

# Single-Sourcing

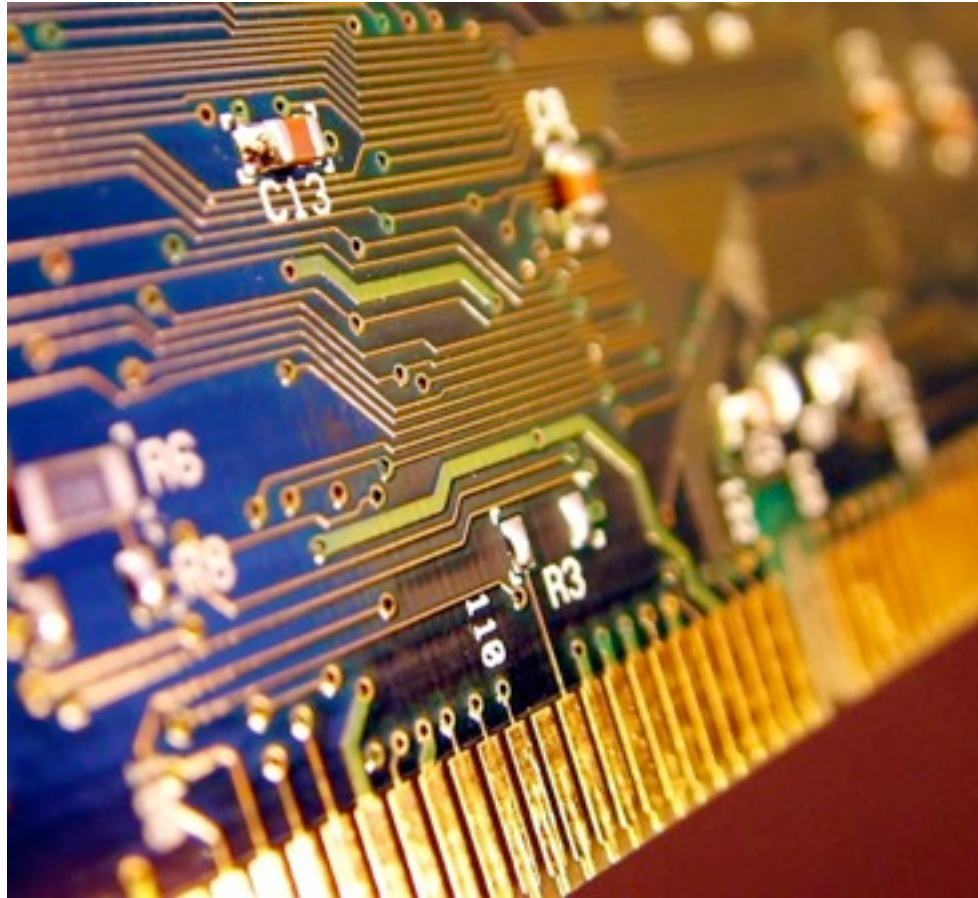
## **RAP** and RCP



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# Let's Talk Technology...



**Eclipse RCP!**

# Lotus Notes 8+

The screenshot displays the IBM Lotus Notes 8+ interface. The main window is titled "Samantha Daryn - Inbox - IBM Lotus Notes". The interface is divided into several panes:

- Mail Pane (Left):** Shows the "Inbox" for Samantha Daryn with a list of folders: Drafts, Sent, Follow Up, All Messages, Junk Mail, Trash, Folders, Projects, Personal, and Tools.
- Message List (Center-Left):** A list of emails with columns for subject, sender, and date. The selected email is from Heather Reeds, dated 1/26/05 11:30 AM, with the subject "Power Renovations promotion".
- Message Content (Center-Right):** Displays the selected email's content, including a "From" field (Samantha Daryn), "Subject" (Power Renovations), and a line graph titled "5 Year Average".
- Calendar and Contacts (Right):** A sidebar containing a "Calendar" pane and a "Contacts" pane. The "Contacts" pane shows a list of names, including Amadou Alain, Ed Al-Amon, Gail Chao, Sam Curman, Samantha Daryn, Thom Frankel, Vivian Hanley, Kelly Hardart, Minh Li, Dina Maroni, Dennis Mickles, Dan Misawa, Larry Moriarty, Mike Motter, Gardner Raynes, Heather Reeds, Monifa Shani, Nora Shin, Paula Starkey, Lisa Starkey, and Linh Truong.

The selected email content includes the following text:

From: Samantha Daryn To: Heather Reeds  
Subject: Power Renovations cc: Amadou Alain

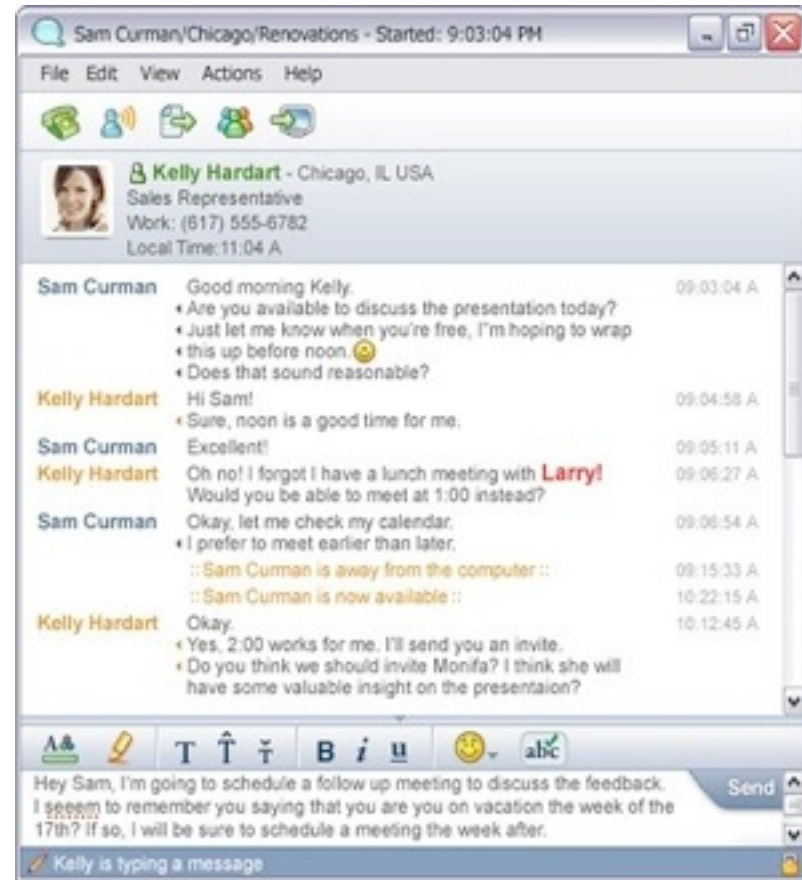
Great suggestion, Mike. Samantha, I think you should add Dan Misawa to this team. He's new to Marketing, representing the ready-to-assemble line. Also, I want you to take a look at the chart below. These numbers are very interesting.

Heather

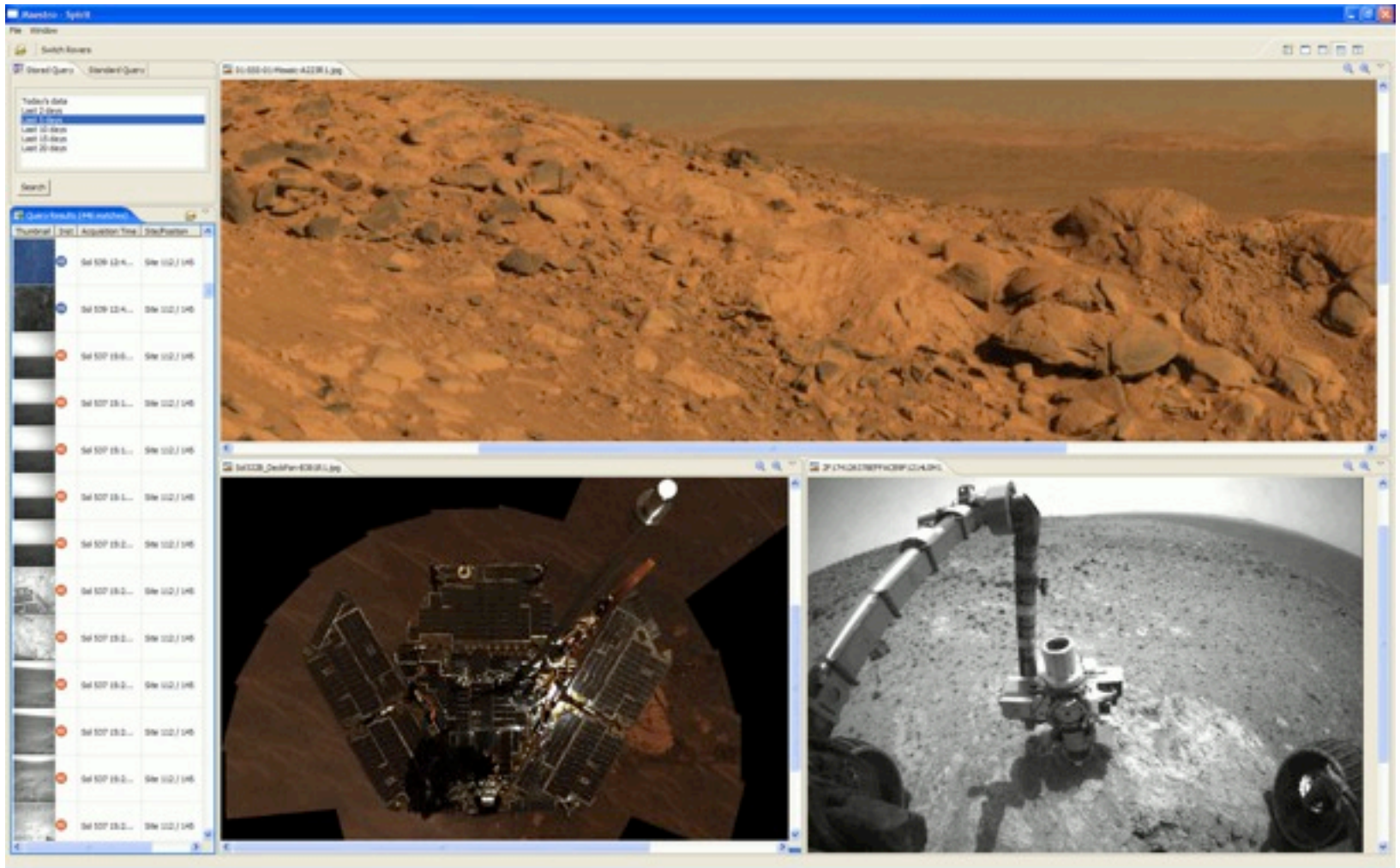
The line graph, titled "5 Year Average", shows sales in millions from September to December. The Y-axis ranges from 0 to 70 million. The X-axis shows months: Sep, Oct, Nov, Dec. The legend indicates three data series: Tools (orange area), Cabinets (red area), and Total volume on sale (green line with markers). The total volume on sale shows a steady increase from approximately 28 million in September to 60 million in December.

