

Collaborative Modeling

for DSMLs in Papyrus with EMF Compare

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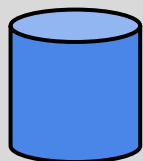
Collaboration on models is essential

- Models become large
- Teams of developers need to collaborate on models
- Teams need to be able to work in isolation and integrate their work later
- Users need to understand what was changed and how



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Example of basic collaboration workflow



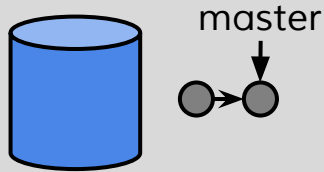
master



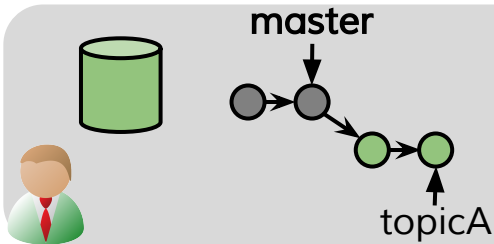
Example of basic collaboration workflow



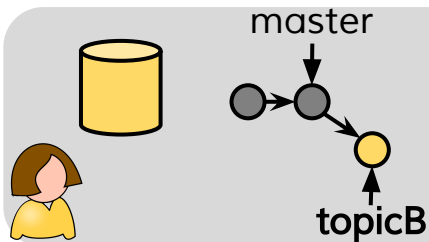
Example of basic collaboration workflow



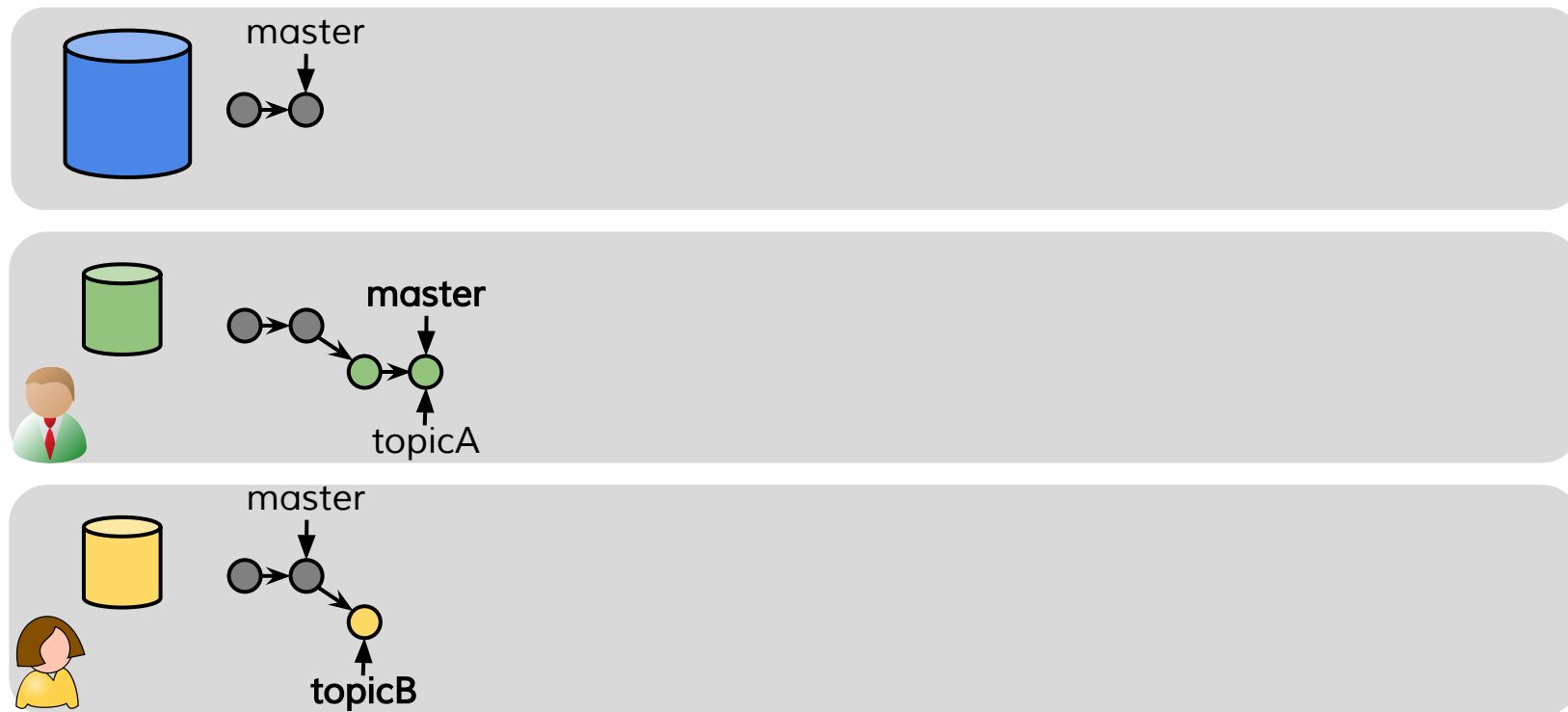
create
branch,
commit
to
branch



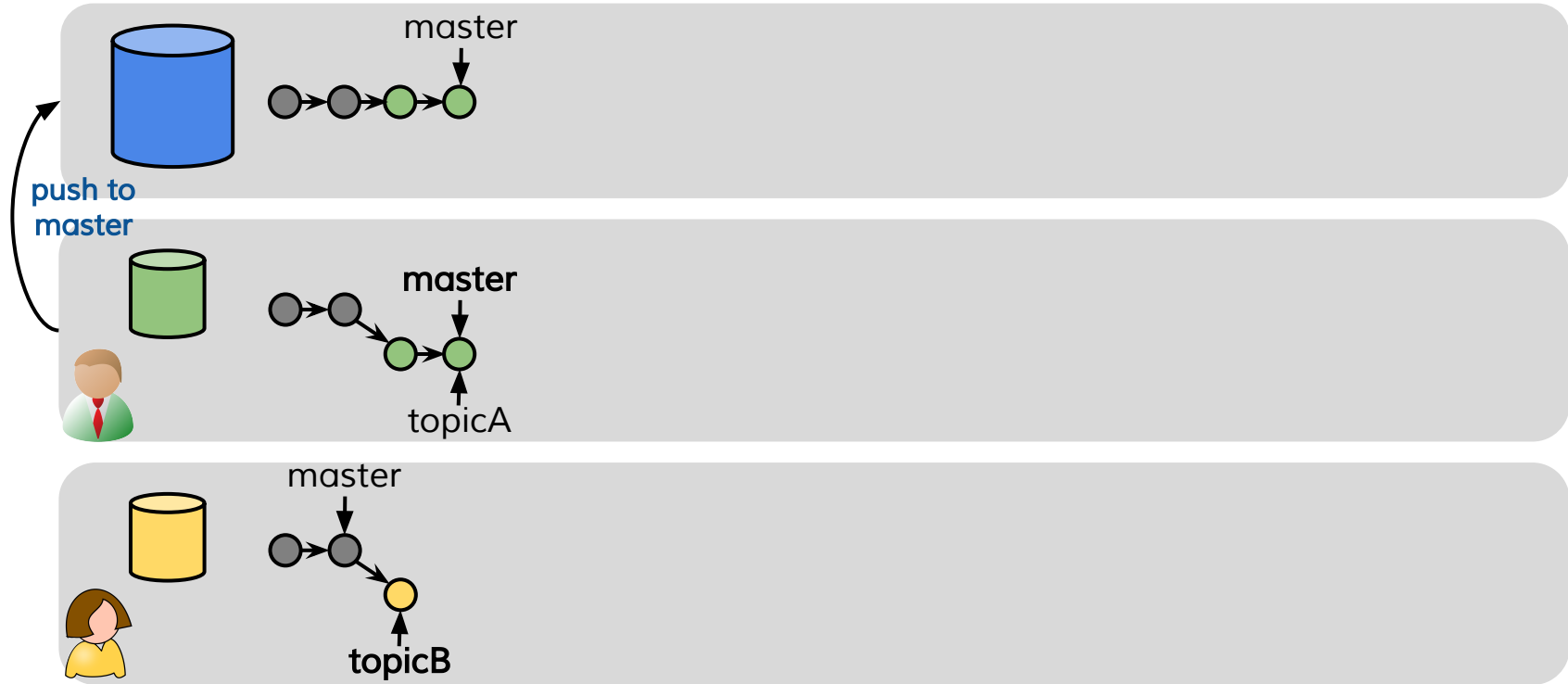
create
branch,
commit
to
branch



Example of basic collaboration workflow



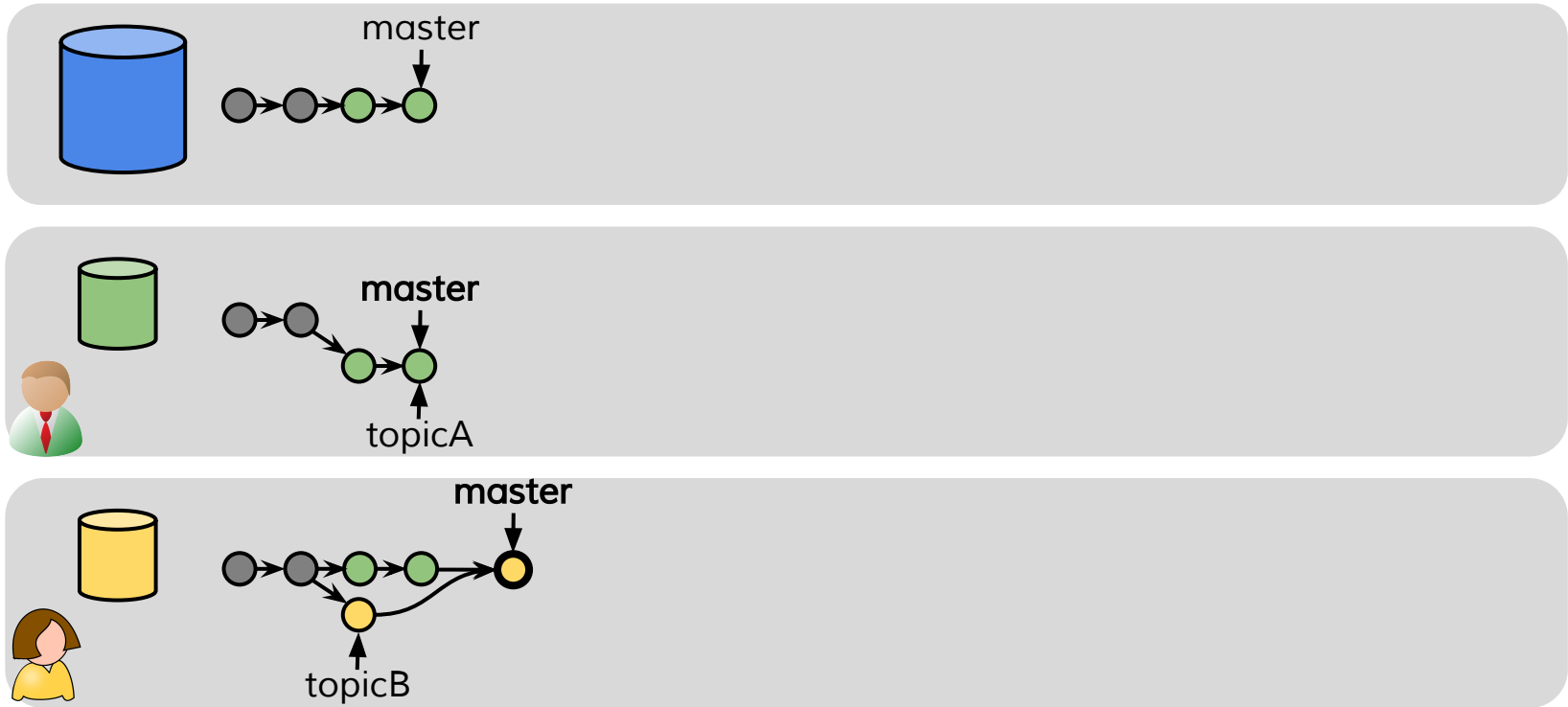
