

The Cocoon Portal

A portal solution and framework

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About

- Member of the Apache Software Foundation
- Committer in some Apache Projects
 - Cocoon, Excalibur, Pluto, WSRP4J, Incubator
 - PMC: Cocoon, Incubator, Portals
- Chief Architect of the Competence Center Open Source, S&N AG, Germany
- Article/Book Author, Technical Reviewer
- Member of the JSR 286 spec group (Portlet API 2.0)

Agenda

- Requirements
- Viewpoints
- Real Life examples
- The Cocoon Portal – explained
- Tools
- Wrapup
- Demo



Portal Requirements

- Integration of existing heterogenic systems, data and processes
- Existing (Web) Applications and User repositories must be integrated
- Flexible and efficient architecture that reduces vendor lock-in and allows „DIY“

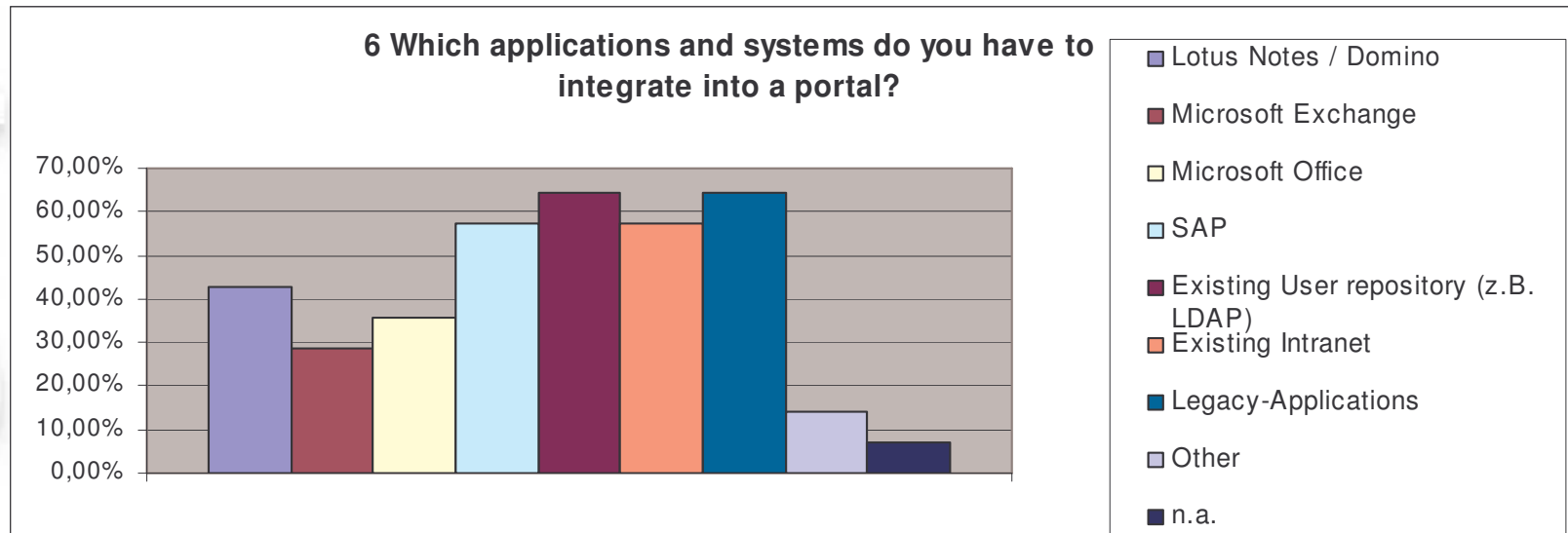


Portal Requirements

- Create a unified look-and-feel over all applications
- Manage user sessions between EAI platform and back-ends
- Build unified navigation
- Create pass-through links
- Create a single sign on solution