Month	Tools (Millions)	Cabinets (Millions)	Total volume on sale (Millions)
Sep	18	10	28
Oct	15	10	25
Nov	15	15	30
Dec	35	25	60

# Lotus Sametime 7.5+



# NASA Maestro



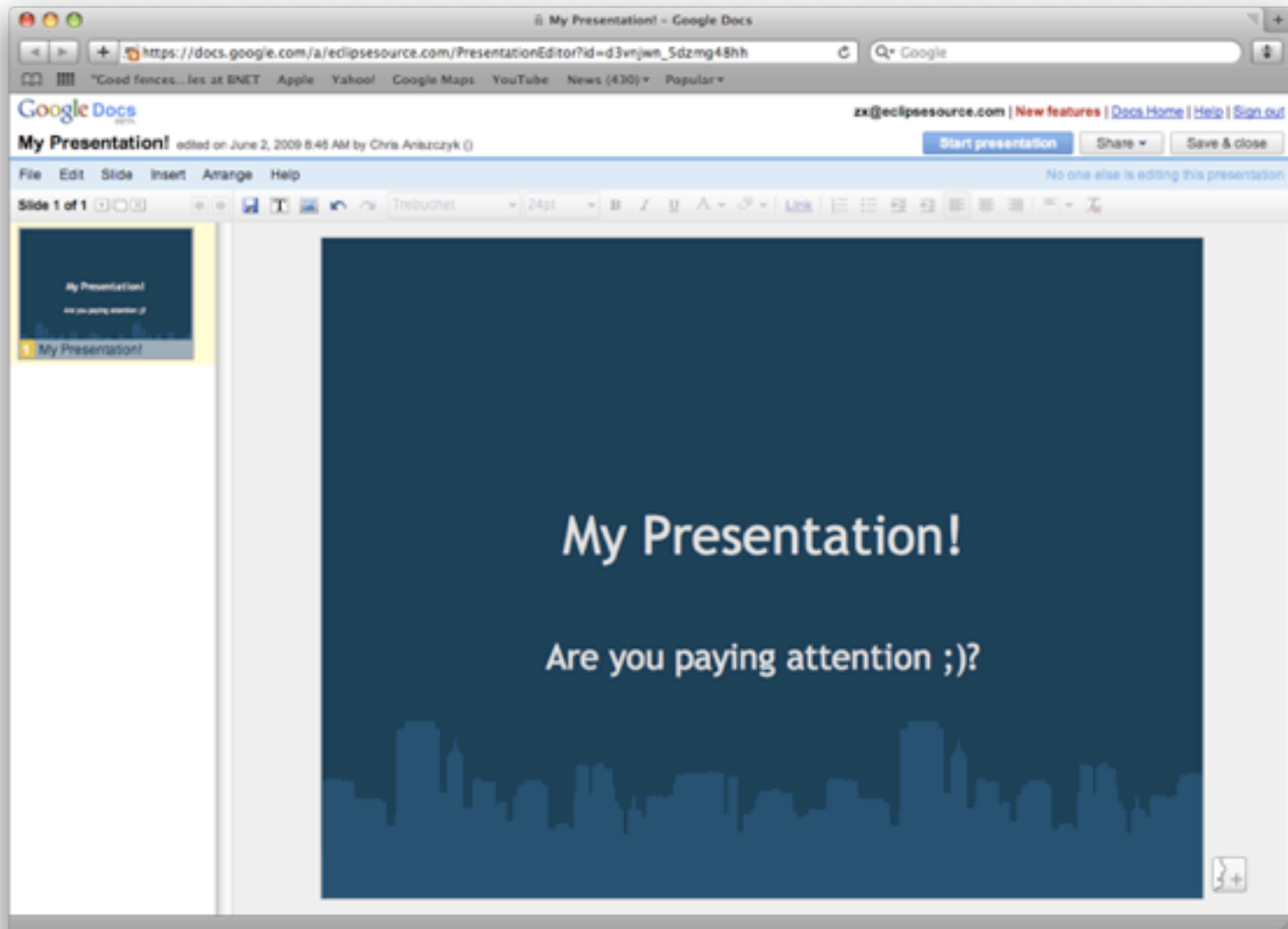


# Web 2.0?

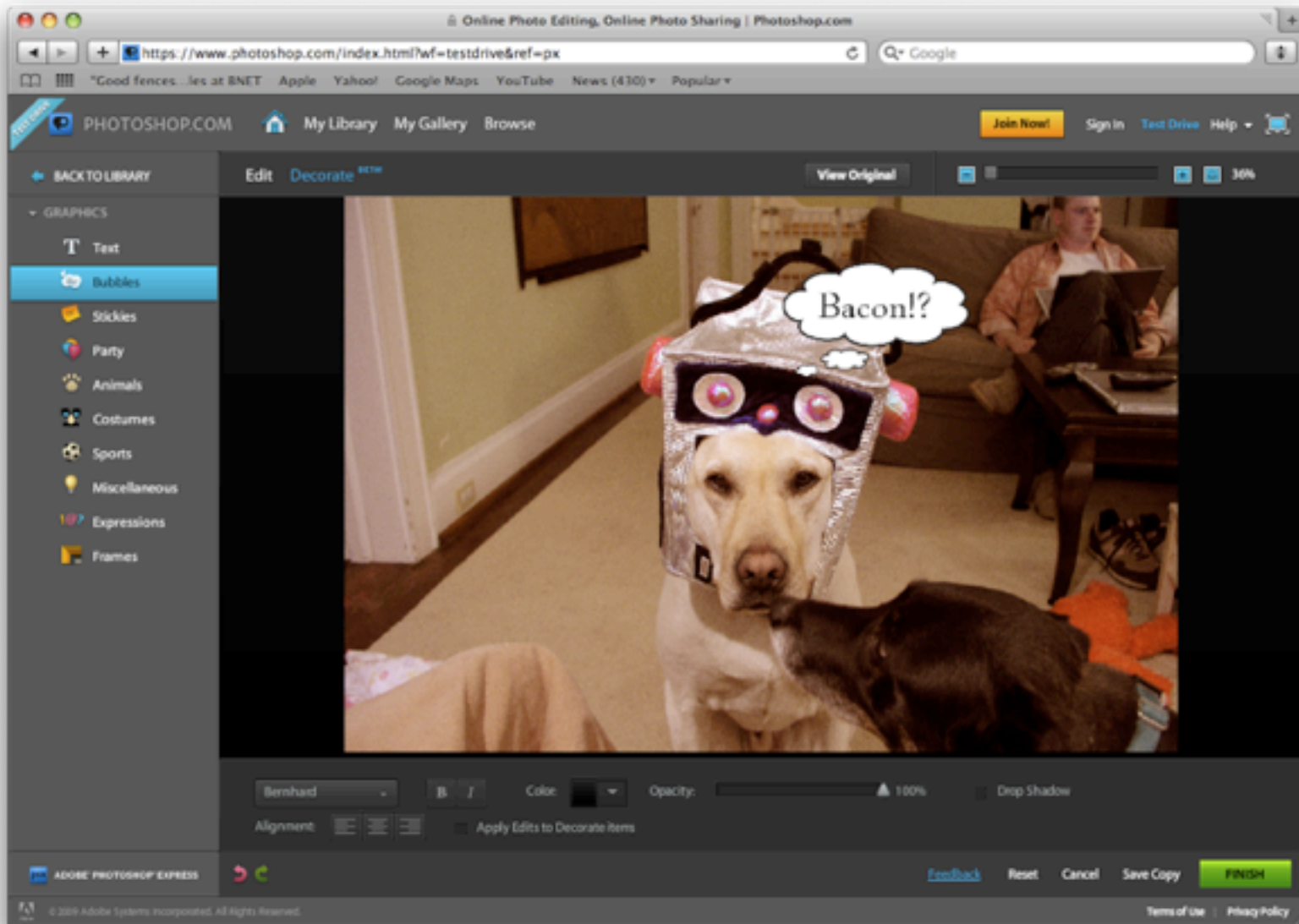
**\*thin clients are back and thicker this time!**



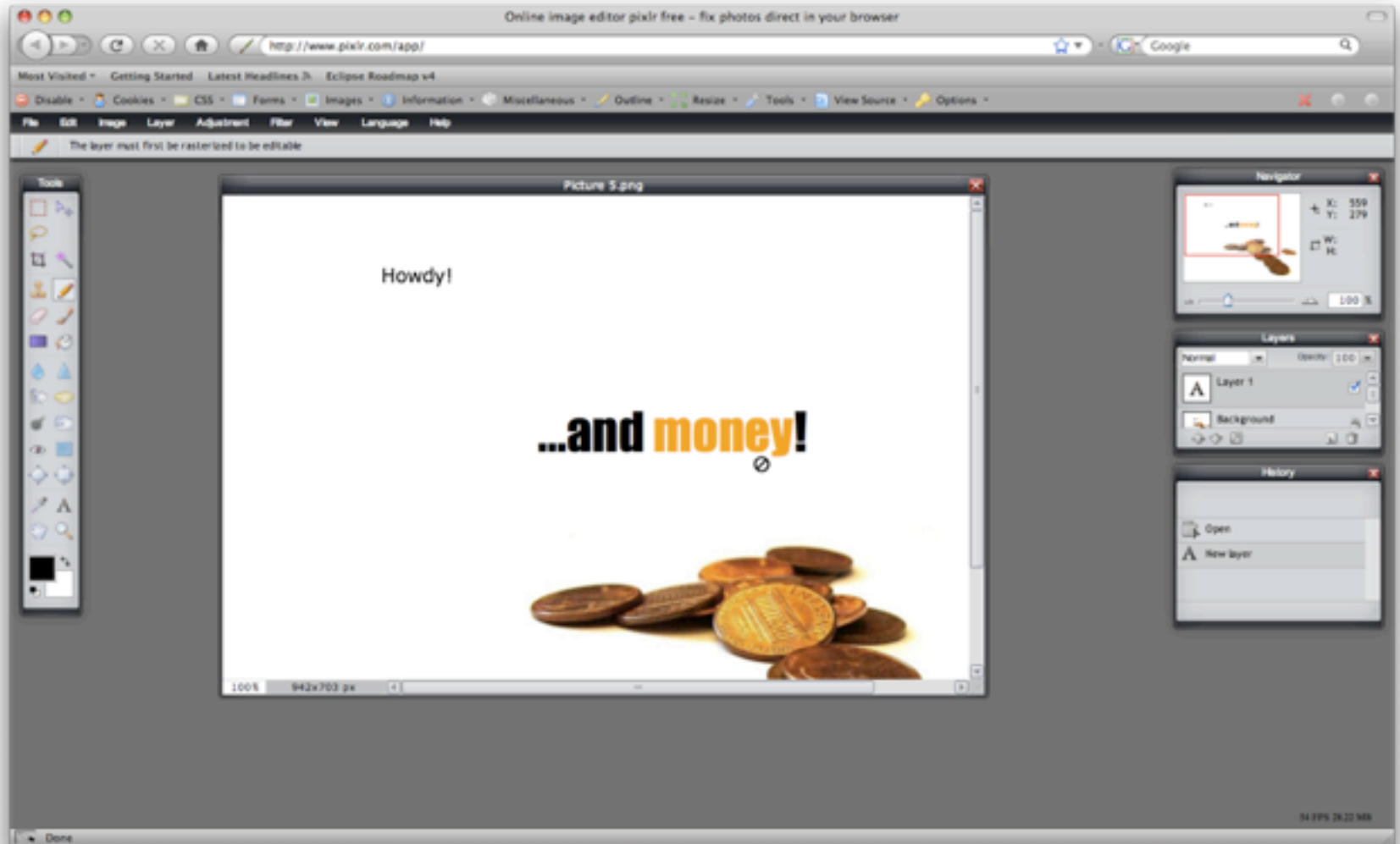
# Online Presentations?



