

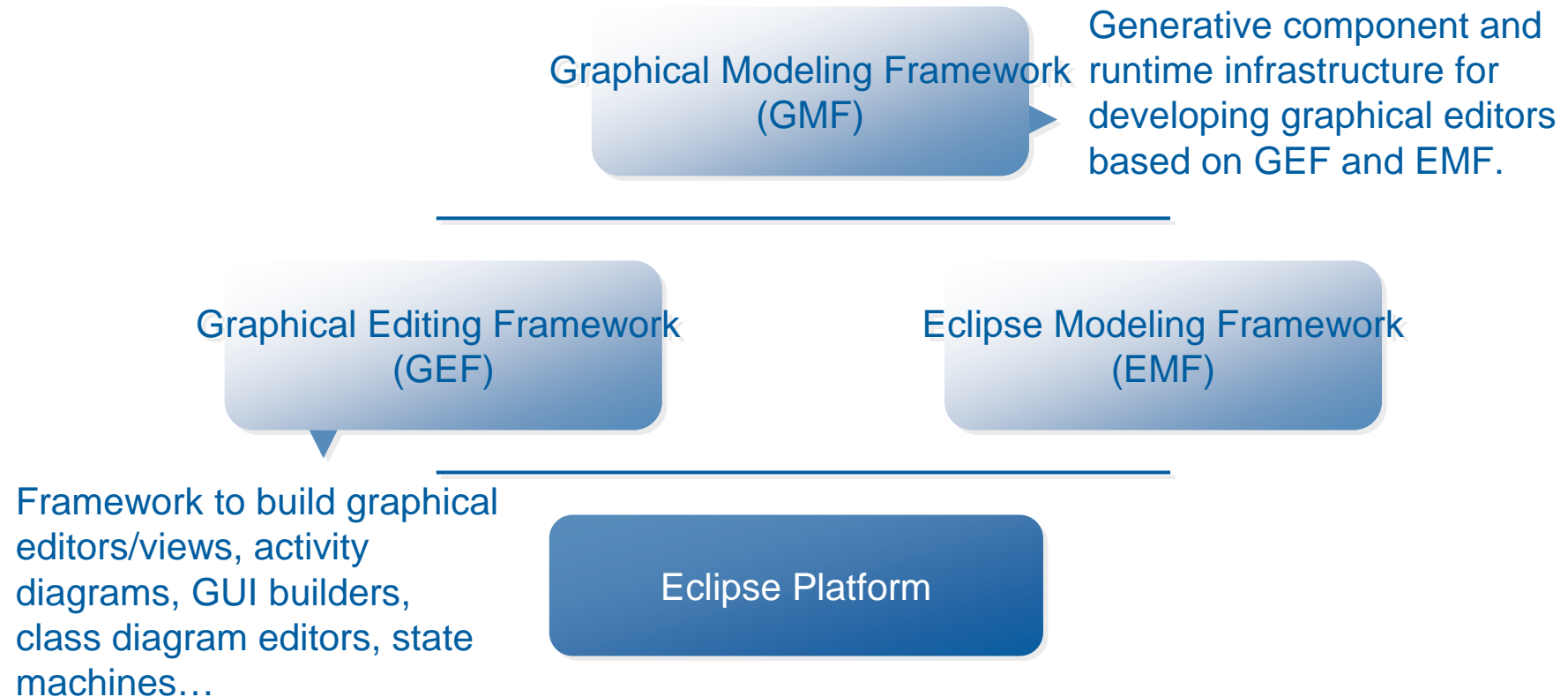
Experiences building a GEF/GMF component

JViews Graph Layout for Eclipse

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- Resources
 - Documentation – Articles - Books
 - Diving into the Eclipse code
 - Bugzilla: a channel for interacting with committers
- Component
 - Leveraging the pure MVC architecture of GEF
 - Providing sections for the Tabbed Property Sheet
 - Extending the GMF notation model
- Demos
 - Creating a showcase GMF editor
 - Welcome Page for launching the demos



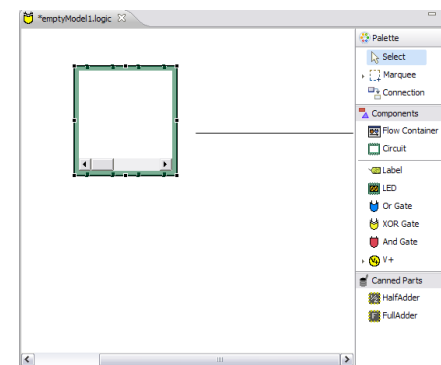
- Documentation, Articles, Books
- Diving into the Eclipse code
- Bugzilla: a channel for interacting with committers