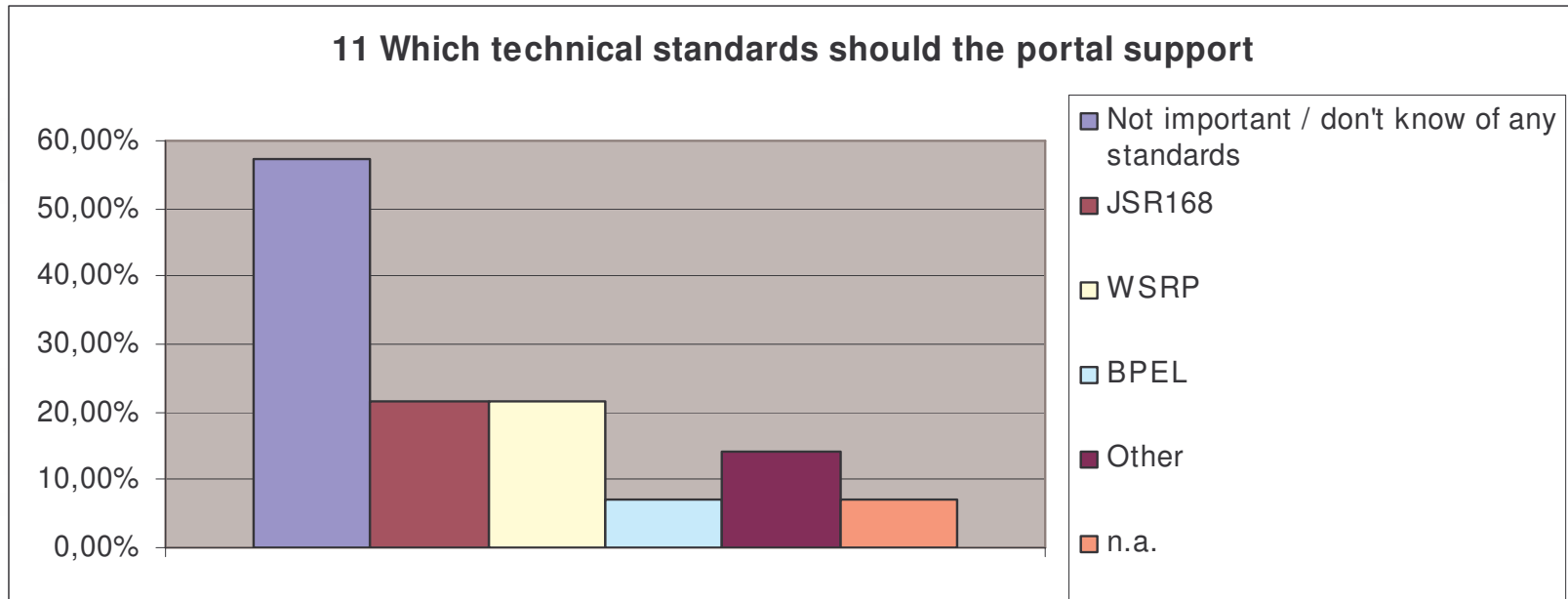
Portal Requirements



Source: S&N poll 2005

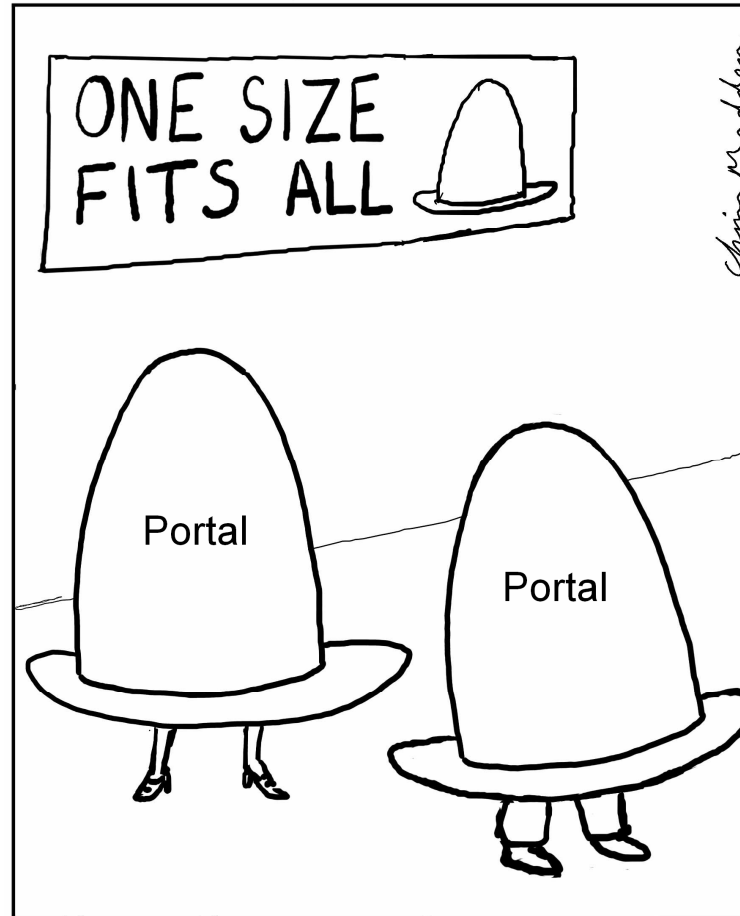


Portal Requirements



Source: S&N poll 2005

Viewpoints: One size?