# Online Photoshop?



# Pixlr



# Web 2.0 Knowledge





STABILITY DO  
DO NOT USE  
[Logo]  
[Text]  
[Text]  
[Text]

**Web 2.0**

**Desktop**



**A solution?**



# single sourcing *['sɪŋ.ɡl sɔːrsɪŋ]*

Single source publishing, also known as single sourcing, allows the same content to be used in different documents or in various formats.





Magic



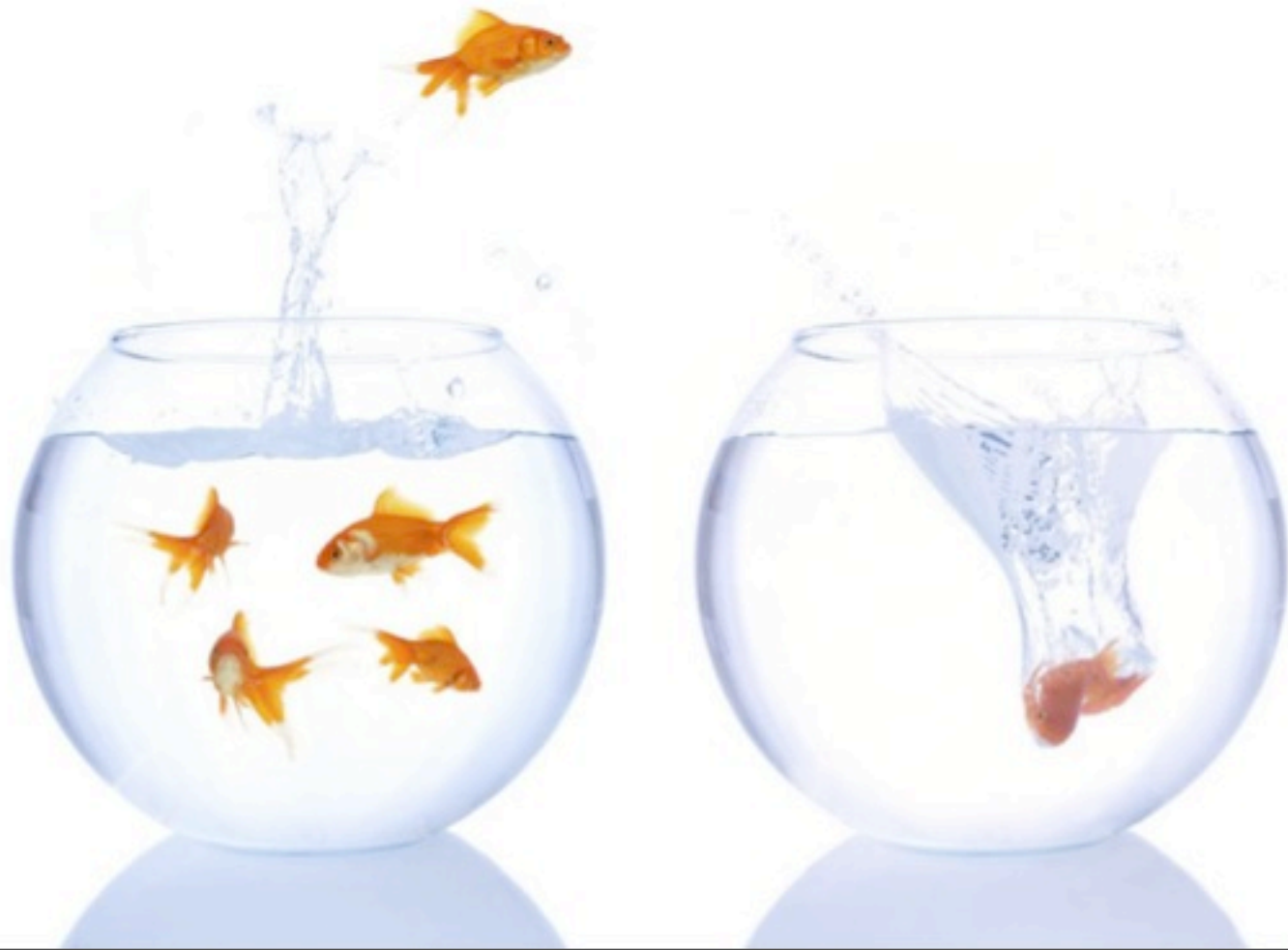
# single sourcing *[ˈsɪŋ.ɡl sɔːrsɪŋ]*

Single source publishing, also known as single sourcing, allows the same ~~content~~ to be used in different ~~documents~~ or in ~~various~~ formats.

*source*

*runtime environments*

# Impossible?



**Exchange the  
Runtime!**

# EclipseRT and OSGi

RCP



RAP

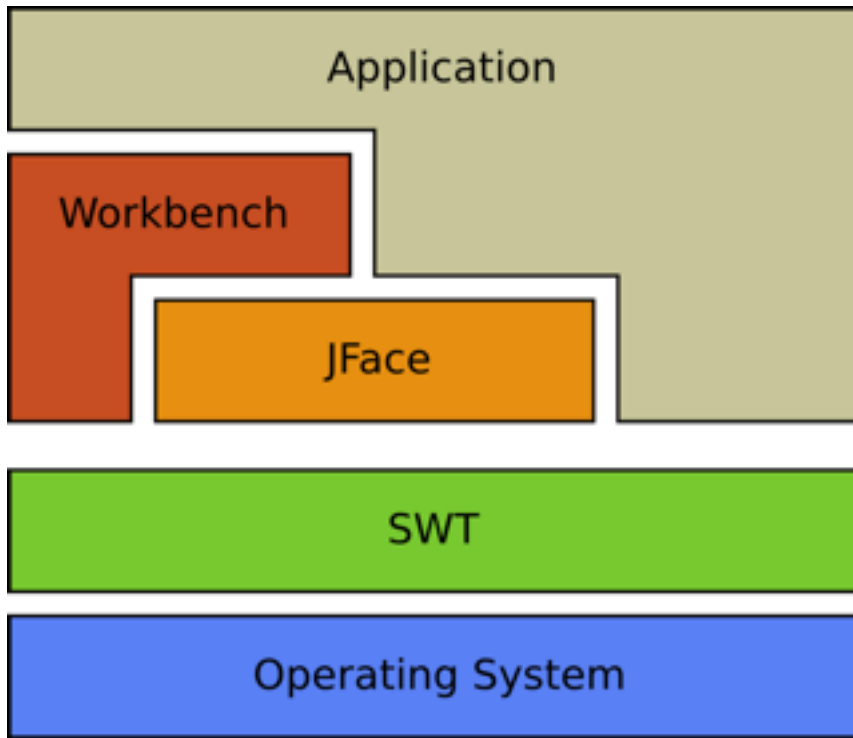


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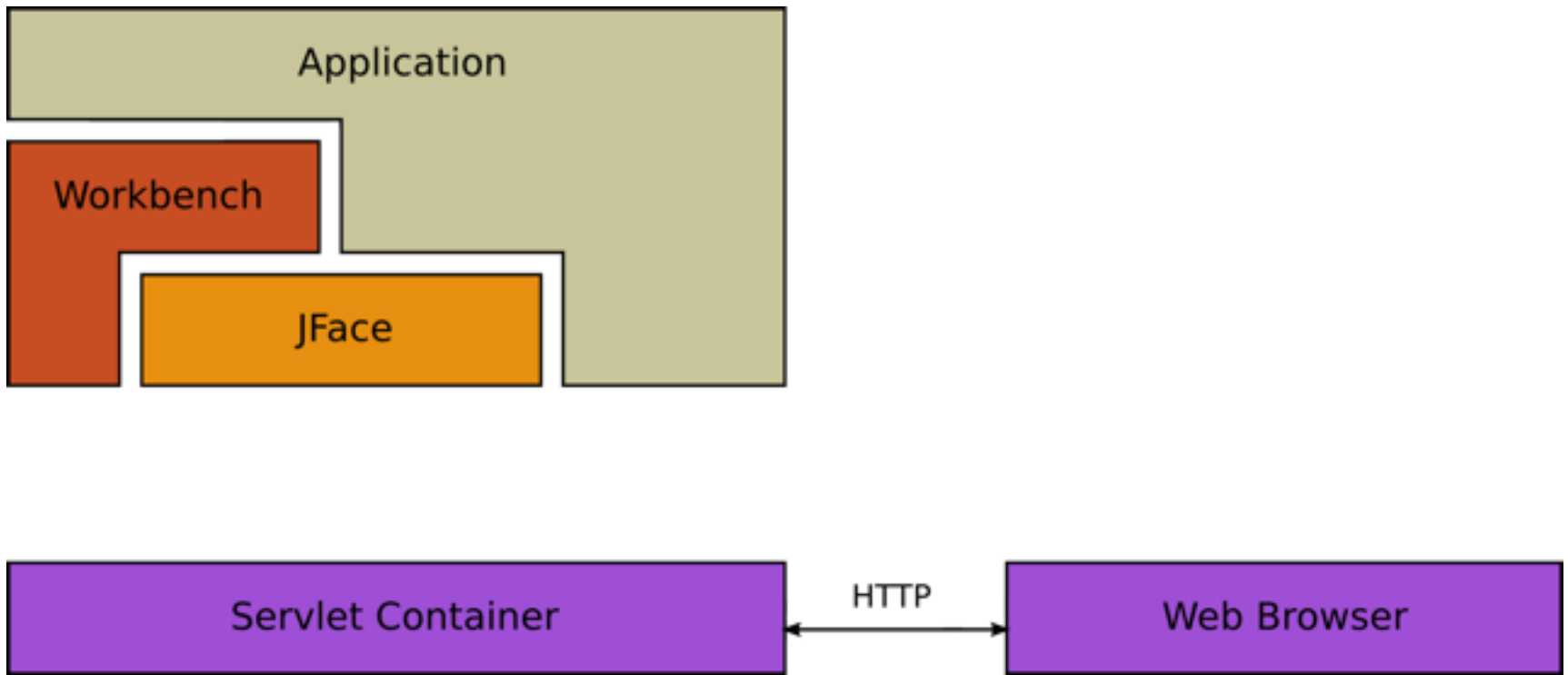
e q u i n o x



