Modeling Search RFE

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Plan

- Intro
- Scope
- Search
- Architecture
- Integration
- TopCased
- Conclusion

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Introduction

- EMF is now a significant base for dozens of major open source/eclipse projects
- Java/Eclipse modeling tool, now in intensive industrial phase, mechanically lacks some productivity features
- Main reason are :
  - EMF Models complexity/size exploses
  - EMF Models fragmentation over different plugins/components
  - EMF Models based product Time to market shrinks
  - EMF Models are now synched with graphical editors

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Scope

- Productivity features Examples
  - Search/Find elements or meta-elements
  - Various Elements or meta-elements Refactoring
  - Model/Elements Comparison and/or merge
  - ...

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Eclipse Search

- Eclipse Search Philosophy
  - Search Result/Search Page extension points
  - Scope driven search queries
  - At least Text, Case Sensitive, Regex queries
  - Opening editors + selection while double clicking on matches
  - Queries history, Results history

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Modeling Search

- EMF/Ecore based
  - A foundation for generic model search engine
  - To be reused for all Ecore based Models
  - (included in genmodel as a generation option ?)
  - Defines a meta-model based search framework
  - Must be extensible
    - To contribute search queries kinds
    - To contribute search participant meta-elements
    - To contribute search strategies/patterns

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Ecore Search

- Modeling Search
  - Lowest level model search
  - Base for all other Ecore based models search engines
  - Defines search core APIs to be reused by higher level models
  - Extensible with extension points

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UML2 Search

- Ecore Search based
  - Reuses Ecore model search engine
  - Contributes its own meta-element search participants
  - Could contribute an OCL based search query (SQL ?)

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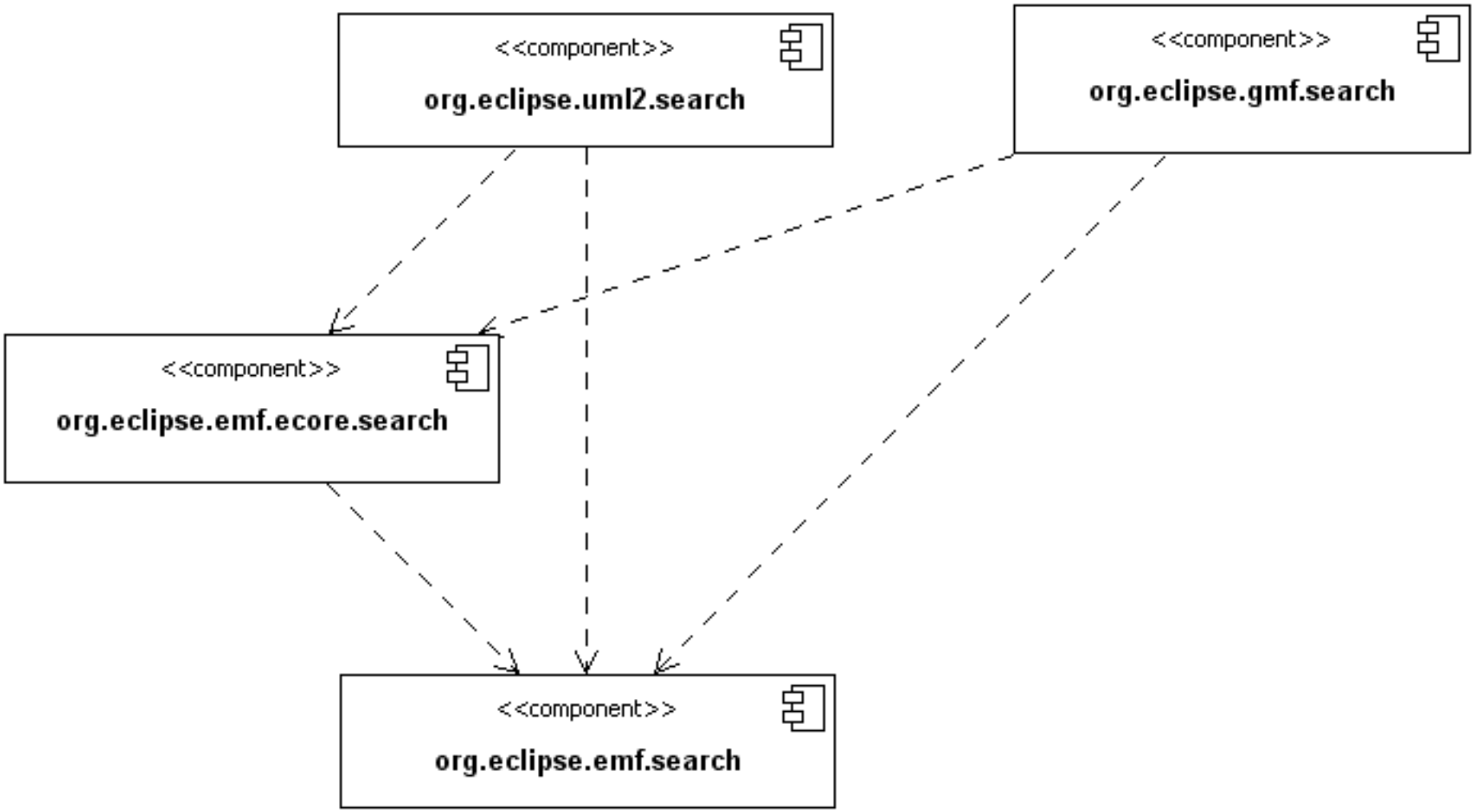
Modeling Search