Example of basic collaboration workflow



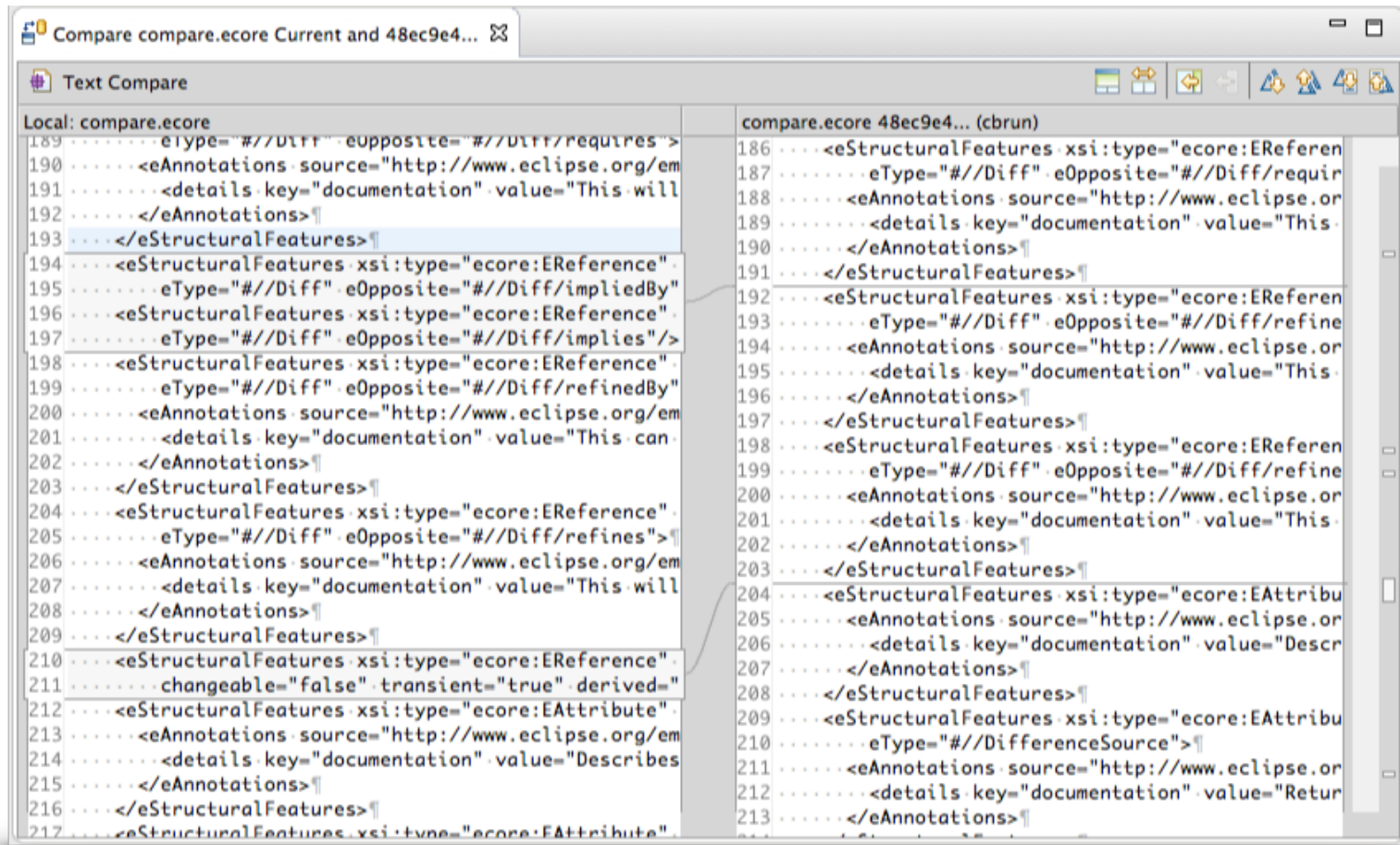
Example of basic collaboration workflow



Example of basic collaboration workflow



Comparing Models without EMFCompare

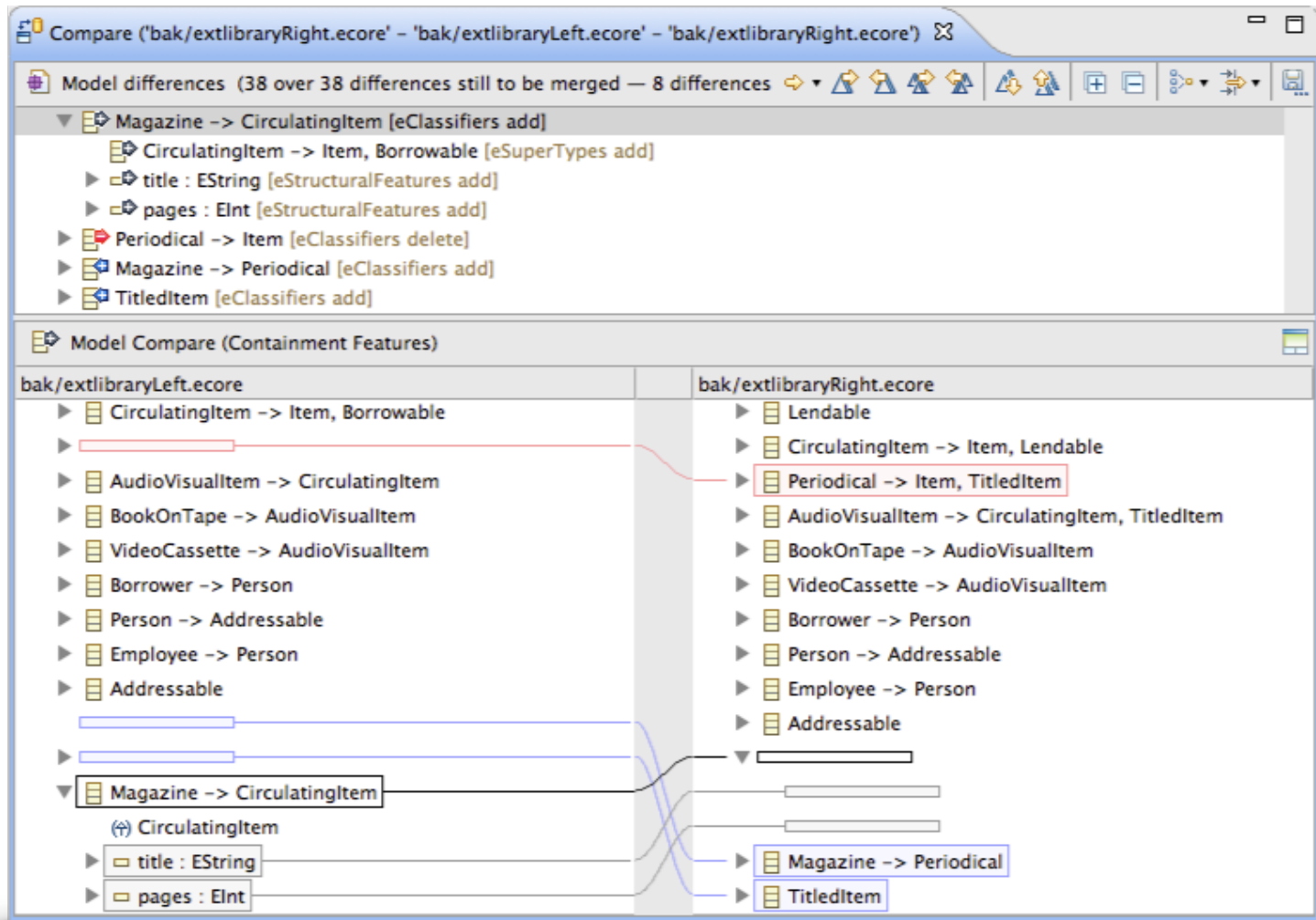


Compare compare.ecore Current and 48ec9e4...