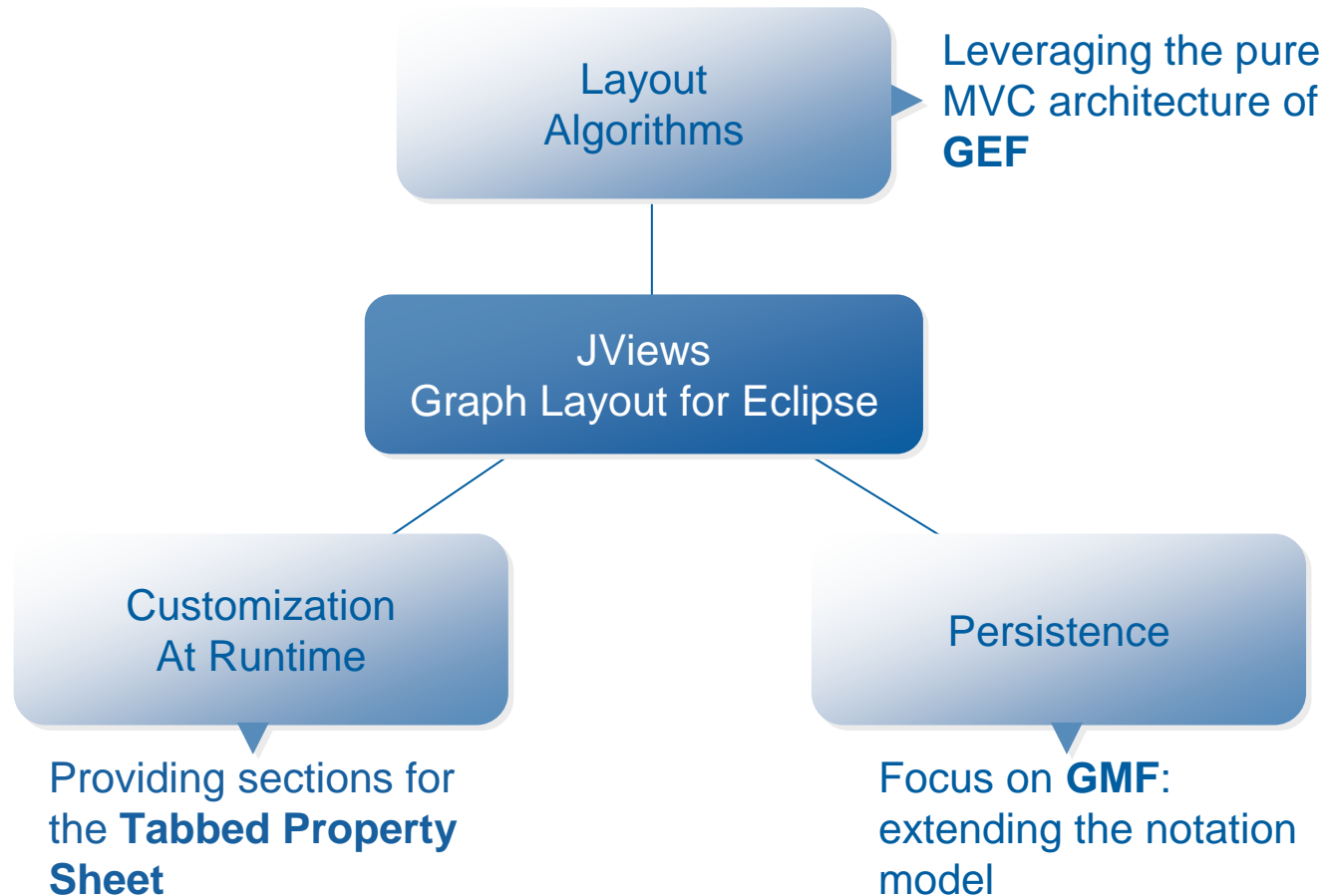
- Poor user documentation
- Few comments in the source code
- News group as documentation

- Regular activity when using a framework
- 80% of your time spent in reading code
- Steep learning curve
- Monkey See / Monkey Do Rule
 - Always start by copying the structure of a similar plug-in
- Risk: Cargo-cult programming
 - Ritual inclusion of code or program structures that serve no real purpose.