- Stratospheric Overview



Meta Model Search

- Search Participants
  - Meta Elements against which a query will be ran
  - At least ENamedElement for textual query ...
- Query Particicpants
  - Query + Parameters Factories to be considered
- Model Participants
  - A model resource (.ecore, .uml2, ..., .xyz) to be considered
  - Graphical editors (visual representation of model participants)
- Scope
  - Given Workspace/Project/Resources Scope

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Meta Model Search Engine

- Model Search Parmetrization
  - Search Participants (Which MetaElements to consider)
  - Query Participant (Which Query+Parameters to run)
  - Model Participant (Which Models to search metaElements into)
  - Scope (Which Scope to find participant models into)
- Works at a Resource/Object level
  - Only consider IResources
  - Handles generic Search/Query/Model/Scope participant objects
  - Generic Eclipse Search/Search UI implementation for models

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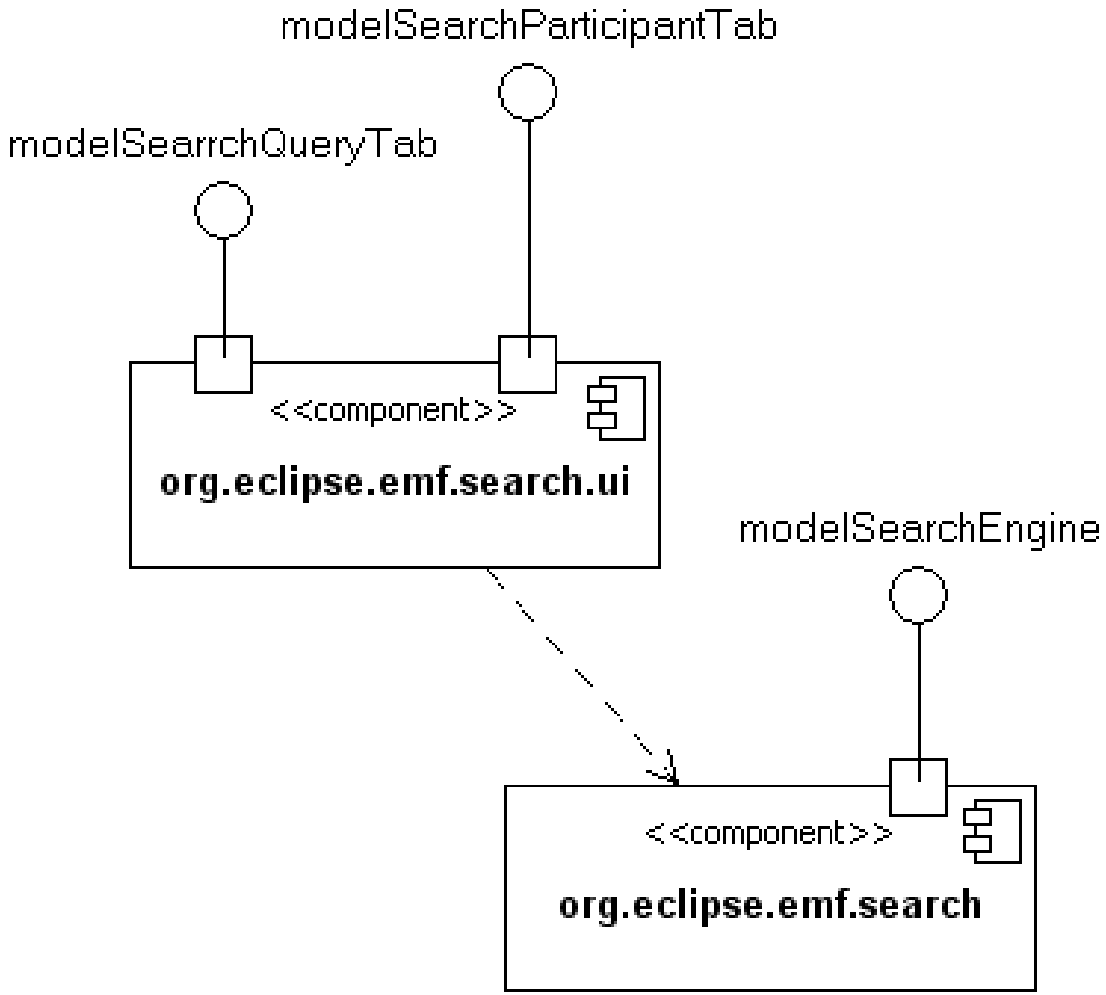
Model Search Extensibility