Viewpoints: Open Source portals

- Meta Group
 - **Portals are also settling into place as infrastructure frameworks rather than standalone applications.**
- AMR Research
 - **"Standardisation will hasten the commoditisation of portal servers, like the application server and database markets before them," "The increasing proliferation of portals and standardisation of the technology should also drive the take-up of open source infrastructure."**
- Gartner
 - **One doesn't buy an uberportal, one builds it. The best portal products for the uberportal are open architected, service-oriented and standards-based.**

Viewpoints: Building on Pareto

- **80% of an Enterprise Portal will become standardized**
 - Data integration: JSR168, JSR170, WSRP, XML/HTTP
 - Process integration: BPEL, JBI
 - User integration: LDAP
 - User viewing: HTML, XHTML, PDF, Office formats, SVG
- **You should be worrying about (and paying for) the 20% that matter**
 - Individual: your legacy system
 - Individual: your specific processes
 - Differentiation to your competitor



Real Life Examples

The screenshot shows the homepage of the ÖAMTC (Österreichischer Automobil-, Motorrad- und Touring Club) website. The header features the ÖAMTC logo, a banner with 'SCHUTZBRIEF' and 'Notrufe 120', and a navigation menu with categories: Club, Auto, Reise, Verkehr, Versicherung, and Recht. Below the navigation, there are links for 'Mitgliedschaft & Schutzbrief', 'Technische Dienste', 'Clubdaten', 'Fahrsicherheit', 'Flugrettung', 'Pannenhilfe', and 'Akademie'.

On the left side, there is a search bar with a 'Suche' label and a '>>' button. Below it, there is a link for '>>erweiterte Suche'. Further down, there is a 'Partnersites' section with logos for 'auto touring' and 'OSK Motor sport'. Below that is a 'Pressebox' section with links for '>> Richtlinie für Fußgänger', '>> Spritpreiserhöhung nicht gerechtfertigt', and '>> ÖAMTC-Ambulanzjet holt Urlauber heim'.

In the center, there is a yellow banner that says 'Ihr Club sagt Danke!' with the ÖAMTC logo and images of a car, a motorcycle, and a road sign. Below this is a 'Kontakte' section with the following information:

- Österreichischer Automobil-, Motorrad- und Touring Club (ÖAMTC)
- Straße: Schuberting 1-3
- PLZ / Ort: 1010 Wien
- Telefon: 0043/1/71199-0
- E-mail: Online-Formular
- Internet-Adresse: <http://www.oeamtc.at>
- Vereinsregisternummer: XIV - 701
- Vereinsregisterbehörde: Bundespolizeidirektion Wien, Vereinsbüro

On the right side, there is a 'Login' section with fields for 'Username' and 'Passwort', and an 'anmelden' button. Below the login fields are links for 'Passwort vergessen', 'Username vergessen', and 'Neu-Anmeldung'. Further down is a 'Shortcuts' section with icons for 'Routenplaner', 'Spritpreise', and 'Verkehrsservice'. At the bottom right, there is a 'Landesvereine' section with a grid of nine regional club logos.



Deutsche Börse

Deutsche Börse Group - XBRL Initiative - Mozilla Firefox

http://xbrl.deutsche-boerse.com/xbrl/list,all,all,0,no,all-de.html?t=18563508

DEUTSCHE BÖRSE GROUP XBRL-Initiative

Überblick weitere Informationen **alle Berichte** Hilfe Förderer der Initiative English Version

Übersicht aller Berichte

Lieferdatum	alle	Quartal	von - bis	Branche	alle	Unternehmen	alle	Ansicht	Download Mehrfachauswahl	Original
01.12.2004		Q3/2004	01.07. bis 30.09.2004	Industrial		Advanced Photonics Technologies AG		HTML	XBRL Excel PDF ERS	
29.09.2004		Q2/2004	01.04. bis 30.06.2004	Industrial		Advanced Photonics Technologies AG		HTML	XBRL Excel PDF ERS	
29.09.2004		Q1/2004	01.01. bis 31.03.2004	Industrial		Advanced Photonics Technologies AG		HTML	XBRL Excel PDF ERS	
14.12.2004		Q3/2004	01.07. bis 30.09.2004	Software		ATOSS Software AG		HTML	XBRL Excel PDF ERS	
15.09.2004		Q2/2004	01.04. bis 30.06.2004	Software		ATOSS Software AG		HTML	XBRL Excel PDF ERS	
15.09.2004		Q1/2004	01.01. bis 31.03.2004	Software		ATOSS Software AG		HTML	XBRL Excel PDF ERS	
15.11.2004		Q3/2004	01.07. bis 30.09.2004	Transportation		Fraport AG		HTML	XBRL Excel PDF ERS	
15.11.2004		Q2/2004	01.04. bis 30.06.2004	Transportation		Fraport AG		HTML	XBRL Excel PDF ERS	
27.08.2004		Q1/2004	01.01. bis 31.03.2004	Transportation		Fraport AG		HTML	XBRL Excel PDF ERS	
11.11.2004		Q3/2004	01.07. bis 30.09.2004	Software		GFT Technologies AG		HTML	XBRL Excel PDF ERS	
01.09.2004		Q2/2004	01.04. bis 30.06.2004	Software		GFT Technologies AG		HTML	XBRL Excel PDF ERS	
31.08.2004		Q1/2004	01.01. bis 31.03.2004	Software		GFT Technologies AG		HTML	XBRL Excel PDF ERS	
25.11.2004		Q3/2004	01.07. bis 30.09.2004	Telecommunication		mobiloam AG		HTML	XBRL Excel PDF ERS	
19.10.2004		Q2/2004	01.04. bis 30.06.2004	Telecommunication		mobiloam AG		HTML	XBRL Excel PDF ERS	
19.10.2004		Q1/2004	01.01. bis 31.03.2004	Telecommunication		mobiloam AG		HTML	XBRL Excel PDF ERS	
13.12.2004		Q3/2004	01.07. bis 30.09.2004	Software		Software AG		HTML	XBRL Excel PDF ERS	
24.09.2004		Q2/2004	01.04. bis 30.06.2004	Software		Software AG		HTML	XBRL Excel PDF ERS	
24.09.2004		Q1/2004	01.01. bis 31.03.2004	Software		Software AG		HTML	XBRL Excel PDF ERS	