Text Compare

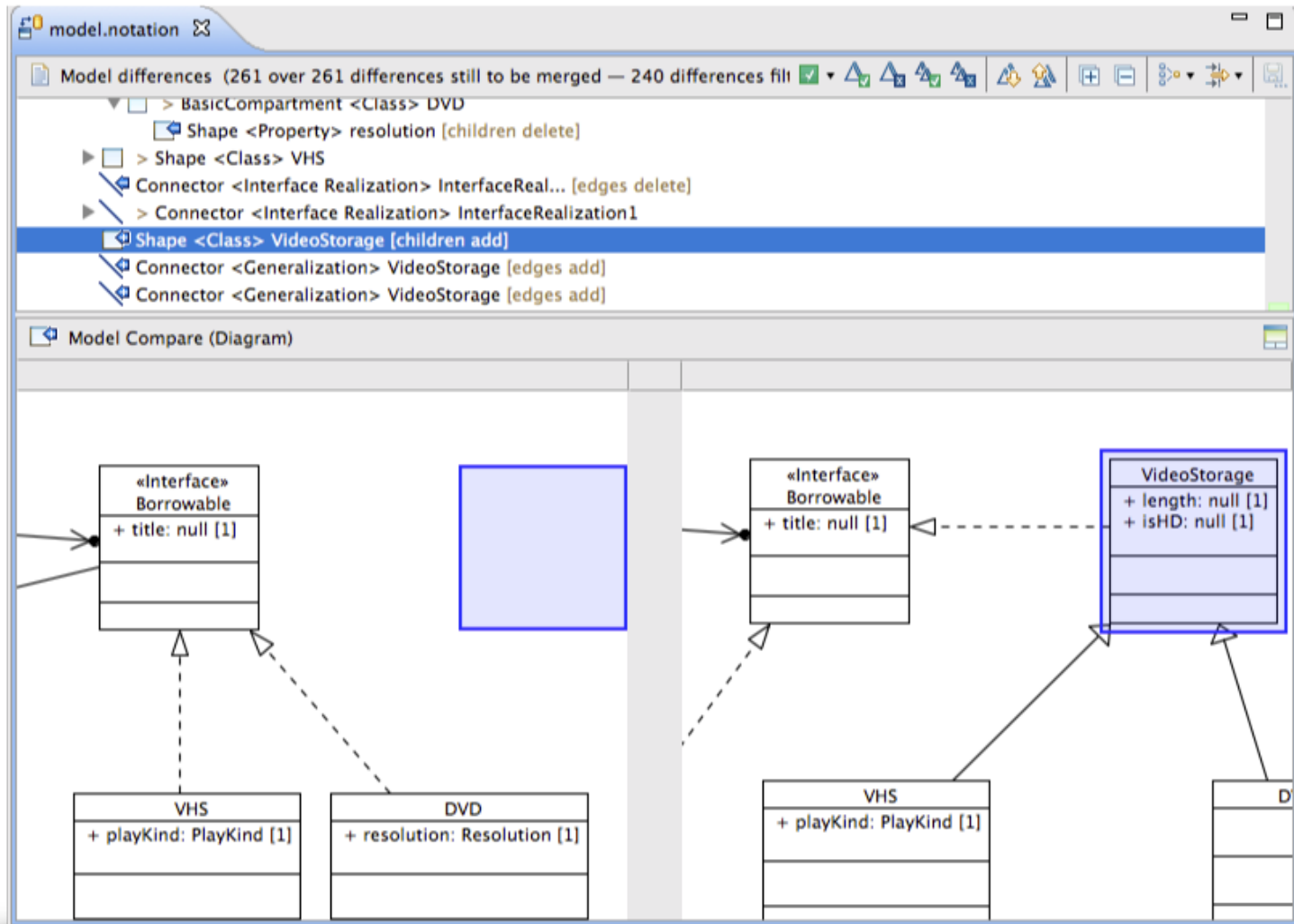
Local: compare.ecore	compare.ecore 48ec9e4... (cbrun)
189 eType="#//Diff" eOpposite="#//Diff/requirement" >	186<eStructuralFeatures xsi:type="ecore:EReference"
190<eAnnotations source="http://www.eclipse.org/emf" >	187 eType="#//Diff" eOpposite="#//Diff/requirement"
191<details key="documentation" value="This will be used to generate the documentation for the model." >	188<eAnnotations source="http://www.eclipse.org/emf" >
192</eAnnotations>	189<details key="documentation" value="This will be used to generate the documentation for the model." >
193</eStructuralFeatures>	190</eAnnotations>
194<eStructuralFeatures xsi:type="ecore:EReference" >	191</eStructuralFeatures>
195 eType="#//Diff" eOpposite="#//Diff/impliedBy" >	192<eStructuralFeatures xsi:type="ecore:EReference" >
196<eStructuralFeatures xsi:type="ecore:EReference" >	193 eType="#//Diff" eOpposite="#//Diff/refinement" >
197 eType="#//Diff" eOpposite="#//Diff/implies" >	194<eAnnotations source="http://www.eclipse.org/emf" >
198<eStructuralFeatures xsi:type="ecore:EReference" >	195<details key="documentation" value="This will be used to generate the documentation for the model." >
199 eType="#//Diff" eOpposite="#//Diff/refinedBy" >	196</eAnnotations>
200<eAnnotations source="http://www.eclipse.org/emf" >	197</eStructuralFeatures>
201<details key="documentation" value="This can be used to generate the documentation for the model." >	198<eStructuralFeatures xsi:type="ecore:EReference" >
202</eAnnotations>	199 eType="#//Diff" eOpposite="#//Diff/refinement" >
203</eStructuralFeatures>	200<eAnnotations source="http://www.eclipse.org/emf" >
204<eStructuralFeatures xsi:type="ecore:EReference" >	201<details key="documentation" value="This will be used to generate the documentation for the model." >
205 eType="#//Diff" eOpposite="#//Diff/refines" >	202</eAnnotations>
206<eAnnotations source="http://www.eclipse.org/emf" >	203</eStructuralFeatures>
207<details key="documentation" value="This will be used to generate the documentation for the model." >	204<eStructuralFeatures xsi:type="ecore:EAttribute" >