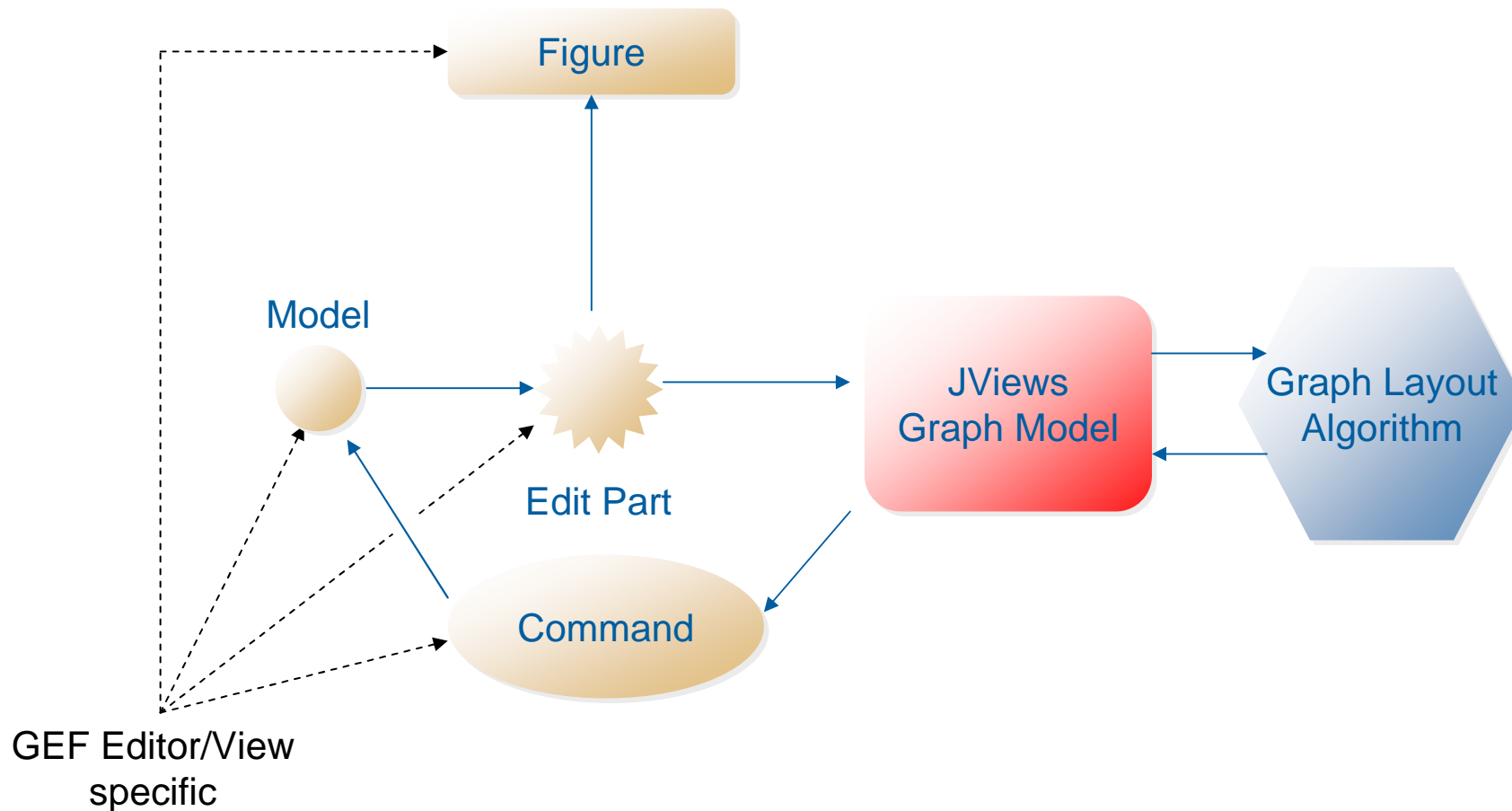
- Interacting with the developers/committers
- Participating to the evolution of the products
- Feedback is quite good and efficient most of the time
- Opened bugs
 - GEF: around 480 opened bugs
 - GMF: around 800 opened bugs
 - EMF: around 300 opened bugs

- But sometimes it looks like the committers are not really focused on their product
 - Bug 195527 : Connection outside containers
 - Opened in july 2007, closed in september 2007 because "it is the intended behavior"
 - Reopened in september 2008 after a new comment from the reporter
 - Not yet fixed