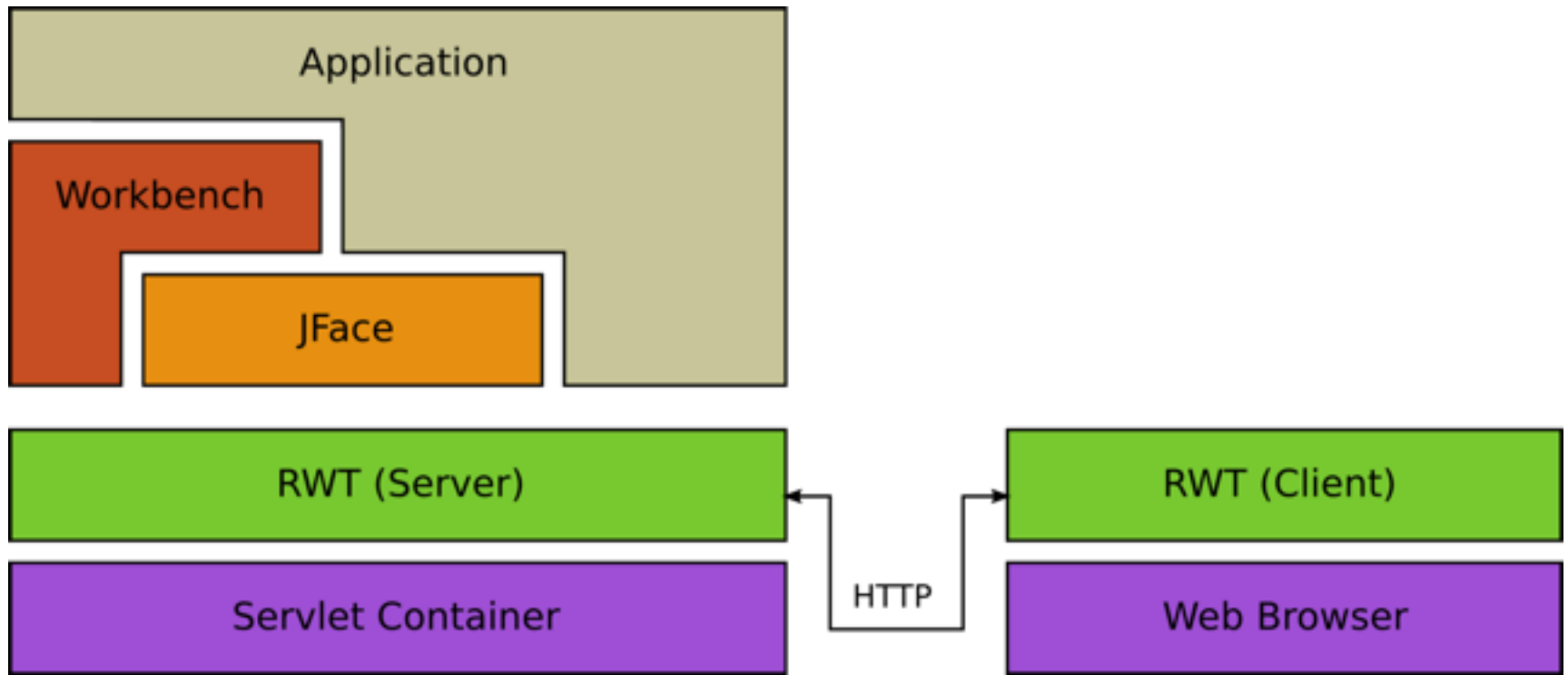
# Layers of RCP



# Moving to the web...



# RAP Layers



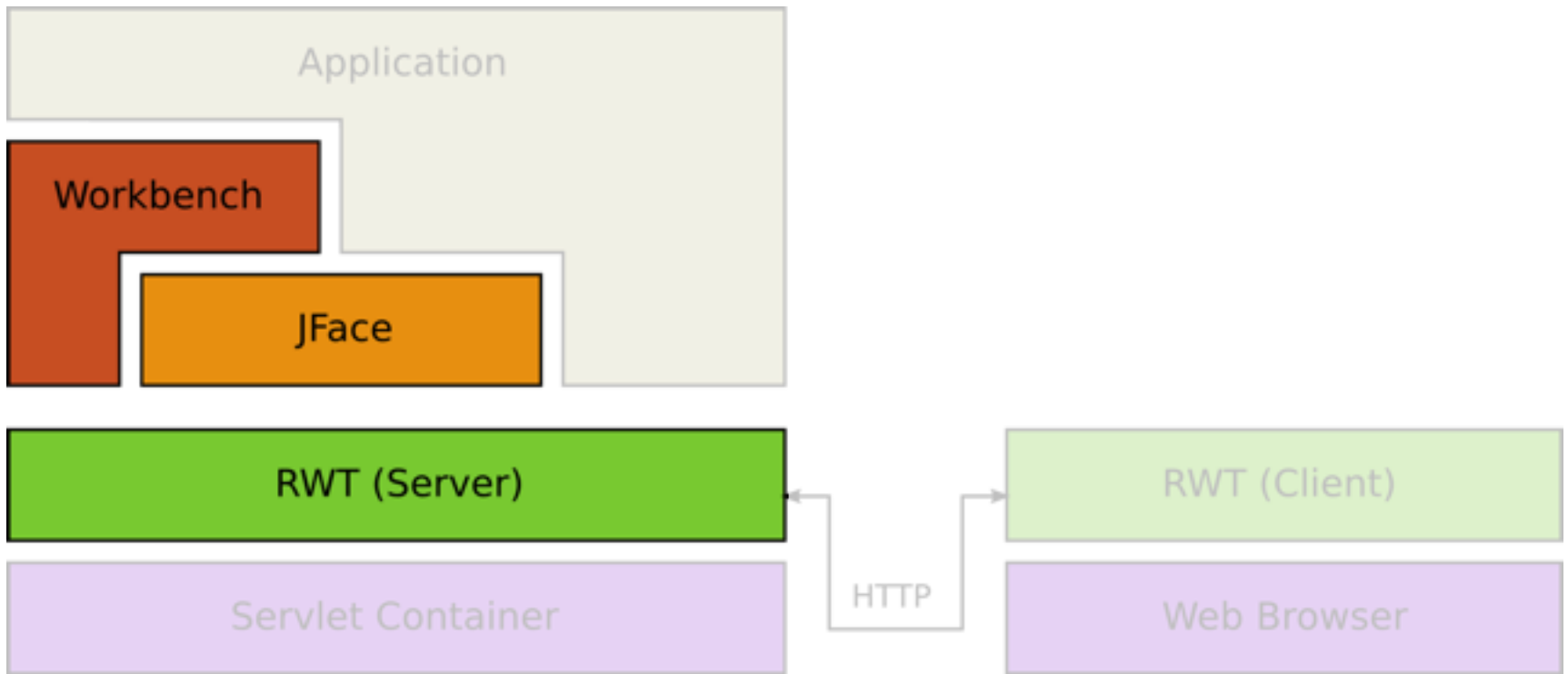


# Qooxdoo?

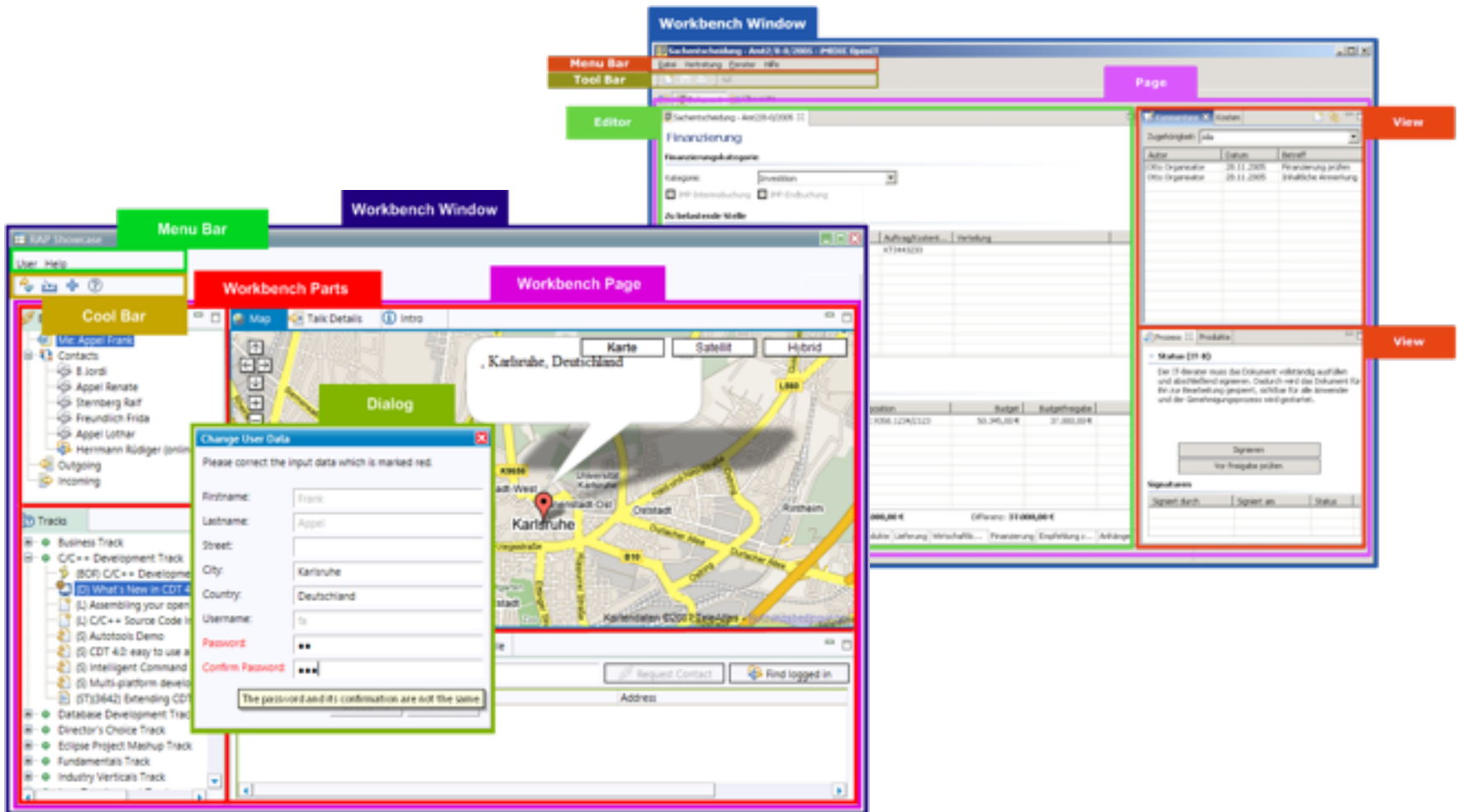
**A Swing/Qt/Cocoa type framework for the web...**



# On the Surface... RCP-ish



# Best of both worlds...



# Theming Possibilities!

The image displays two views of the RAP Demo application. The top view is a browser window showing the application's interface, including a menu bar (File, Window, Help) and a toolbar. The main content area features a pie chart titled "Product Revenue (Best Sellers First)" and a table below it. The bottom view is a desktop application window with a green and orange theme, showing a similar interface with a menu bar (File, Edit, Run, Window, Project, Help) and a toolbar. The main content area also features a pie chart and a table.