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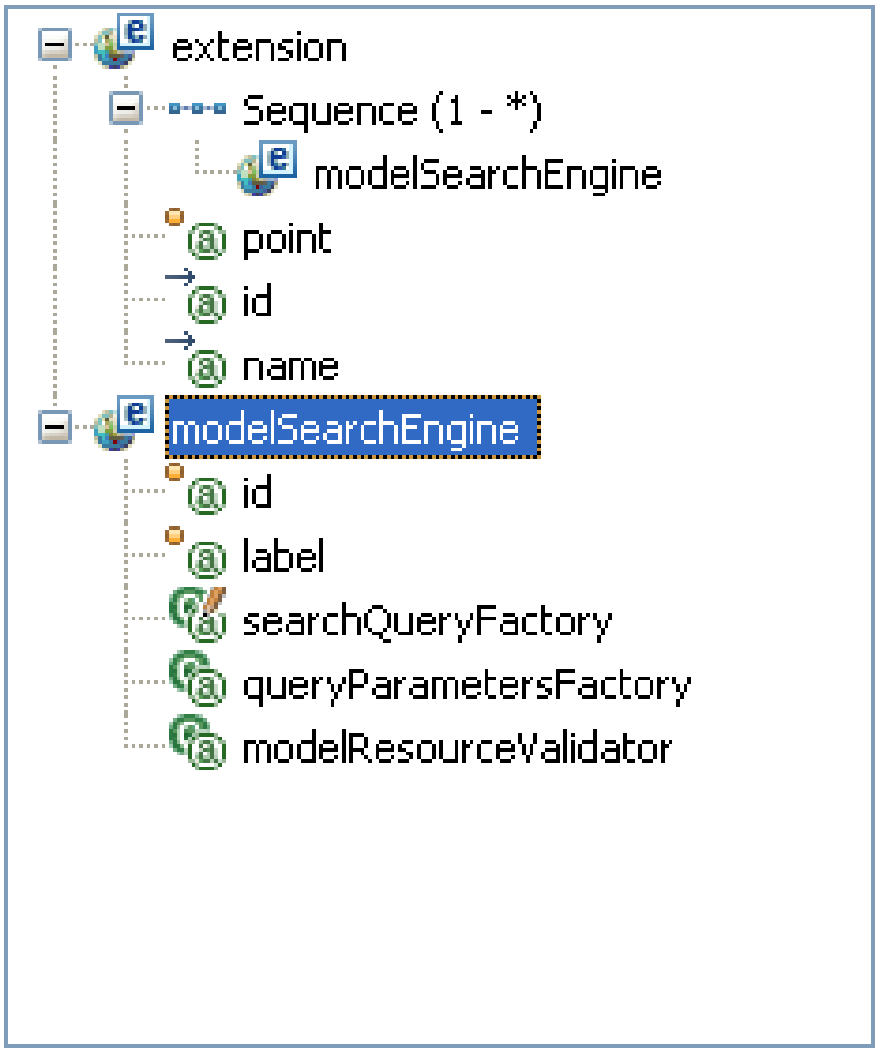
Non UI Extensibility