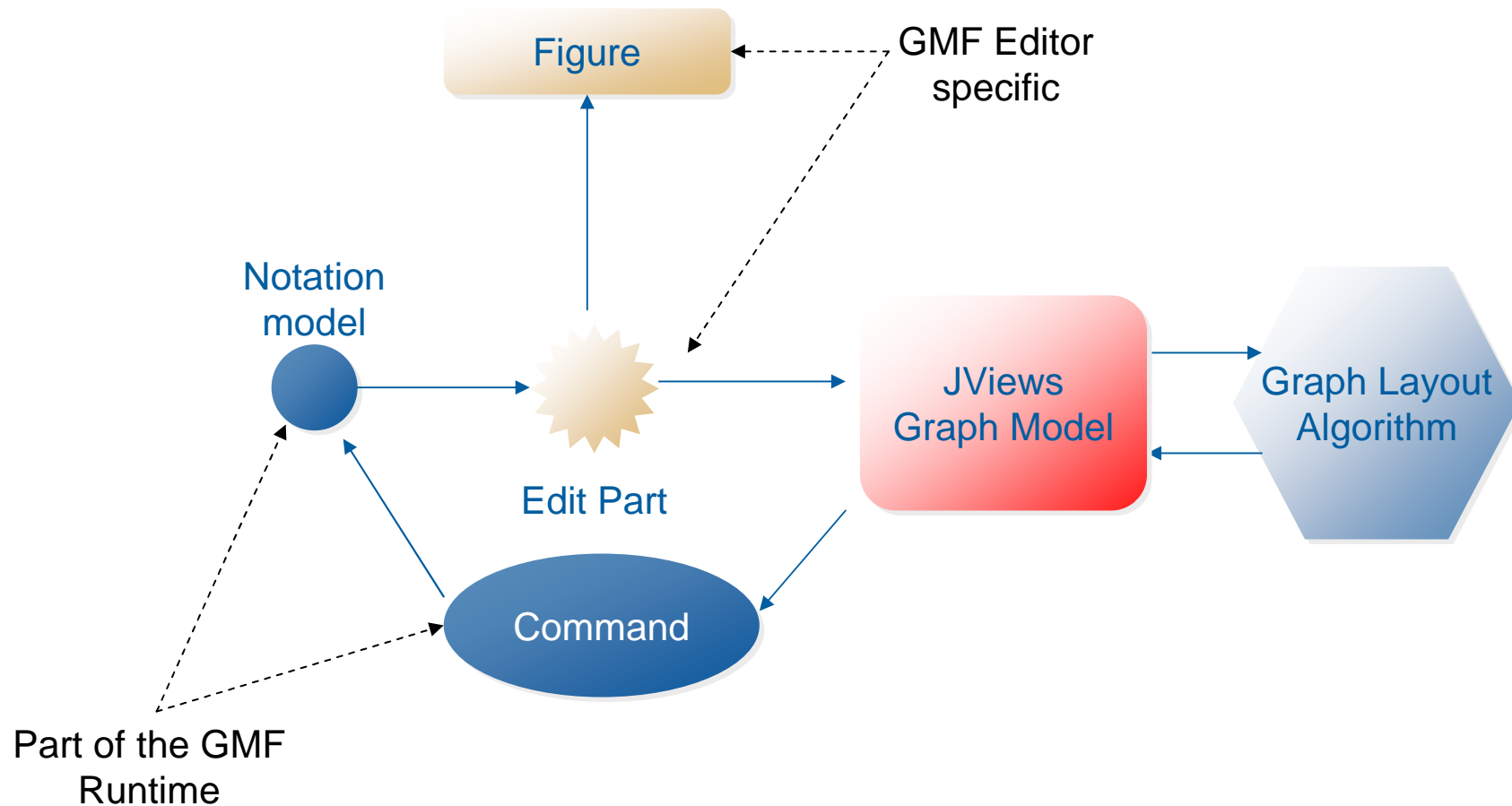




- Layout algorithms must be **Model Agnostic**



- GMF integration



- Interacting with the model
 - Integration based on GEF **requests** & **edit policies**
 - New features based on **new** ones
- Commands (modifying the model)
 - GEF
 - **Application-specific**
 - Example of source code provided in demos
 - GMF
 - **Model is known: notation model**
 - Commands in the library