[Impressum](#) Die XBRL-Initiative der Deutschen Börse wird gefördert von der DGAP, DVFA, Fraunhofer IPSI, Software AG, S&N AG, XBRL Deutschland und mit Unterstützung von Ernst & Young



Insurance Companies



Why did they choose Cocoon?

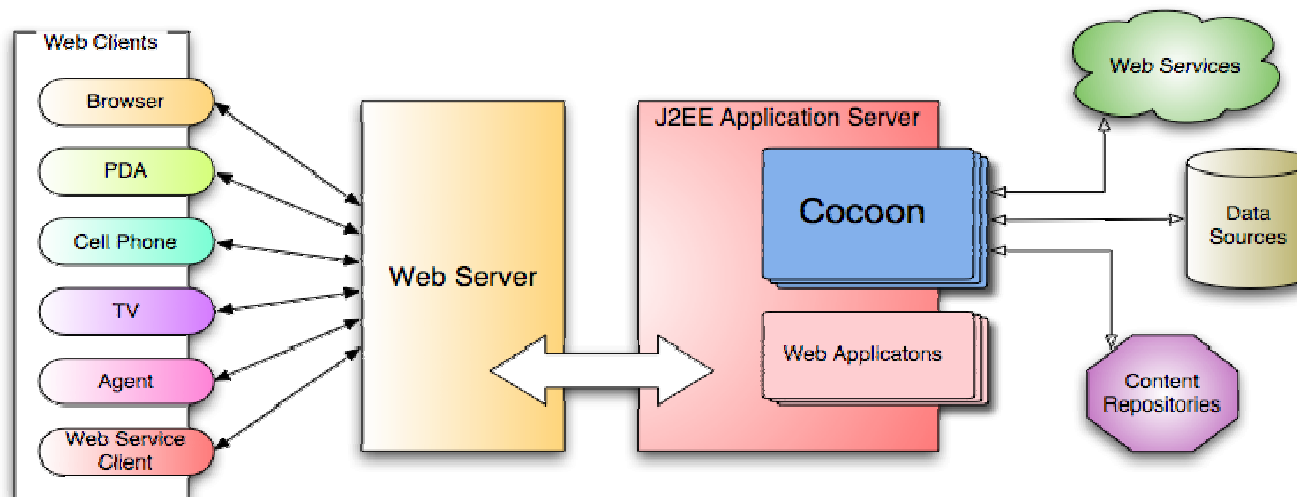
- Cocoon often already used as an XML application platform
- Different heterogenic systems needed integrating
 - E.g. Existing databases or Web applications
- Multi-Channel Publishing
 - Data inside the portal and as PDF or Excel
- Efficient time to market for required functionality
- Java programming skills not a necessity
- Community Support
- Commercial support available
- Cocoon provides a *portal framework*