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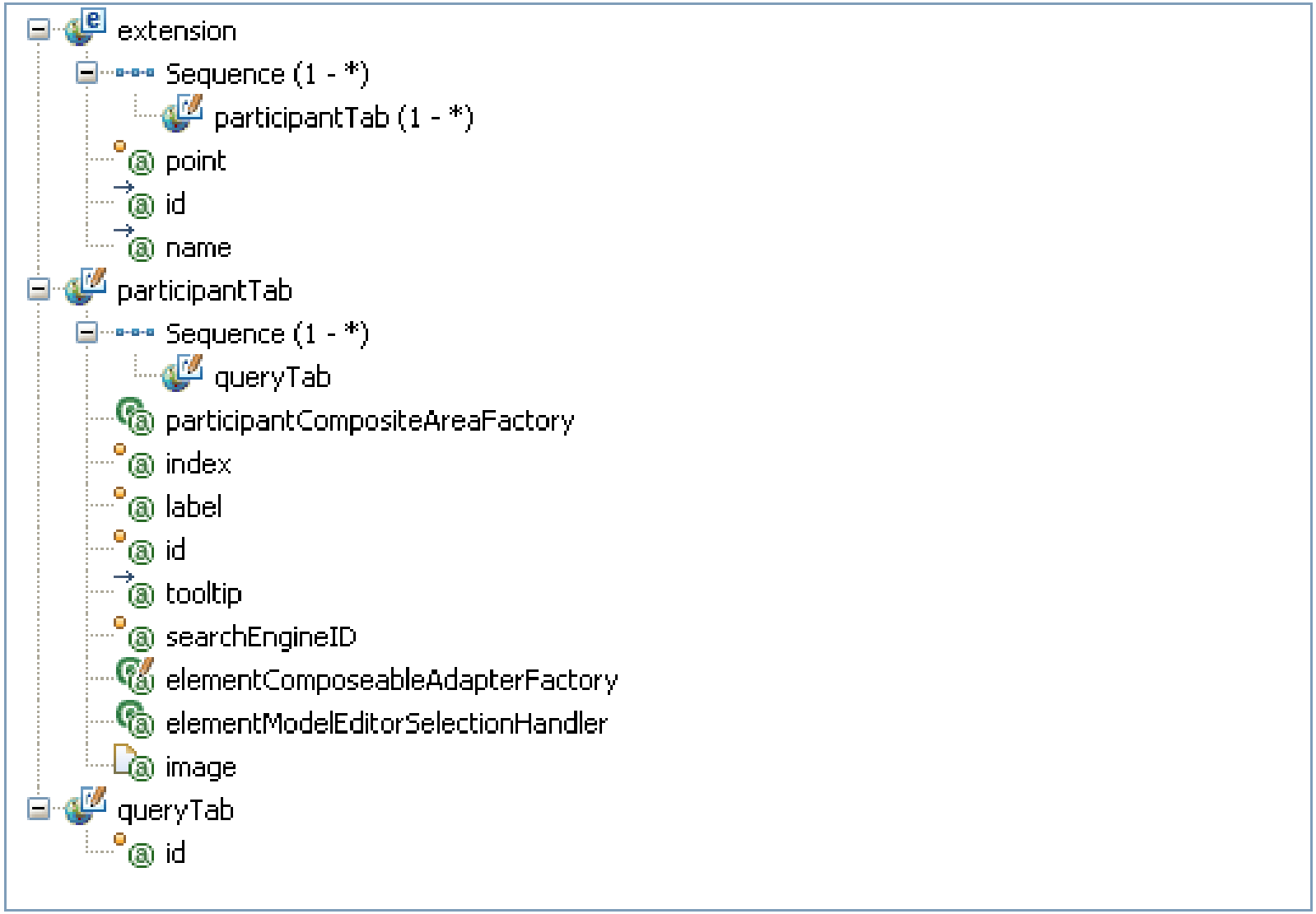
UI Extensibility