**Product Revenue (Best Sellers First)**

Product Name	Total Revenue
1992 Ferrari 300 Spider red	\$276,839.98

**Product Revenue Data (from pie chart):**

Product Category	Revenue (in Millions)
Classic Cars	3.05
Motorcycles	1.12
Planes	0.95
Ships	0.06
Trains	0.19
Trucks and Buses	1.80
Vintage Cars	1.02

# How does it work?

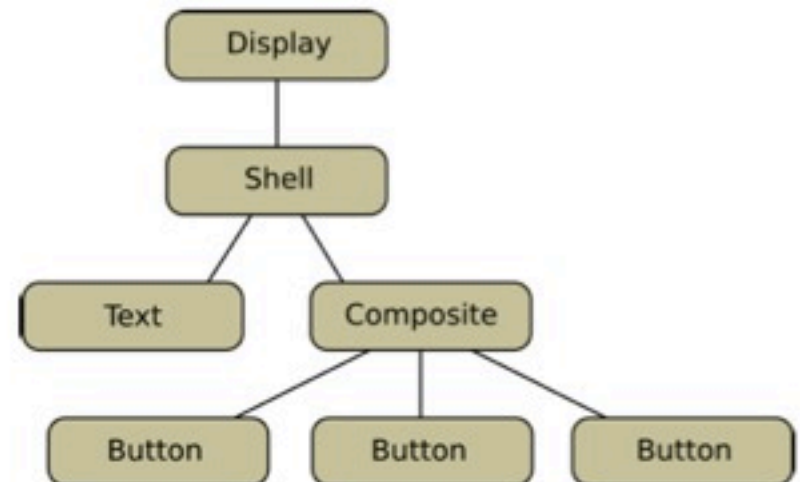
## Client

**Pizza Snippet**

Your order: Salami, Onions

- Salami
- Onions
- Extra Cheese

## Server



# Request Life Cycle

An event triggers a request...

**Pizza Snippet**

Your order: Salami

- Salami
- Onions
- Extra Cheese

`w23.selection = true`



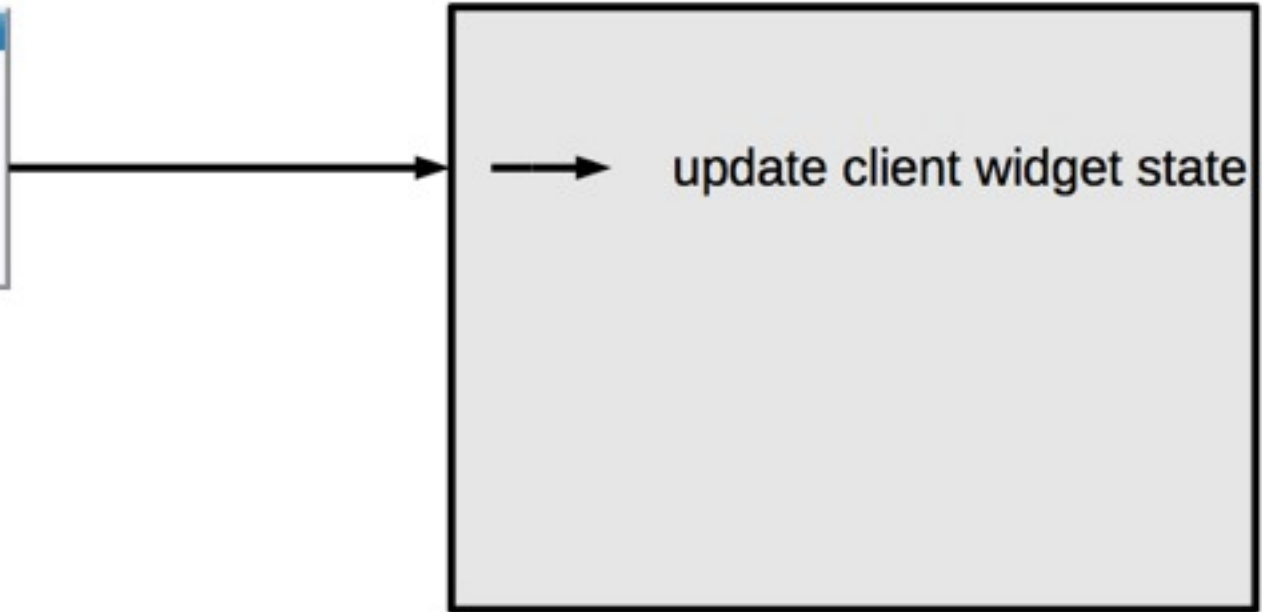
# Request Life Cycle

**Request is processed on the server...**  
**updates server-side widgets...**  
**process events...**  
**generate response...**