History

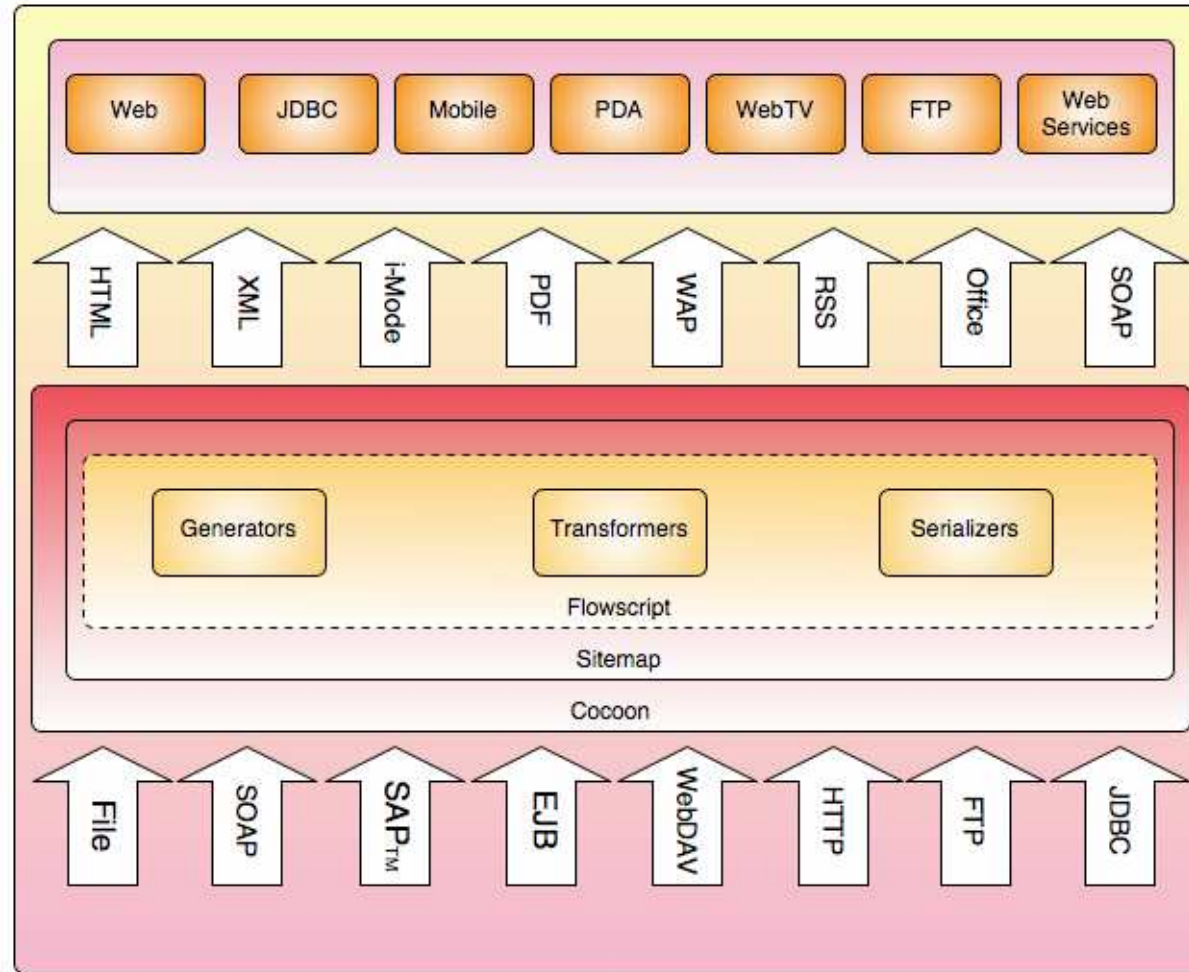
- Started in September 2000
 - Commercial product based on Cocoon developed by S&N
 - Additional components and project specific additions
 - CMS, Tools, documentation, trainings
- Completed in mid 2001
 - sunRise and sunSpot (used in various projects)
- Donated to the Cocoon project in February 2002
 - Used around the world
- Started new Portal Engine in the end of 2002
 - Together with other interested parties
 - The usual advantages
- New portal engine in Cocoon since early 2004
- New Major Version as part of Cocoon 2.2

Cocoon in a picture





..Ok, make that 2



Portal as an integrated solution

- Adopt given strategies
 - Multi-Channel
 - Separation of Concerns
- Use available components
 - Pipelines
 - Data integration
- Use available sub-frameworks
 - Forms
 - Flow



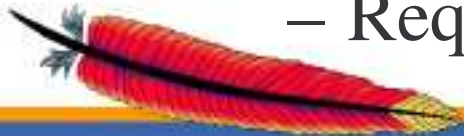
And add

- User-Authentication
 - Integrate LDAP, Database, ... through components and pipelines
 - Add your own via custom components or tweaks
- Flexible profile management
- Flexible layout concept
- Coplet concept
- Support for portal standards