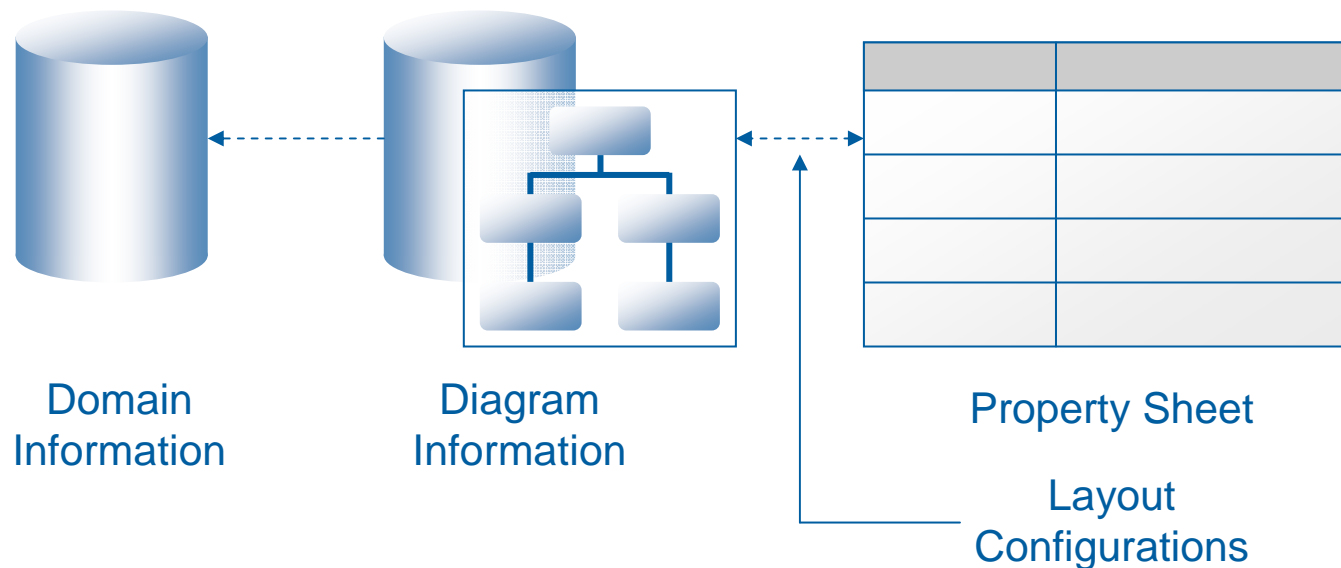
- **Context**
 - We wanted to provide **embeddable** graphical Property Sheets to allow to **customize** layouts **at runtime**.
 - GMF editors display a **Tabbed Property Sheet**.
 - The Tabbed Property Sheet can host sections.
- **We provide**
 - **Sections** to extend any Tabbed Property Sheet
 - **Filters** to bind the selection with the sections to display

- Property sheet sections are embeddable in an Eclipse application using **Extension Points**.

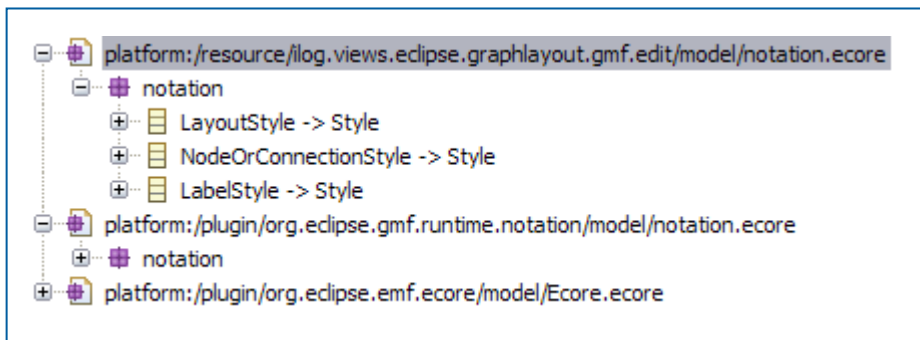
```
<propertySection id="property.section.GraphLayoutPropertySection"  
  filter="ilog.views.eclipse.graphlayout.properties.filters.LayoutPropertySectionFilter"  
  class="ilog.views.eclipse.graphlayout.properties.sections.GraphLayoutPropertySection"  
  tab="property.tab.GraphLayoutPropertySection">  
</propertySection>
```

- They can be customized by subclassing them.

- Context
 - Layouts are customizable at runtime through property sheets. We wanted to make their settings persistent **with the diagram information.**