**Pizza Snippet**

Your order: Salami

- Salami
- Onions
- Extra Cheese



# Request Life Cycle

**The user interface changes are rendered on the client...**



**Pizza Snippet**

Your order: Salami, Onions

- Salami
- Onions
- Extra Cheese



**Why!!?**

**It's possible!**

**It saves time...**



**...and money!**

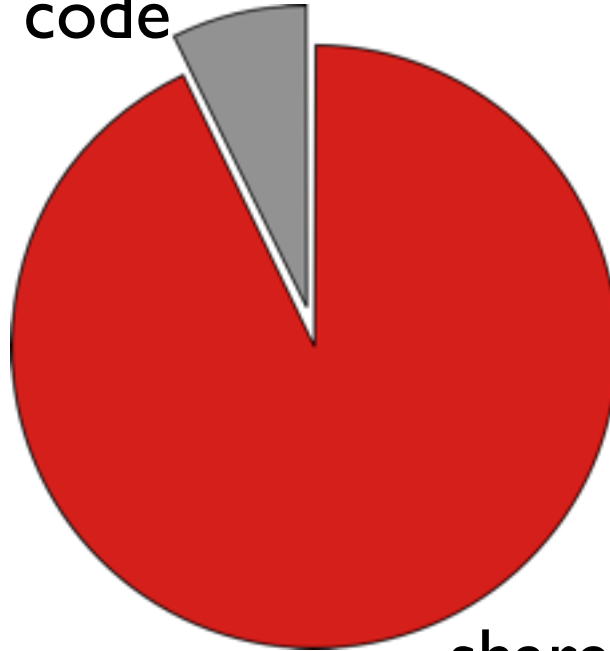


**How much reuse!?**

# Code Reuse

**80%–98%** is possible

platform specific code



shared code

**What about the  
2-20%?**

# RAP Runs in a Browser

File system

GraphicsContext\*

MouseMove\*

File upload

Theming\*



**RCP**



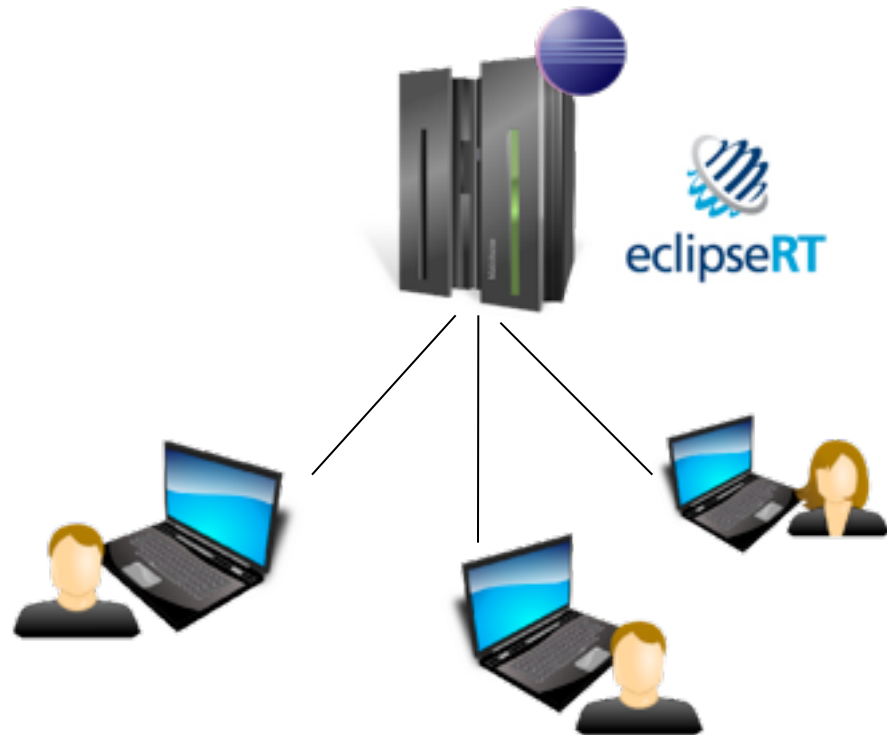
**RAP**



# RAP is Multi-User!

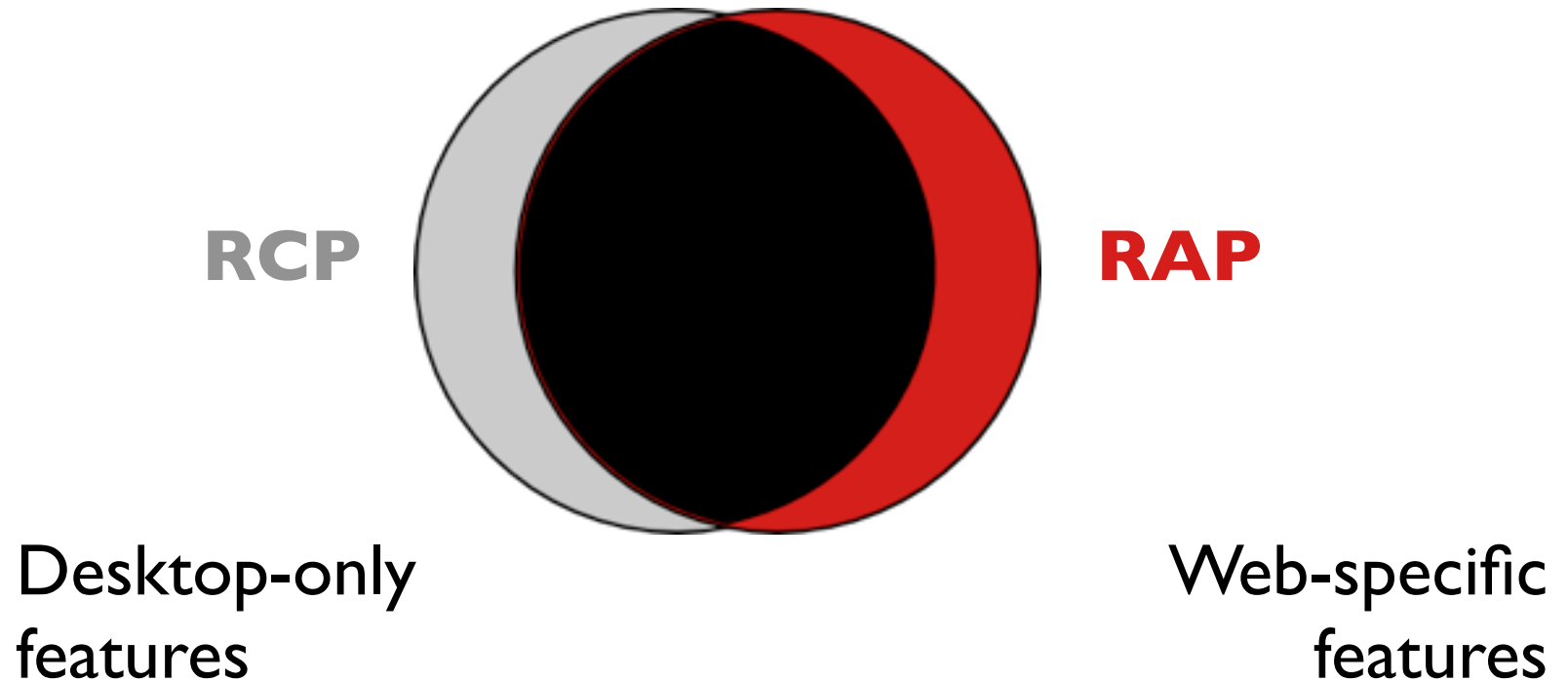


RCP

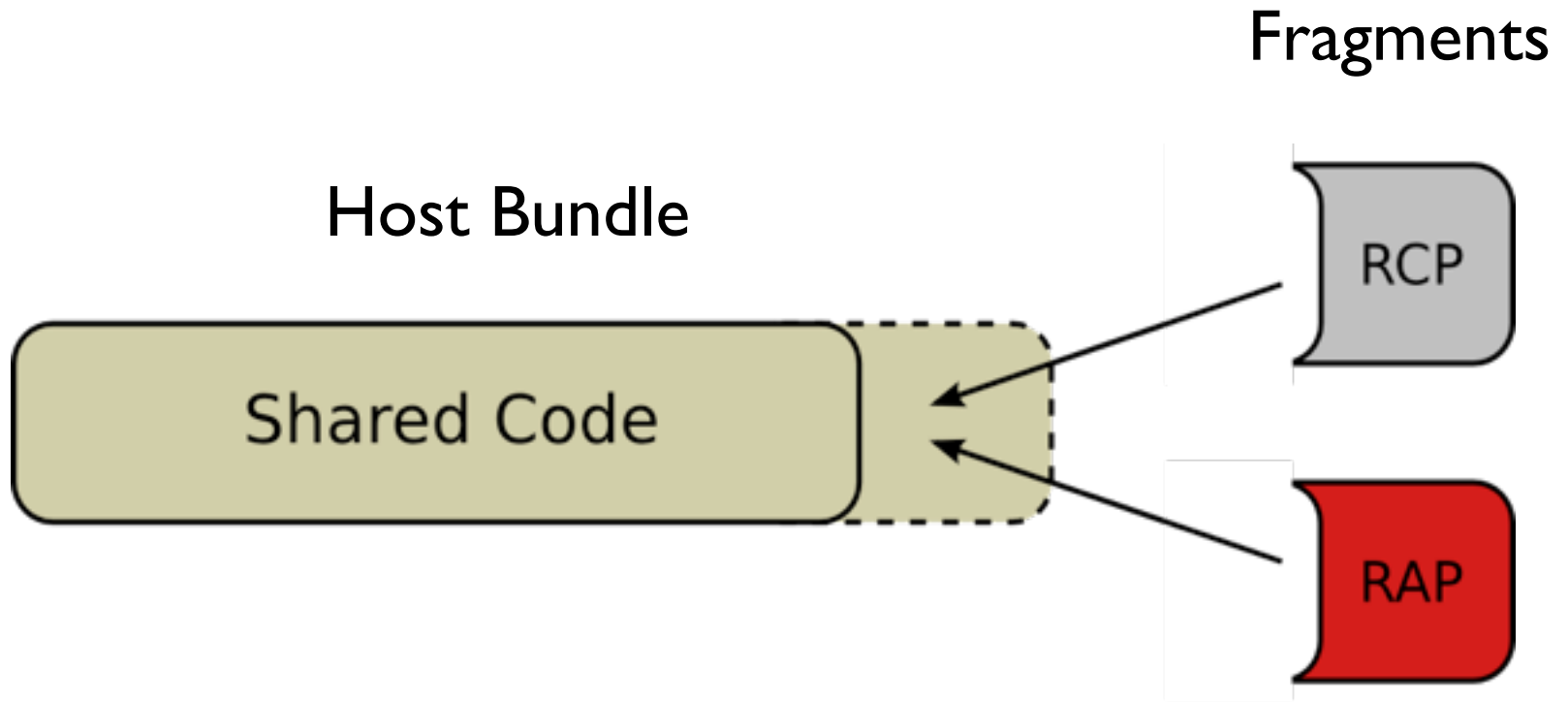


RAP

# API Differences



# SingleSourcing via Fragments





# Handy Tools



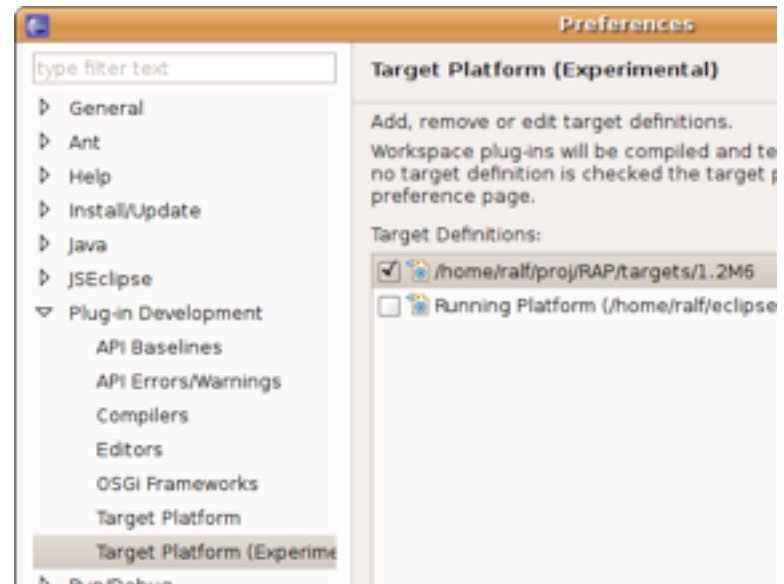
## Eclipse SDK



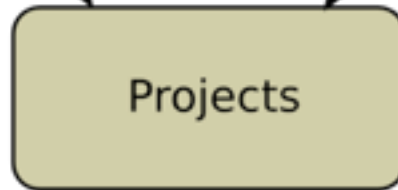
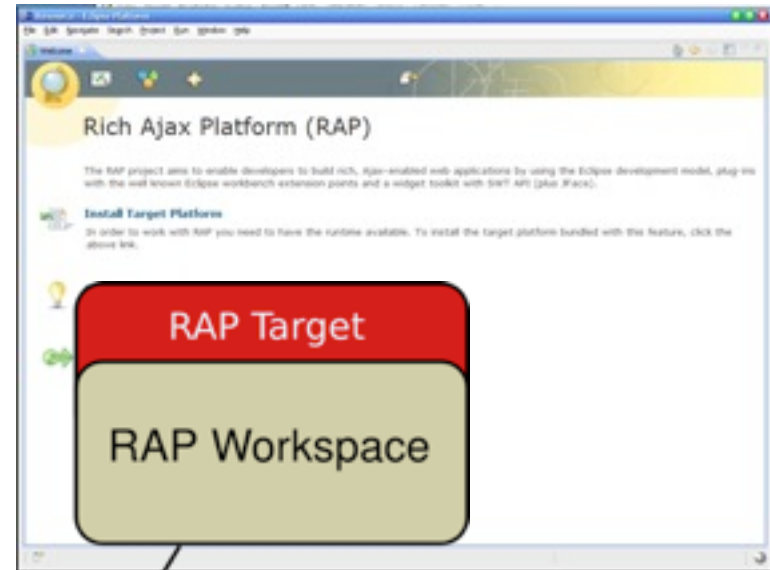
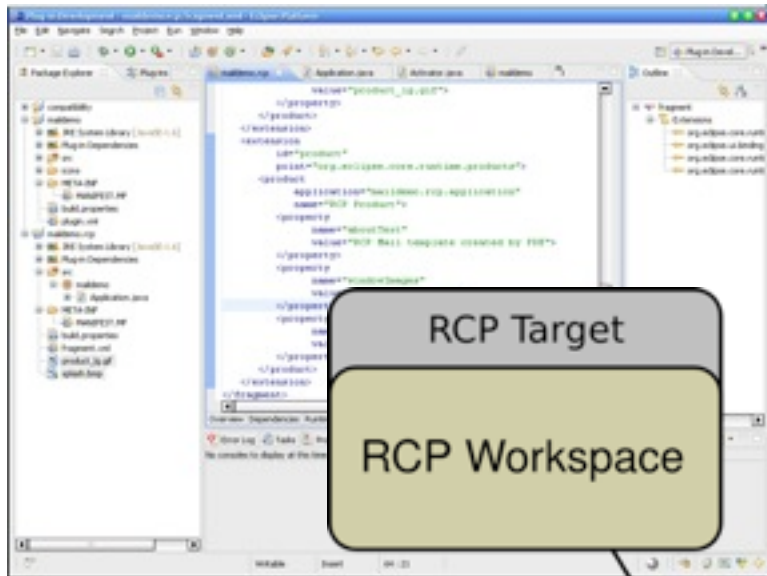
## RAP SDK