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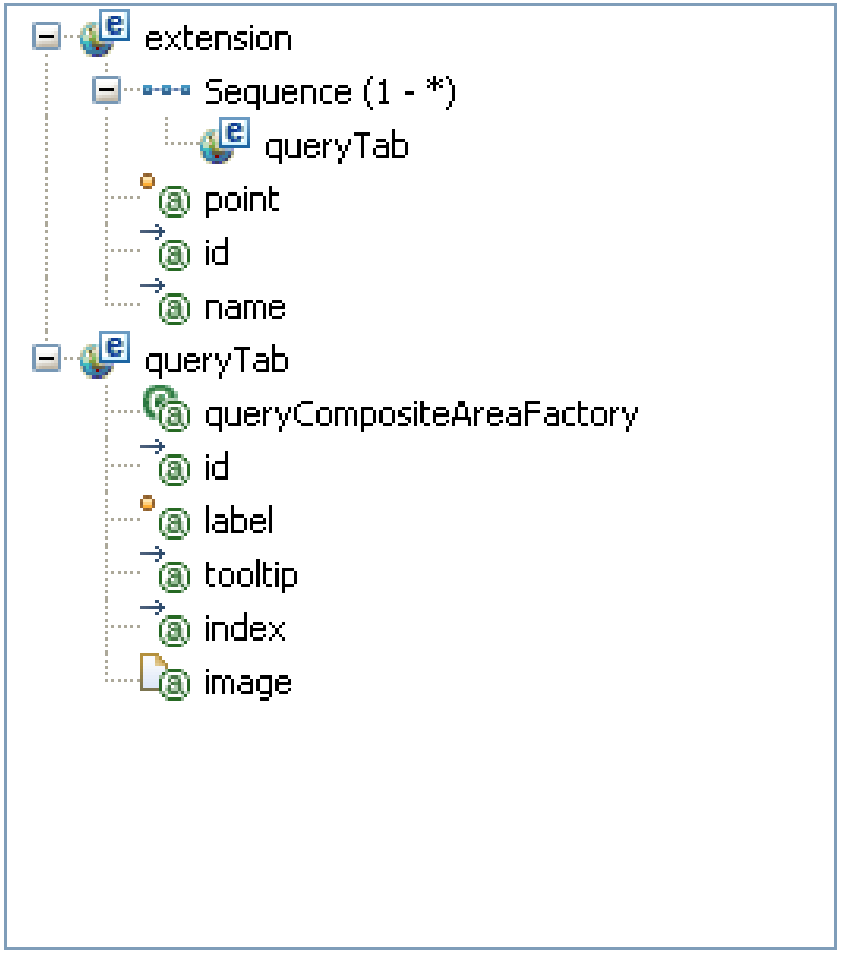
UI Extensibility