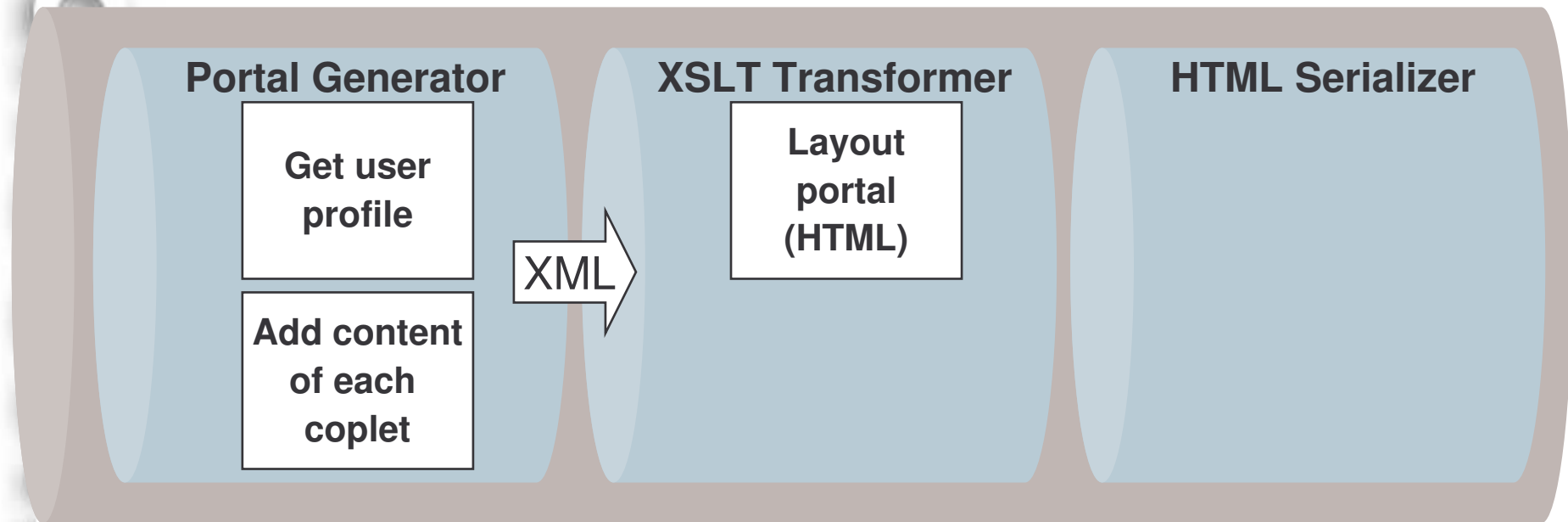


Overview

- Definition and configuration in XML
 - Layout (ordering) separated from content
 - Using existing types
 - Requires no Java coding
- Predefined coplet types
 - More than a portlet
 - Simple usage of Cocoon for delivering content
 - Requires no Java coding



It's a pipeline, Jim



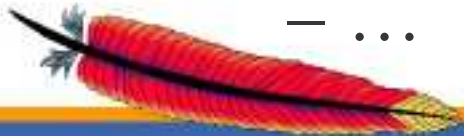
Generating the Portal View

- Getting the Profile
 - Layout
 - User preferences
- Rendering the View
 - Drawing the layout
- Aggregating Content
 - Include content of selected coplets



Profile Management

- Hierarchical Portal profiles possible for
 - Anonymous
 - Roles/Groups
 - Users
- Profiles stored (via a pipeline) in
 - File
 - Database
 - ...



Defining The Portal Layout

- Hierarchical Tree of
 - Composite Layout Objects
 - Row, Column
 - Tab
 - ...
 - Single Layout Objects
 - Coplet Window
 - Frame, Link
 - ...
 - Deep nesting possible!