includes

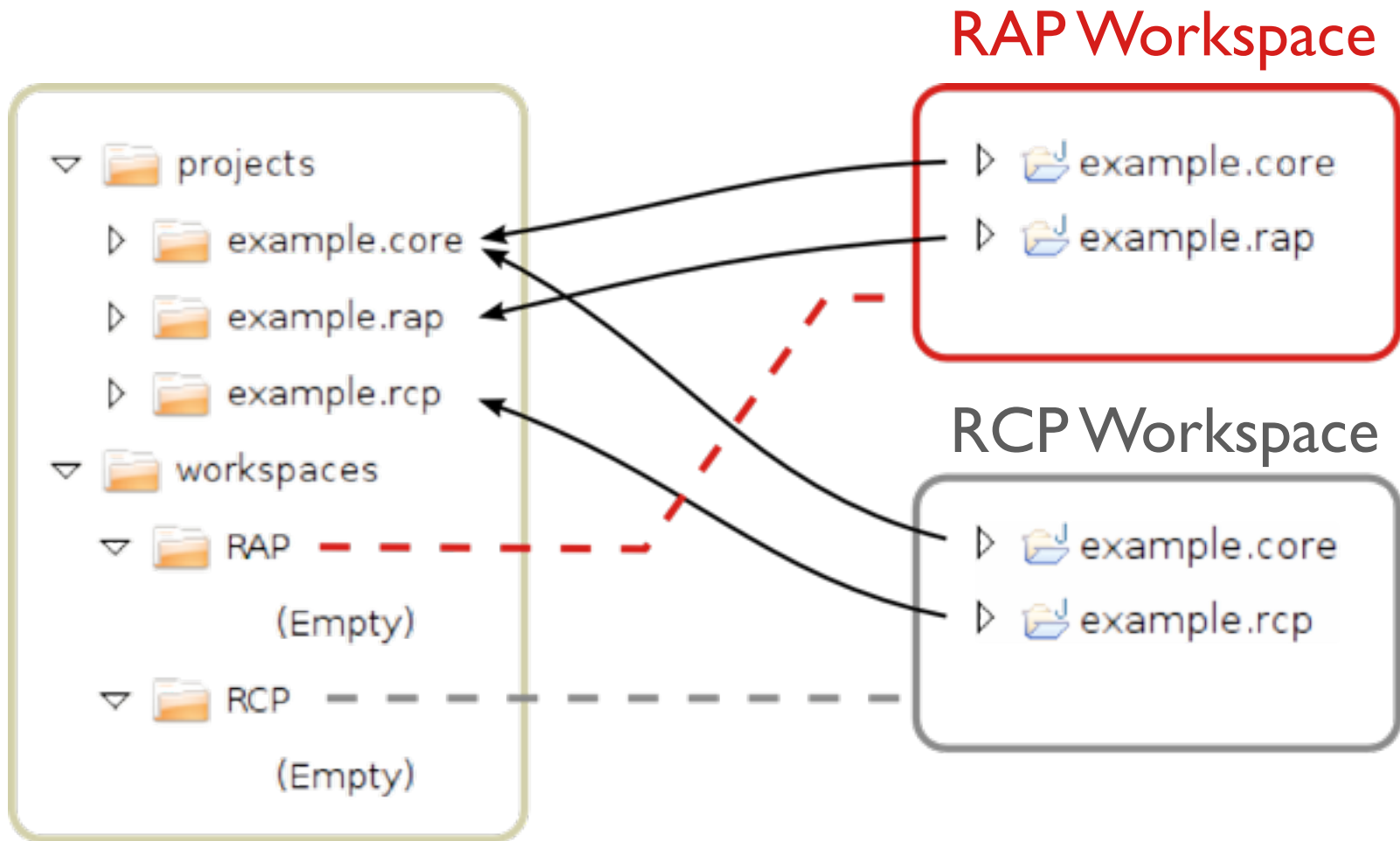
- RAP Runtime
- Tooling
- Help



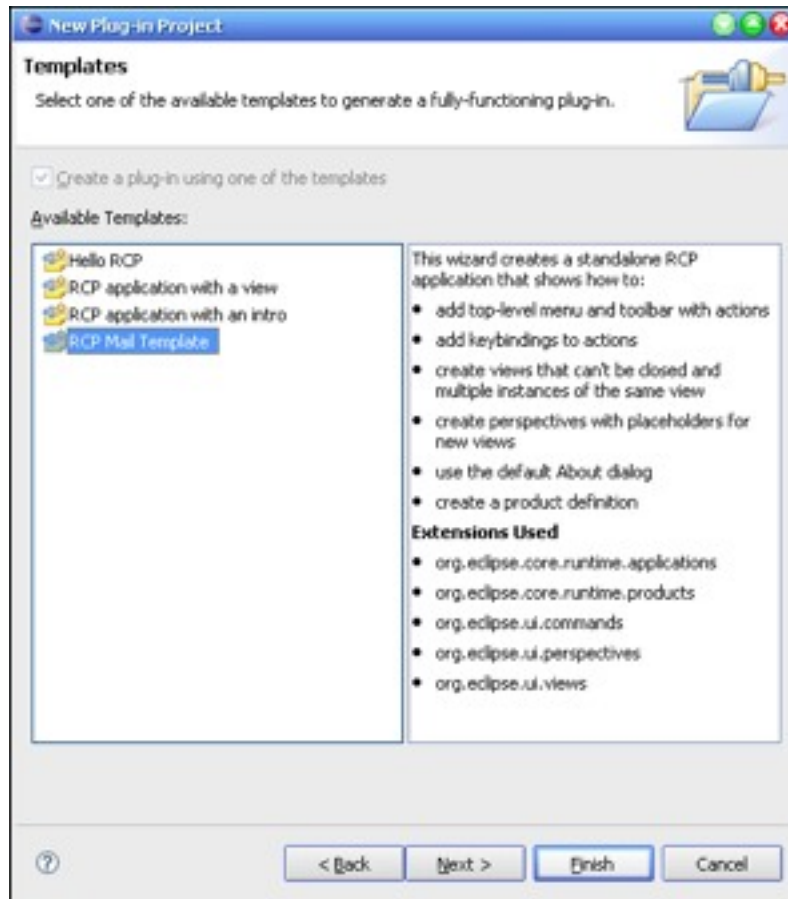
# Workplace



# Shared Projects



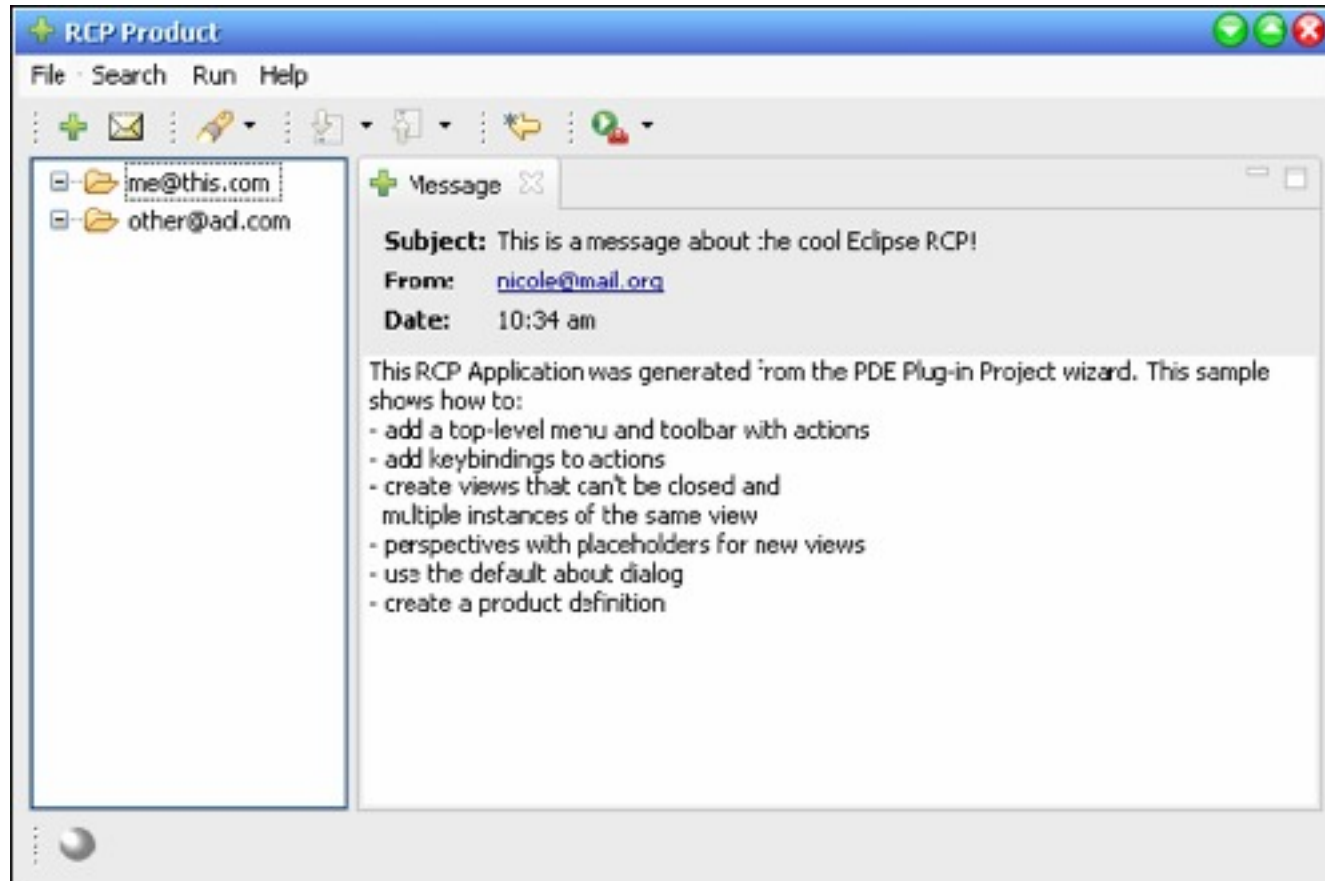
# Example Application



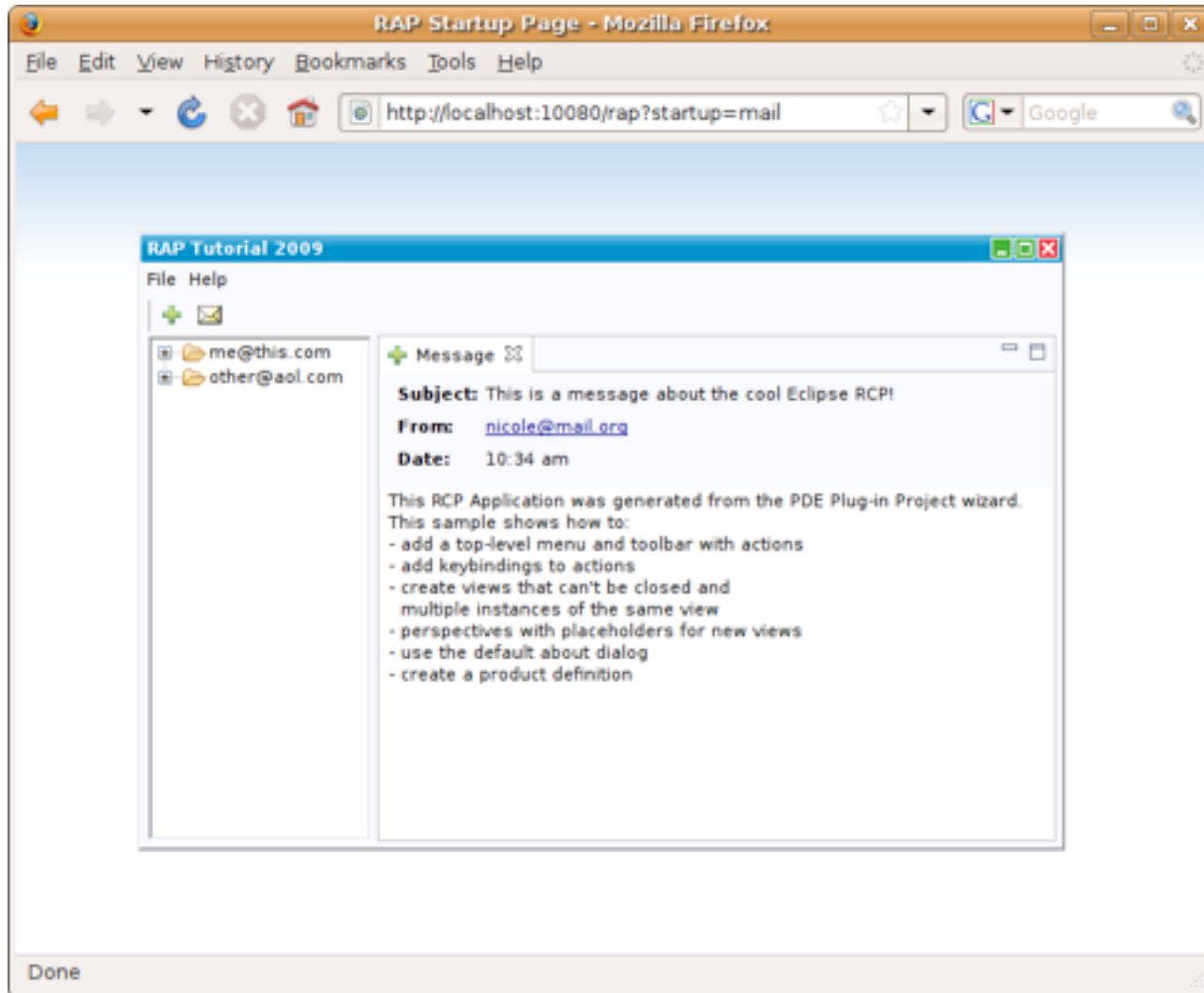
RCP Mail Demo



# Runs immediately...



# Runs in a browser...





# Real World Examples?



# Numiton PHP->Java

The screenshot displays the Numiton Migration Tools web application. The browser address bar shows `http://migrate.numiton.com/`. The page header includes the Numiton logo, a "BETA" badge, and the text "migration tools" and "powered by ntile". A navigation menu on the left lists various categories of code snippets, with "String operations [numiton]" selected. The main content area shows a "Public snippet: String operations - Arrays and Strings [numiton]" with a description: "The PHP sample accesses and sets string characters. The latter has a function value assignment as a correspondent in Java (`strReplaceAt`), since Java strings are immutable." Below the description, the "Input code: PHP" section shows the original PHP code in a text editor:

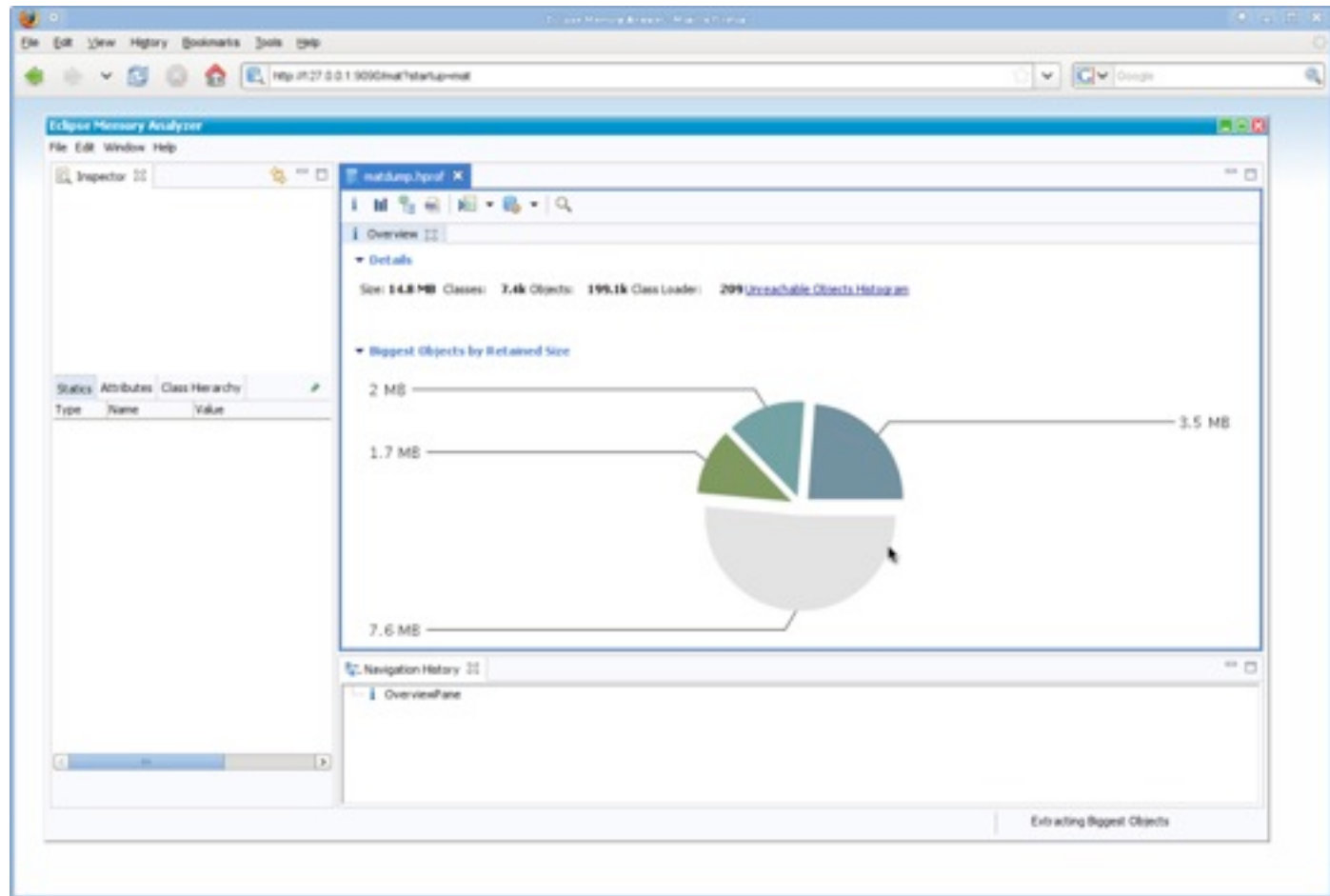
```
1: <?php
2: $a = 'cfr';
3: $a[0] = 'baF';
4:
5: $b = $a;
6: $b[0] = 'a';
7:
8: var_dump( $a);
9: var_dump( $b);
10: ?>
```

A green message states: "The snippet has been successfully migrated. See output files below." Below this, the "Output code: Java with Servlet flavor" section shows the generated Java code in a text editor:

```
1: package example;
2:
3: import java.io.*;
4: import javax.servlet.*;