208</eAnnotations>	205<eAnnotations source="http://www.eclipse.org/emf" >
209</eStructuralFeatures>	206<details key="documentation" value="Describe the model." >
210<eStructuralFeatures xsi:type="ecore:EReference" >	207</eAnnotations>
211 changeable="false" transient="true" derived="true" >	208</eStructuralFeatures>
212<eStructuralFeatures xsi:type="ecore:EAttribute" >	209<eStructuralFeatures xsi:type="ecore:EAttribute" >
213<eAnnotations source="http://www.eclipse.org/emf" >	210 eType="#//DifferenceSource" >
214<details key="documentation" value="Describes the model." >	211<eAnnotations source="http://www.eclipse.org/emf" >
215</eAnnotations>	212<details key="documentation" value="Return the model." >
216</eStructuralFeatures>	213</eAnnotations>
217<eStructuralFeatures xsi:type="ecore:EAttribute" >	

Comparing Models with EMF Compare



The screenshot shows the EMF Compare tool interface. The title bar indicates the comparison of three models: 'bak/extlibraryRight.ecore', 'bak/extlibraryLeft.ecore', and 'bak/extlibraryRight.ecore'. The main window is divided into two panes: 'Model differences' and 'Model Compare (Containment Features)'. The 'Model differences' pane shows a tree of changes, including the addition of 'CirculatingItem' as a superclass for 'Item' and 'Borrowable', and the deletion of 'Periodical' as a subclass of 'Item'. The 'Model Compare (Containment Features)' pane shows a side-by-side comparison of the two models. The left model, 'bak/extlibraryLeft.ecore', contains classes like 'CirculatingItem', 'AudioVisualItem', 'BookOnTape', 'VideoCassette', 'Borrower', 'Person', 'Employee', and 'Addressable'. The right model, 'bak/extlibraryRight.ecore', contains classes like 'Lendable', 'CirculatingItem', 'Periodical', 'AudioVisualItem', 'BookOnTape', 'VideoCassette', 'Borrower', 'Person', 'Employee', and 'Addressable'. A red box highlights 'Periodical -> Item, TitledItem' in the right model, and a blue box highlights 'Magazine -> Periodical' and 'TitledItem' in the right model. Lines connect these elements to their counterparts in the left model, showing the structural differences.