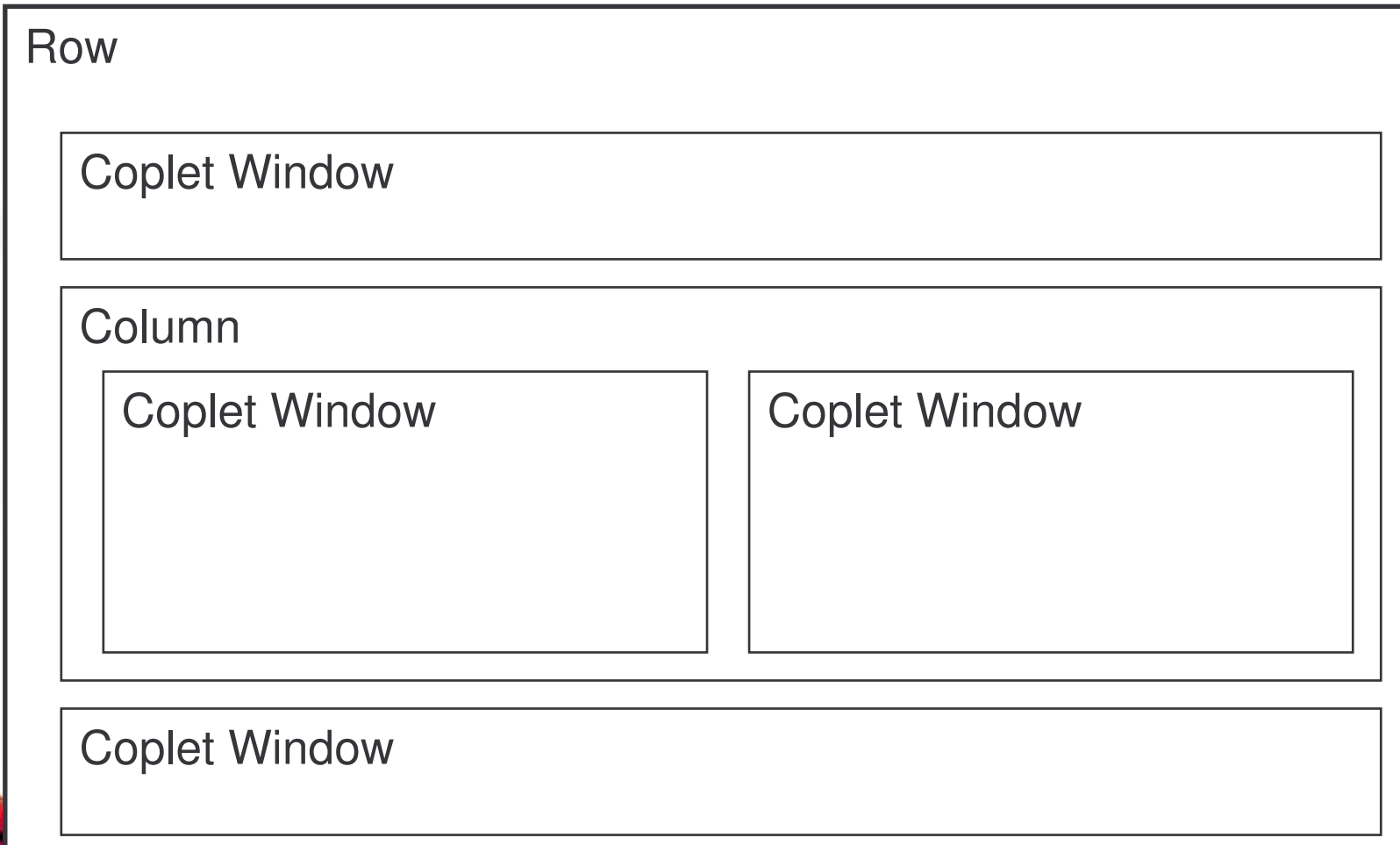
Layout Management

The screenshot displays the Cocoon Portal website with a dark blue header and navigation tabs. The main content area is divided into several portlets:

- Introduction:** Titled "The Cocoon Portal", it provides a brief overview of the Cocoon Portal Engine and its use of coplets (Cocoon Portlets).
- Left Demo:** Titled "Flexible Layout", it explains how users can define portal layouts using rows, columns, and nested elements.
- Right Demo:** Titled "Customization", it describes how the portal engine is built with Avalon components and can be customized.
- Portal Bottom Demo:** Titled "Further Information", it directs users to Cocoon documentation and other portal demos.



Layout Management



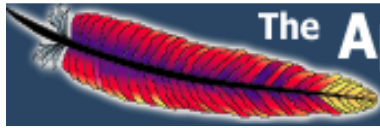
Layout Management

```
<composite-layout name="row">
  <item>
    <coplet-layout name="coplet">
      <coplet-instance>First</coplet-instance>
    </coplet-layout>
  </item>
  <item>
    <composite-layout name="column">
      <item>
        <coplet-layout name="coplet">
          <coplet-instance>Left</coplet-instance>
        </coplet-layout>
      </item>
      <item>
        <coplet-layout name="coplet">
          <coplet-instance>Right</coplet-instance>
        </coplet-layout>
      </item>
    </composite-layout>
  </item>
  <item>
    <coplet-layout name="coplet">
      <coplet-instance>Bottom</coplet-instance>
    </coplet-layout>
  </item>
</composite-layout>
```

Rendering The Portal Layout

- Configured renderer for each layout component
 - Individual XSLT stylesheets
 - Or plug in a Java class
 - Generate: XML, HTML, WML, ...
 - Renderers traverse the tree
- Placeholder for each coplet
 - Filled with content in a separate step





Integrating content



JSR 168

- Java API (based on J2EE 1.3)
 - Portlet Development
 - User Preferences
 - Localization
- Similar to Servlet API
 - Request-Response Cycle
 - Own Deployment Descriptor
- Portlet Container extends Servlet Container
 - Servlet Specification 2.3
 - **Not** covered in the JSR
- Reference Implementation: Apache Pluto



WSRP – Web Services for Remote Portlets

- A standard for interactive, presentation-oriented web services
 - not tied to a programming language
 - publishing and consuming of content
- Sharing of portlets (markup fragments) over the internet with a common interface
- JSR 168 portlets run in the Portal Server – WSRP portlets run on a different server



What's this coplet thing?

- A coplet is so much more than a portlet ☺
 - A URI
 - A Pipeline
 - A JSR-168 portlet
 - Including support for Portals Bridges (Struts, JSF...)
 - WSRP consumer
 - Your own Java Class



What's this coplet thing?