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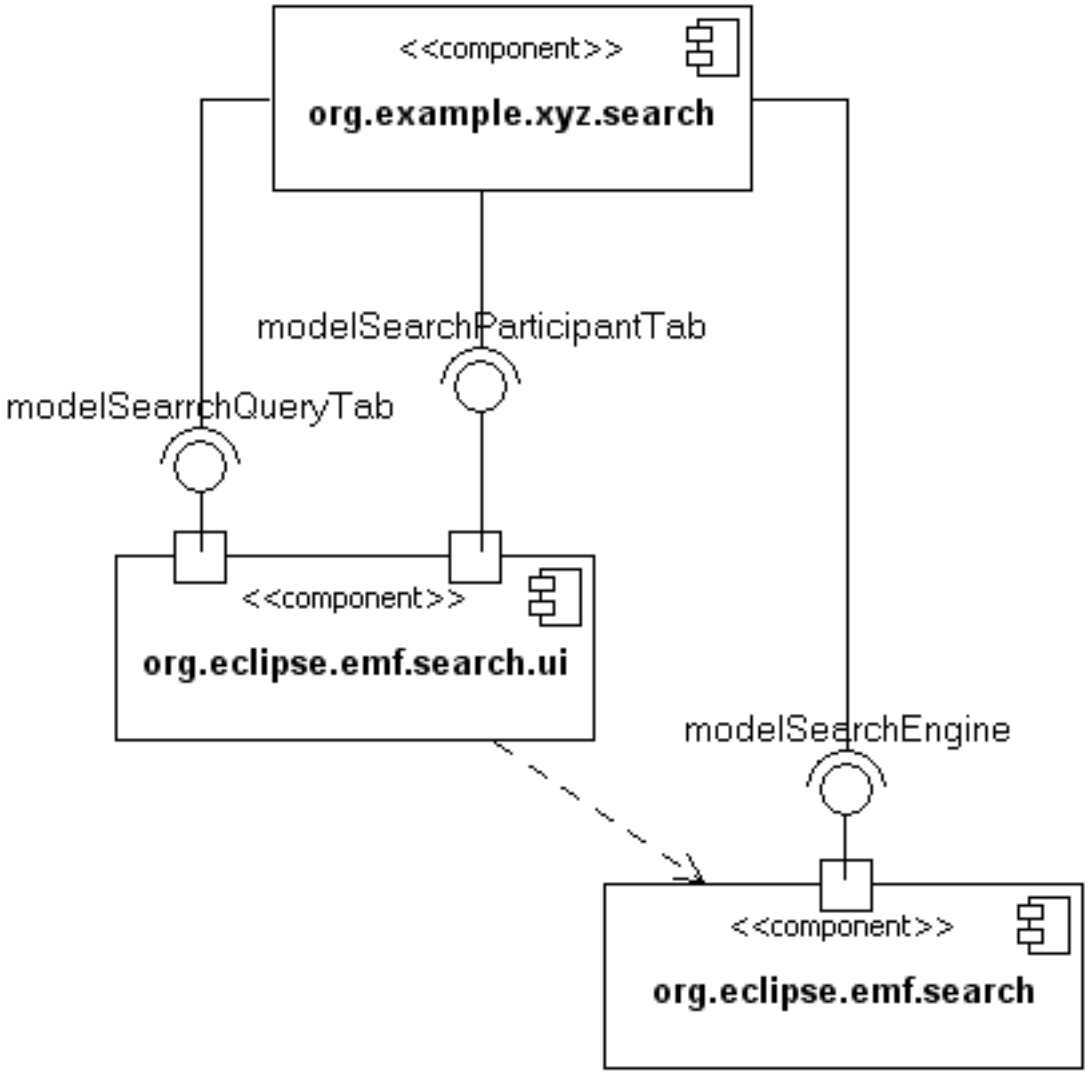
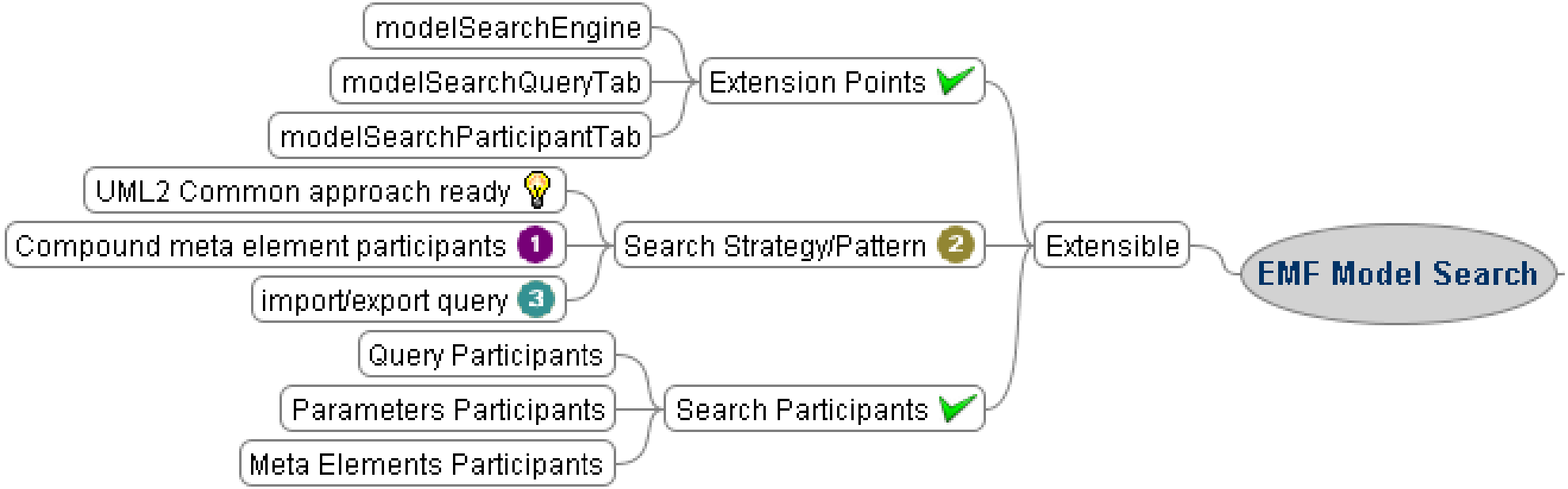
Model Search Extension



