone unfamailiar with the concepts forces the sample to be trivial.

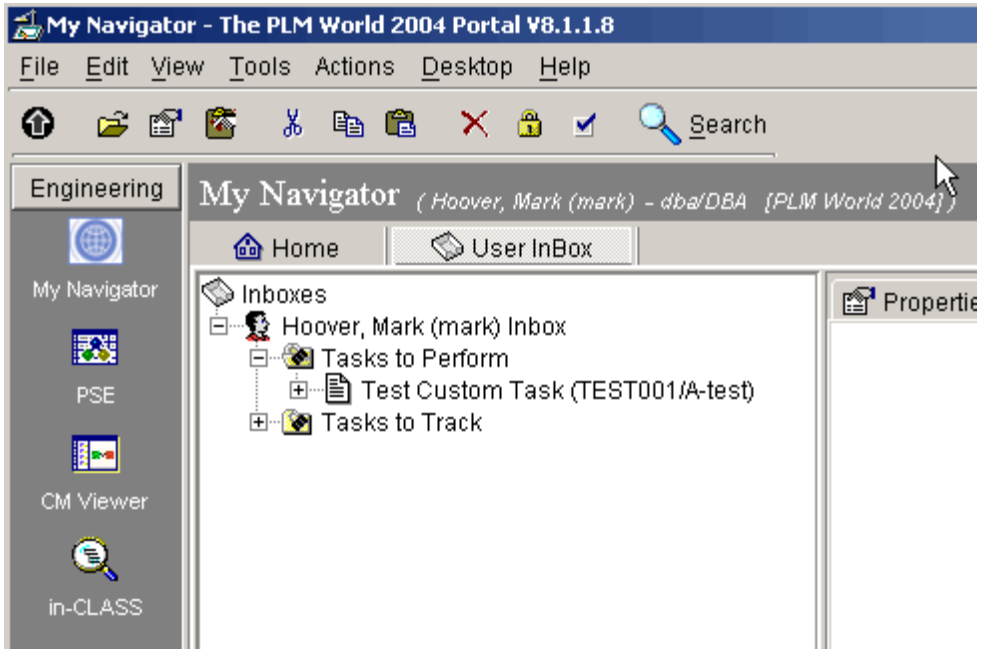
# How to Create the Sample

- Install the new imantype
  - **`install_types -f=add -t=plmworldTask -c=EPMTask`**
- Add the new template types to the procedure definitions
  - **`append_procedure -f=custom_task_template.txt`**
- Copy the uninstantiable_templates.dat into your iman data directory.
- Build the Java Code

# PLM World Sample Custom Task

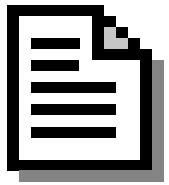


# PLM World Sample Tasks to Perform



# Required Java files
(com/ugsolutions/iman/common)

- common_user.properties
  - Define the icon plmworldTask.ICON
    - The icon used for display of the task in the tree on the Left Hand side of the process viewer.
    - If you do not define this icon here, the fallback will be to display the one defined in:
      - **workflow/common/common_user.properties**

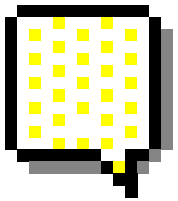


# Required Java files
(com/ugsolutions/iman/common/imanviewer)

- imanviewer_user.properties
  - Add to TaskPerformViewer.TYPES
    - **TaskPerformViewer.TYPES=plmworldTask,...**
  - Add your custom UI for the task perform action
    - **plmworldTask.VIEWPANEL=org.plmworld.iman.workflow.commands.task.CustomTaskPanel**

# Required Java files
(com/ugsolutions/workflow/common)

- common_user.properties
  - Define the icon plmworldTask.ICON
    - This icon is the one displayed within task box as seen in the process view.
    - If you do not define this icon here, the fallback will be to display the one defined in:
      - **/iman/common/common_user.properties**



# Required Java files
(com/ugsolutions/workflow/common/actions)

- actions_user.properties
  - Define the task template icon
    - This icon is the one displayed in the Process Designer