Comparing Models with EMF Compare



EMF Compare integrates with Papyrus

- Customization for UML
 - UML Profile support
 - Stereotypes
 - Profiles
 - Support for the other specifics of UML
 - Associations, Opaque Actions...
- Customization for GMF
 - Visualization of diagram changes
 - Diagram Layout changes
- Customization for Papyrus
 - CSS support for diagram changes
 - Special handling of Papyrus model file (di)
 - di, model, and notation are one unit
 - Team actions available on model node
 - Papyrus-specific save parameters are respected



Demo: Papyrus, EMF Compare & EGit

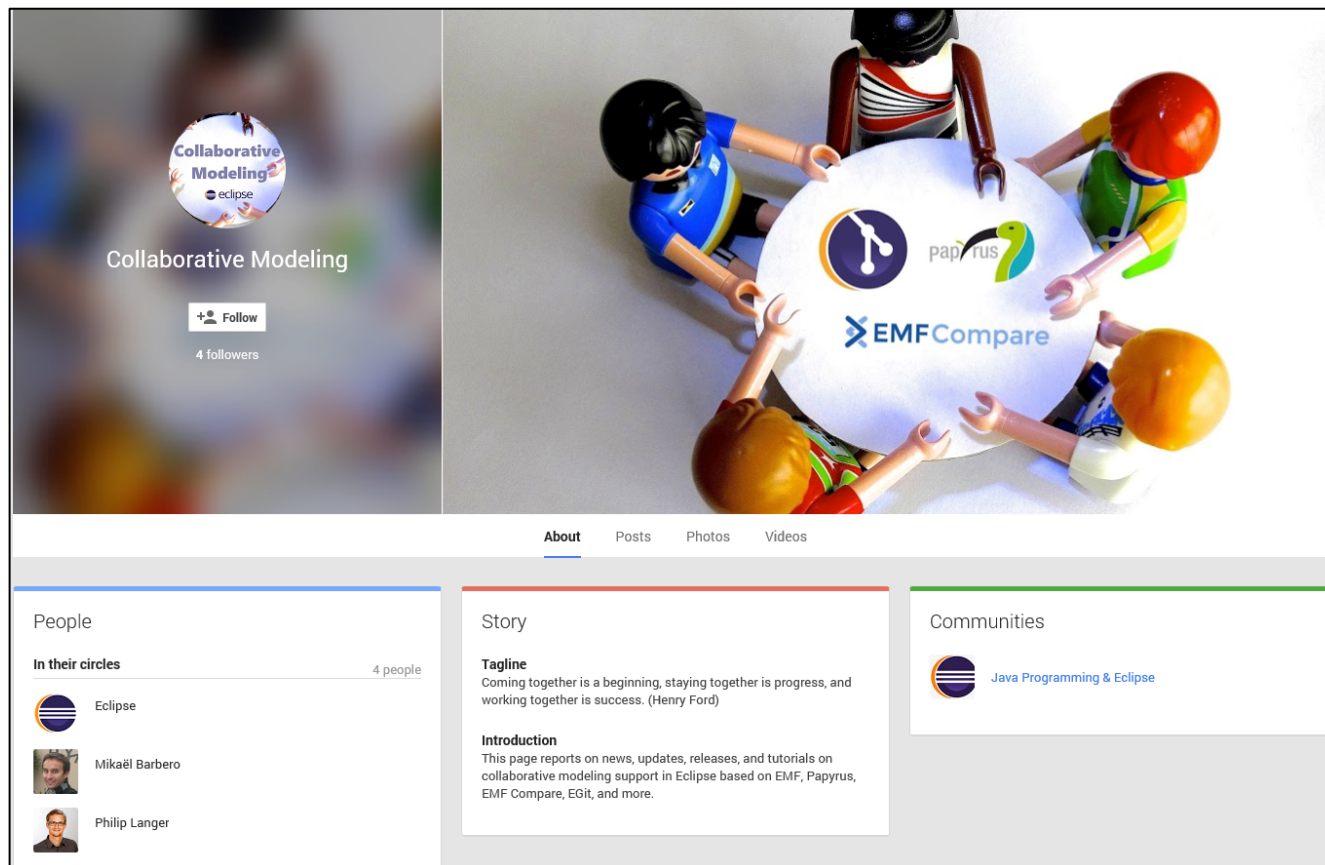
The screenshot shows the Eclipse IDE with the Papyrus UML modeling environment. The main workspace displays a UML diagram with several components and their relationships. A red box highlights a group of components labeled "Work Projects", which includes "ProjectX", "ProjectY", and "ProjectZ". Other components include "My Boss", "My Family", and "Colleagues". The diagram shows dependencies and generalizations between these components.