Extensibility Recap



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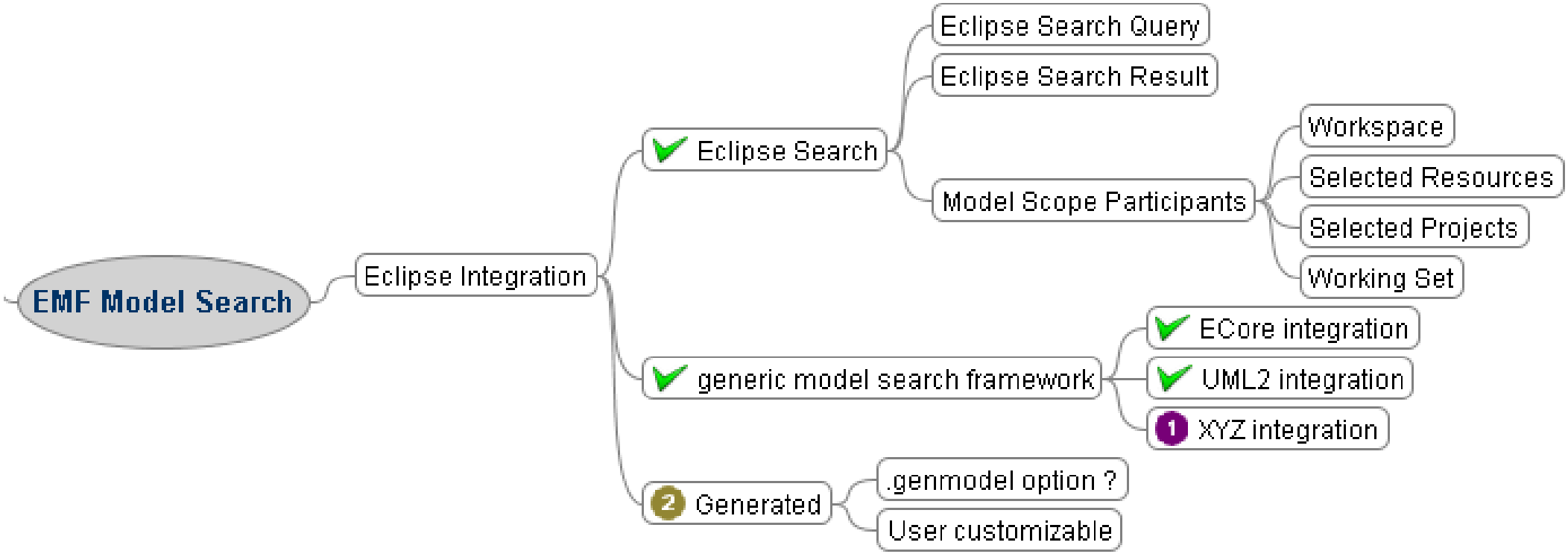
Eclipse Integration Recap