5: import com.numiton.generic.Ref;
6: import com.numiton.generic.PkgWebEnvironment;
7: import static com.numiton.VarHandling.*;
```

The interface also includes a search bar at the bottom with the text "Find:" and a "Done" button.

# Memory Analyzer I



# Memory Analyzer II

The screenshot displays the Eclipse Memory Analyzer II (MAT) interface. The main window shows a heap dump analysis with a table of objects. A context menu is open over the table, highlighting the 'Merge Shortest Paths to GC Roots' option. The table lists objects with their class names, sizes, and heap statistics.

Class name	Shallow Heap	Retained Heap	Percentage
<Numeric>	<Numeric>	<Numeric>	<Numeric>
75ab7078 org.eclipse.rap.rmt	72	3,701,608	23.81%
56	2,082,192	13.39%	
60c7f50 com.ibm.icu	72	1,754,136	11.28%
32	1,751,938	11.27%	
40	600	0.00%	
y360c87e8	40	456	0.00%
24	192	0.00%	
@ 0x960c88d0	16	136	0.00%
40	88	0.00%	
40	336	0.00%	
16	160	0.00%	
32	136	0.00%	
32	88	0.00%	
72	72	0.00%	
72	72	0.00%	
72	72	0.00%	
64	64	0.00%	
64	64	0.00%	
16	16	0.00%	
Total: 13 entries			

The interface also includes an Inspector on the left showing the selected object's attributes, a Navigation History pane at the bottom, and a context menu with options like 'List objects', 'Show objects by class', 'Path To GC Roots', and 'Merge Shortest Paths to GC Roots'.

# Conclusion

RAP enables reuse  
RAP enables modularity  
Give it a try!



[www.eclipse.org/rap](http://www.eclipse.org/rap)



# Q&A



Thanks for listening!  
Questions!?

[www.eclipsesource.com](http://www.eclipsesource.com)

[www.eclipse.org/rap](http://www.eclipse.org/rap)