# Required Java files
(com/ugsolutions/workflow/common/actions)

- actions_user.properties
  - Define the task template action key names
    - This is the name of your task template
      - plmworldTaskTemplate
  - Add the template Action
    - **org.plmworld.iman.workflow.commands.task.CustomTaskCommand**
  - Add the Perform Command (performCommand_plmworldTask)
    - **org.plmworld.iman.workflow.commands.task.CustomTaskCommand**

# Required Java files
(com/ugsolutions/workflow/common/actions)

- actions_user.properties
  - Add the template Icon, name and mnemonic
    - **plmworldTaskTemplate.POPUP=true**
    - **plmworldTaskTemplate.NAME=PLM World Task**
    - **plmworldTaskTemplate.TIP=PLM World Custom Task Template**
    - **PlmworldTaskTemplate.MNEMONIC=P**

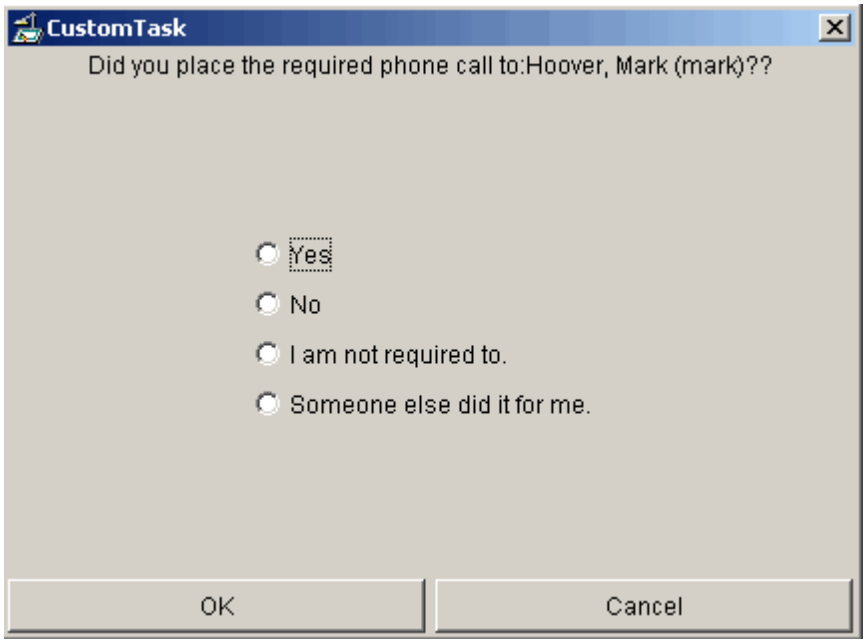
# Required Java files
## (org/plmworld/iman/workflow/commands/task)

- The three components if the Perform UI
  - Command
    - The command is called by the action defined in the properties file.
  - Dialog
    - The dialog is displayed by the Command
  - Panel
    - The panel is contained within the Dialog

# Required Java files
(com/ugsolutions/workflow/common/imanviewer)

- Imanviewer_user.properties
  - Add to TaskPerformViewer.TYPES
    - **TaskPerformViewer.TYPES=plmworldTask,...**
  - Add your custom UI for the task perform action
    - **plmworldTask.VIEWPANEL=org.plmworld.iman.workflow.commands.task.CustomTaskPanel**

# Sample Tasks to PerformCustom UI



# How tough is this really?

- Requires NO schema modification.
- Requires understanding of properties files.
- Requires understanding of basic JAVA.
- May or may not require User Service.

# Tools Used

- JBuilder 7
- iMAN 8.1.1.9
  - JAVA 1.3.1-b24
- Teamcenter Engineering 9.0.0.2
  - JAVA 1.4.2_04-b05

# Summary

- Don't be afraid to hack!
- Think about what you might do with your new knowledge.
- Complete Sample code is available at:

**`www.HooverNebrig.com/samplecode.shtml`**

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## Questions?

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