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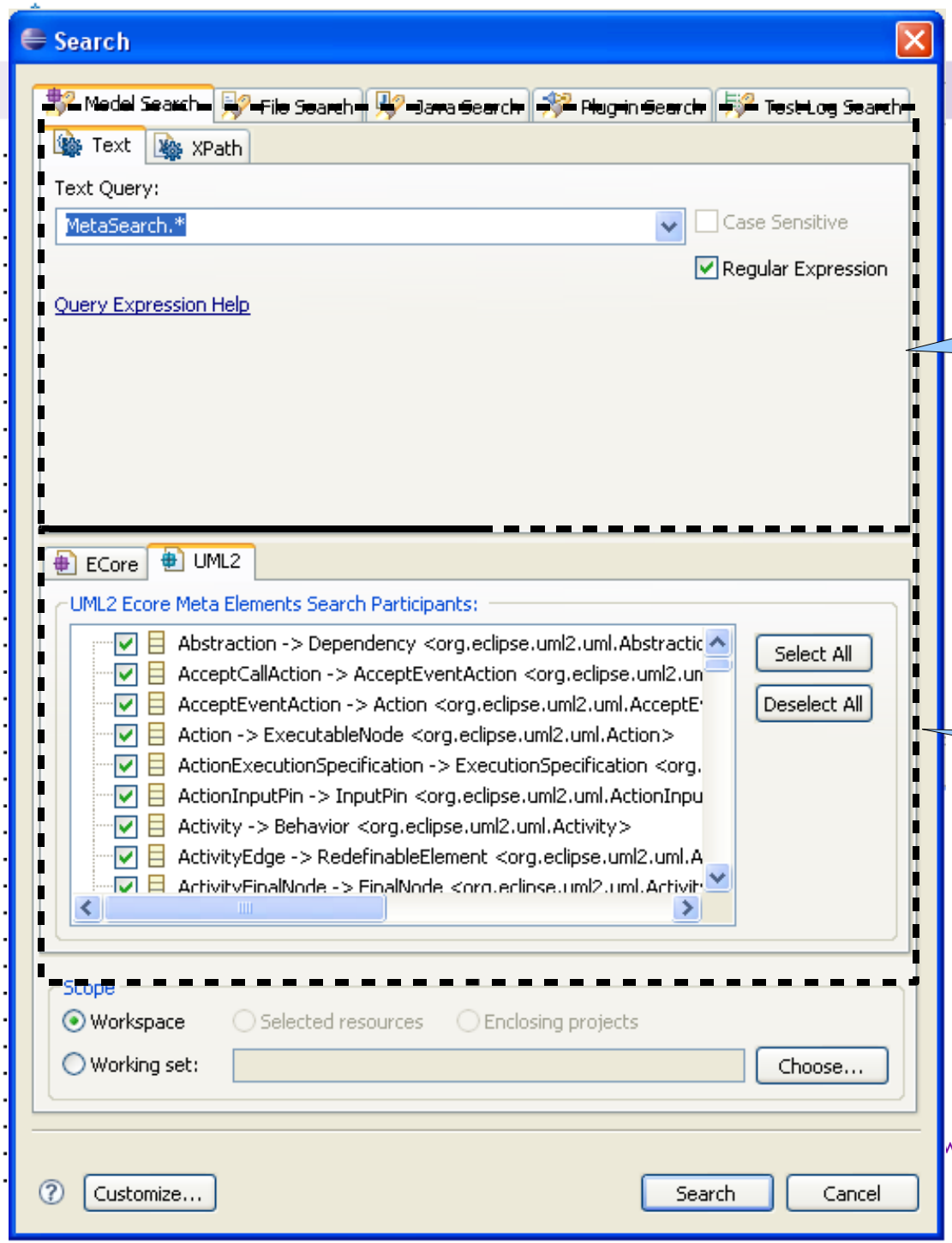
Ecore/UM2 Model Search Extension



Query Tabs (Textual & XPath)

Participant Tabs (Ecore & UML2)

Integration

- Creates & Launches an Eclipse Search Query
  - `org.eclipse.search.ui.ISearchQuery`
- Coalesces Eclipse Search Results in the Search View
  - `org.eclipse.search.ui.ISearchResult`

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TopCased

- TopCased 1.0 release is coming !
  - Model Search is part of TopCased 1.0
  - Modeling + TopCased Rocks !
- Contributors
  - We, all, are proud to contribute to Open Source projects
  - We, all, are impatient to collaborate with Eclipse Modeling guys

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Conclusion

- It works !
- Need feedback for enhancements
  - Compound meta elements search participants
  - Search startegies (such as Rational Common Approach)
  - Non textual queries (EstructuralFeature + cardinality, ...)
- Acknowledgments
  - Sébastien Moran (Started Search Integration + nice guy)
  - David Sciama & Olivier Prouvost for their trust & support
  - Sylvie Suchet & Ludovic Le Mohan for their blind trust on me

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