Single-Sourcing

RAP and RCP

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Let’s Talk Technology...
Eclipse RCP!
Lotus Notes 8+
Lotus Sametime 7.5+
NASA Maestro
RCP Knowledge
Web 2.0?
*thin clients are back and thicker this time!
Online Presentations?

My Presentation!
Are you paying attention ;)?
Online Photoshop?
Pixlr
Web 2.0 Knowledge
A solution?
single sourcing [ˈsɪŋɡəl sɔːrs]  
Single source publishing, also known as single sourcing, allows the same content to be used in different documents or in various formats.
single sourcing [ˈsɪŋɡl sɔːrɪŋ]

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Impossible?
Exchange the Runtime!
EclipseRT and OSGi

RCP

RAP

equinox

eclipseRT
Layers of RCP
Moving to the web...
RAP Layers

Diagram showing the layered architecture with:
- Application
- Workbench
- JFace
- RWT (Server)
- Servlet Container
- RWT (Client)
- Web Browser
Qooxdoo?

A Swing/Qt/Cocoa type framework for the web...
On the Surface... RCP-ish
Best of both worlds...
Theming Possibilities!
How does it work?

Client

Your order: Salami, Onions
- Salami
- Onions
- Extra Cheese

Server

Display
  - Shell
    - Text
    - Composite
      - Button
      - Button
      - Button
Request Life Cycle

An event triggers a request...

w23.selection = true
Request Life Cycle

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

The user interface changes are rendered on the client...
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!
API Differences

- **RCP**: Desktop-only features
- **RAP**: Web-specific features
SingleSourcing via Fragments

Host Bundle

Shared Code

Fragments

RCP

RAP
Handy Tools

Eclipse SDK

RAP SDK includes
- RAP Runtime
- Tooling
- Help
Workplace
Shared Projects

RAP Workspace

RCP Workspace

projects
  example.core
  example.rap
  example.rcp

workspaces
  RAP
    (Empty)
  RCP
    (Empty)
Example Application

RCP Mail Demo
Runs immediately...

Subject: This is a message about the cool Eclipse RCP!
From: nicole@email.org
Date: 10:34 am

This RCP Application was generated from the PDE Plug-in Project wizard. This sample shows how to:
- add a top-level menu and toolbar with actions
- add keybindings to actions
- create views that can't be closed and
  multiple instances of the same view
- perspectives with placeholders for new views
- use the default about dialog
- create a product definition
Runs in a browser...
Real World Examples?
Numiton PHP->Java

The PHP sample accesses and sets string characters. The latter has a function value assignment as a correspondent in Java (\$s=str_replace(...)), since Java strings are immutable.

```php
<?php
    $a = 'cfr';
    $a[0] = 'fcr';
    $b = $a;
    $b[0] = 'ba';
    var_dump($a);
    var_dump($b);
?>
```

The snippet has been successfully migrated. See output files below.

```java
package example;

import java.io.*;
import javax.servlet.*;
import com.numiton.generic.PhpWebEnvironment;
import static com.numiton.VarHandling.*;
```

Output code: Java with Servlet flavor
Memory Analyzer I
Memory Analyzer II
Conclusion

RAP enables reuse
RAP enables modularity
Give it a try!

www.eclipse.org/rap
Thanks for listening! Questions!?

www.eclipse-source.com
www.eclipse.org/rap