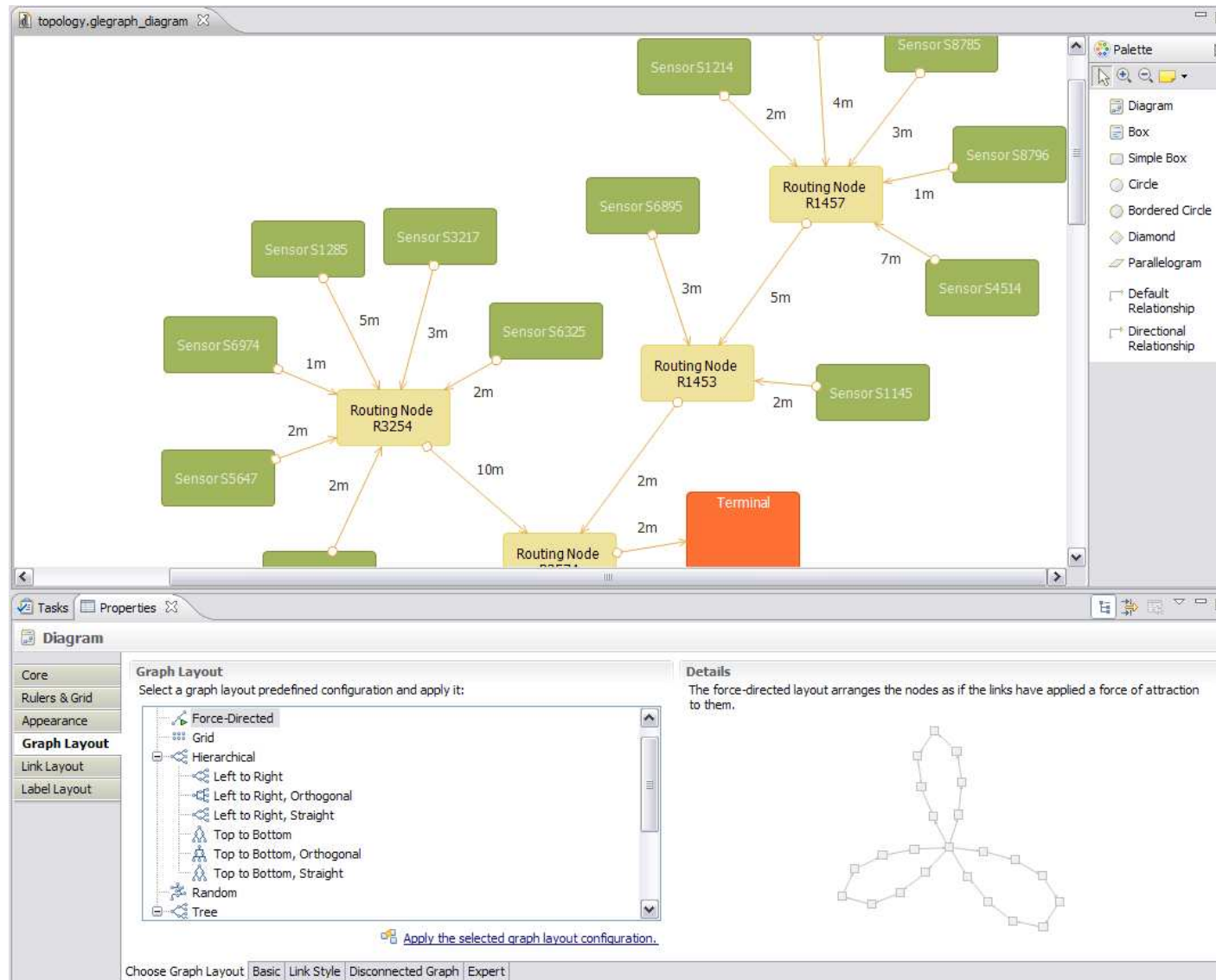


- Extension done through « **Styles** »
 - A « **Style** » is an interface defined in the GMF notation model
 - Created an Ecore model defining new classes implementing Style
 - Generated Java implementations