The left sidebar contains the Project Explorer and Model Explorer. The Project Explorer shows the project structure, including "accesscontrol.profile", "projects", and "model". The Model Explorer shows the model structure, including "Model", "UML Primitive", "UML Profile", and "UML Profile Application".

The bottom right panel shows the Git History panel, displaying a table of commits:

Id	Message	Author	Author Date	Committer
05de8d1	add-project-visible-by-family	Philip Langer	3 days ago	Philip L
96863dc	delete-new-project	Philip Langer	4 hours ago	Philip L
0358508	add-new-project	Philip Langer	4 hours ago	Philip L
8c34909	add initial version of the profile and projects diagram	Philip Langer	3 days ago	Philip L

More information



Collaborative Modeling
eclipse

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- Mikaël Barbero
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Story

Tagline
Coming together is a beginning, staying together is progress, and working together is success. (Henry Ford)

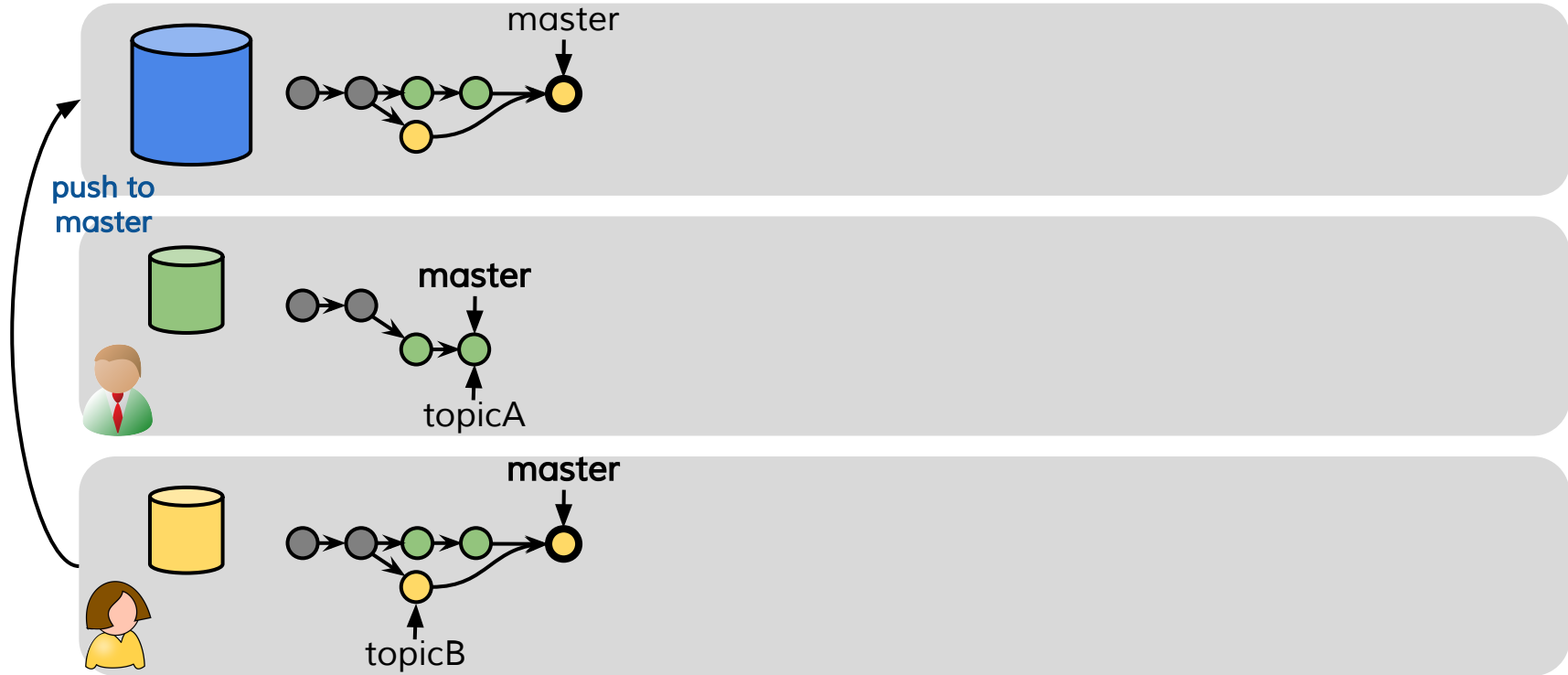
Introduction
This page reports on news, updates, releases, and tutorials on collaborative modeling support in Eclipse based on EMF, Papyrus, EMF Compare, EGit, and more.

Communities
Java Programming & Eclipse

<http://collaborative-modeling.org>

Backup slides

Example of basic collaboration workflow



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