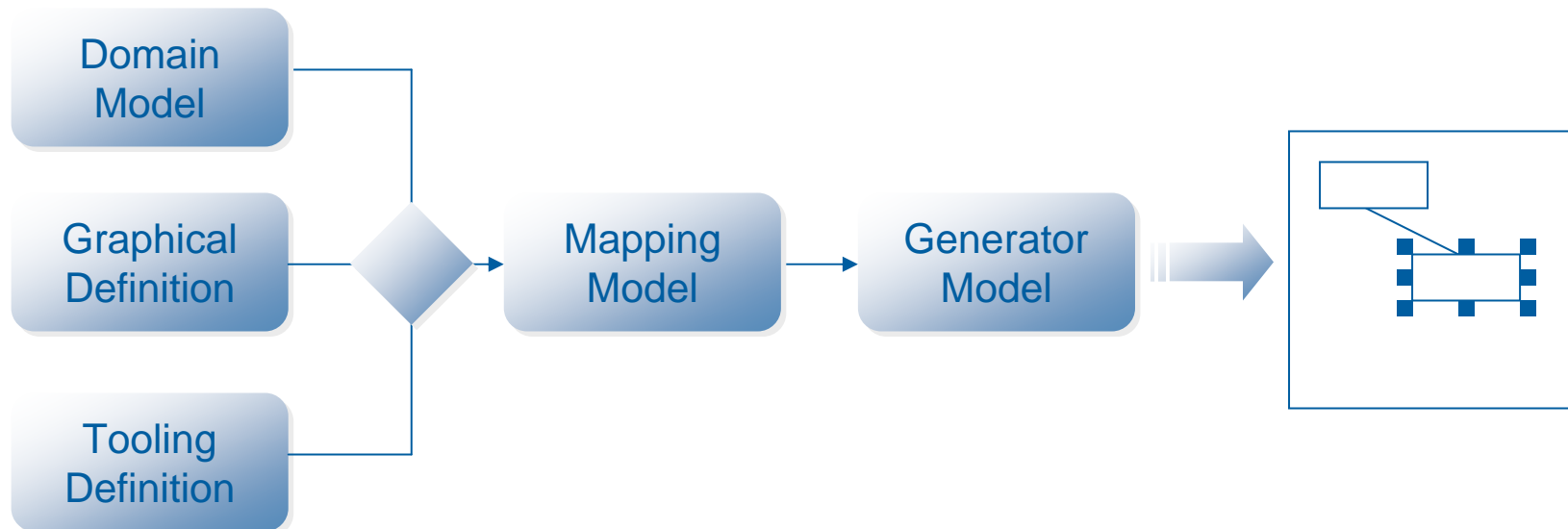


- Creating a showcase GMF editor
- Launching the demos via the Welcome Page

Creating a showcase GMF editor



- Generated
 - Using the GMF toolchain, **most** of the editor has been generated.



- Remained

- Clipboard support

- To be able to copy/paste **semantic** elements

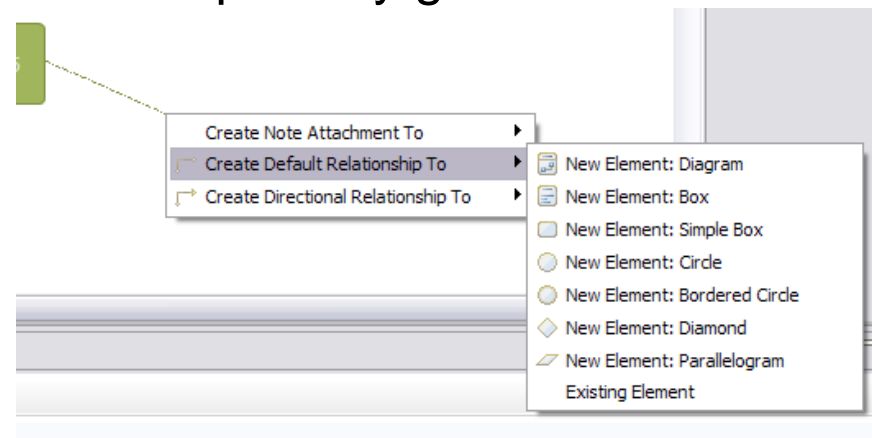
- Icons

- Tweaked the Icon Provider

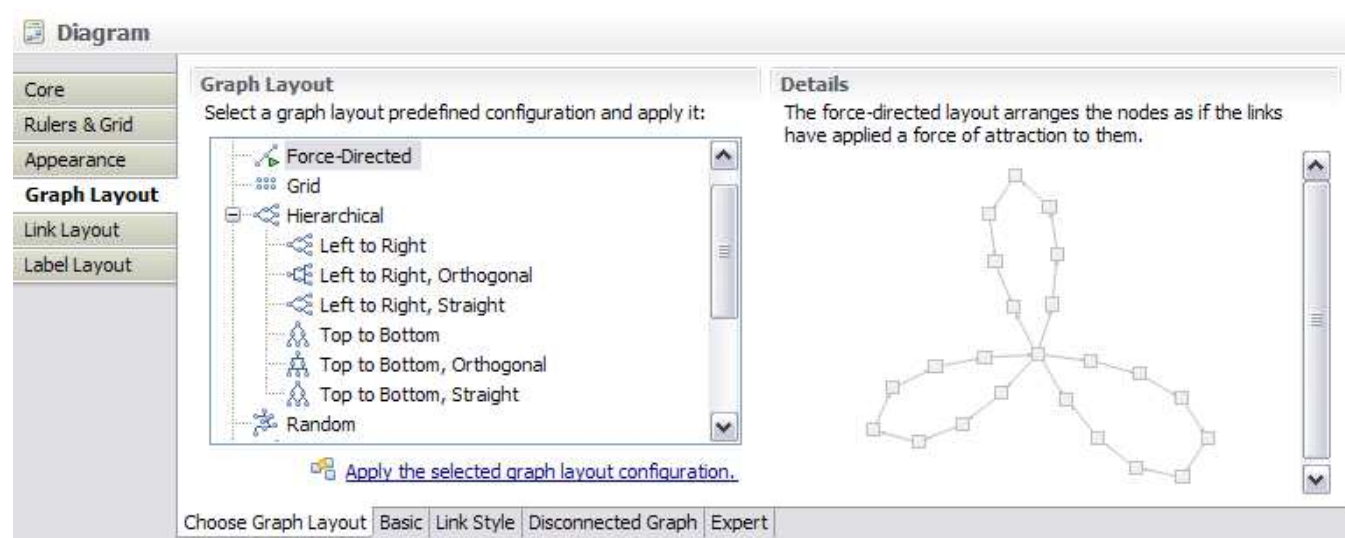
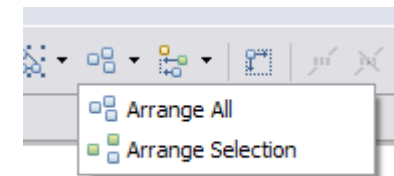
- Modeling Assistants



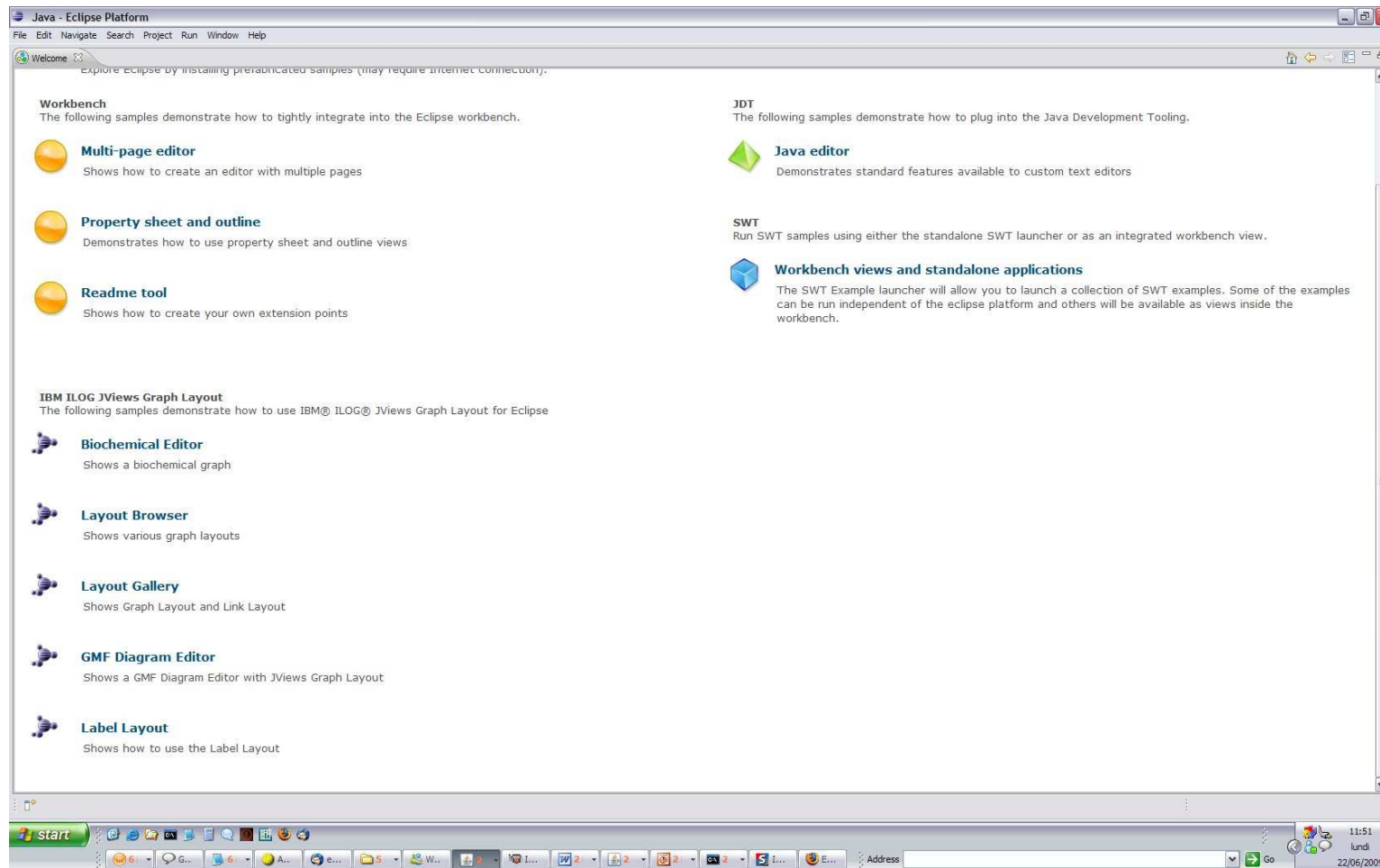
- The Modeling Assistant Provider is partially generated



- Customized
 - Layout Provider (Arrange All/Selection behaviour)
 - Tabbed property sheet
 - Generated IFigures
 - Edit Parts



■ Making a Good First Impression



- Resources

- **Community** (committers, developers): bugzilla, source code, newsgroup, books, articles

- Technology

- **Leveraging legacy** (JViews graph layouts)
 - Same layout API for Eclipse and JViews Diagrammer
- **Components** can be built on top of GEF and GMF.
 - Notation model (GMF)
 - Service Provider architecture (GMF)

Questions & Answers

Thank You