- Definition of coplets ($\hat{=}$ classes)
 - Unique id
 - Required type
 - Configuration

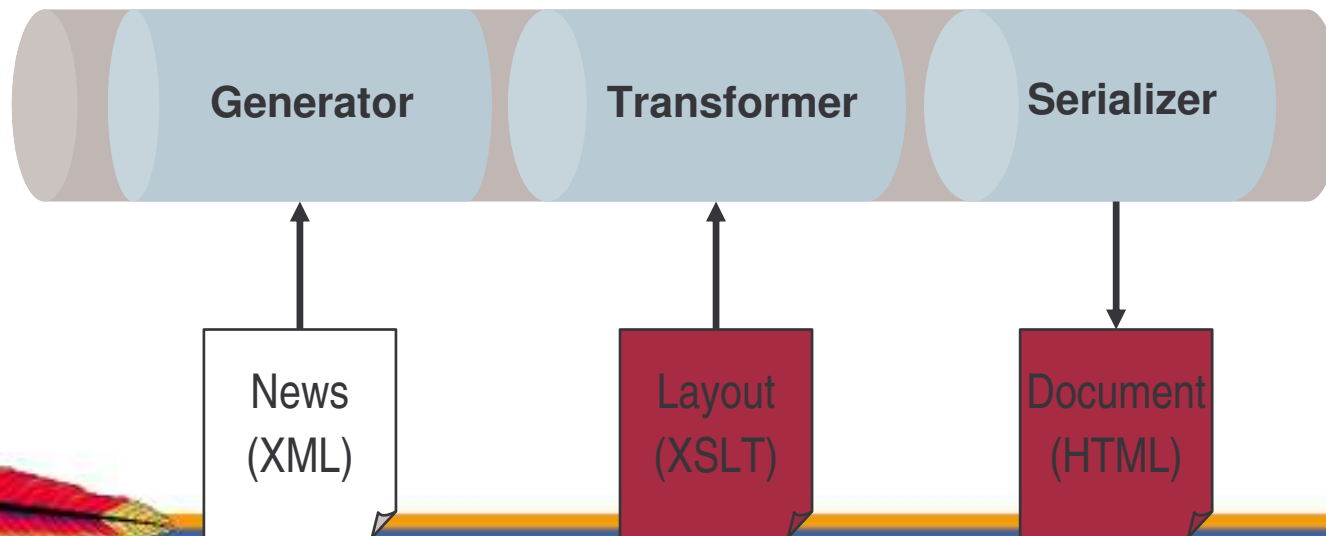
```

<coplet-definition id="CZ Weblog">
  <title>CZ's Weblog</title>
  <coplet-type>URICoplet</coplet-type>
  <uri>cocoon:/pipelines/portal/weblog</uri>
</coplet-definition>
    
```

ID
 Type
 Optional Configuration

A Pipeline is a pipeline is a ...

- Reads news from RSS feed
 - Example: <http://radio.weblogs.com/0107211/rss.xml>
- Transforms news to HTML
- Uses a simple Cocoon pipeline



It's all the same to the user

Apache Cocoon

Static Coplet
XML File

Role Dependent Coplet
Pipeline: XML + XSLT

Dynamic RSS Coplet
Pipeline: Remote XML
XSLT

Dynamic Portlet
using JSR 168

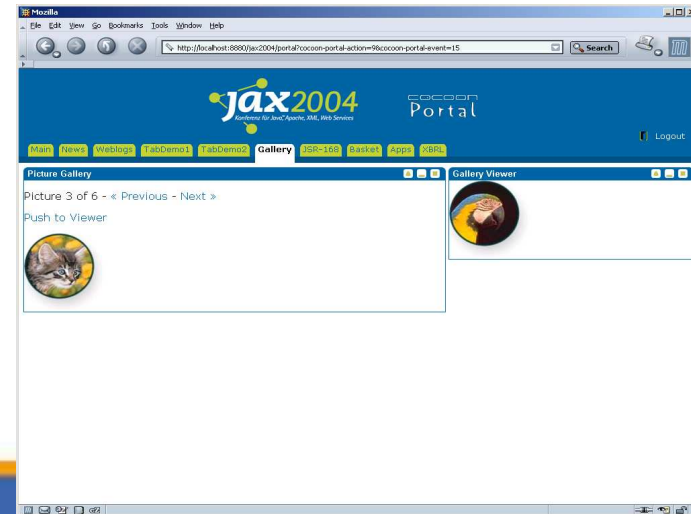
Static Coplet
Own Java Class

The screenshot shows a web browser window displaying the 'Cocoon Portal'. The page is divided into several sections: a left sidebar with navigation links (Welcome, Personalize, Customize, Information, Logout), a central 'Administration' section with links like 'User Management' and 'Portal Management', a 'My News' section with a 'Newsfeed' dropdown set to 'USA' and a 'Change' button, and a 'Germany News' section with multiple news items. A 'Feedback' section is at the bottom right. Callout boxes are overlaid on the image, pointing to specific parts of the page: 'Static Coplet XML File' points to the sidebar; 'Role Dependent Coplet Pipeline: XML + XSLT' points to the 'Administration' section; 'Dynamic RSS Coplet Pipeline: Remote XML XSLT' points to the 'Germany News' section; 'Dynamic Portlet using JSR 168' points to the 'S&N News' section; and 'Static Coplet Own Java Class' points to the 'Feedback' section.

Coplet communication

- Very powerful Publish/Subscribe mechanism
- Action in one portlet affects other parts
- Display content in another area of the portal
- Dynamically add portlets
- Programmatically switch status/view

– e.g. Workplace

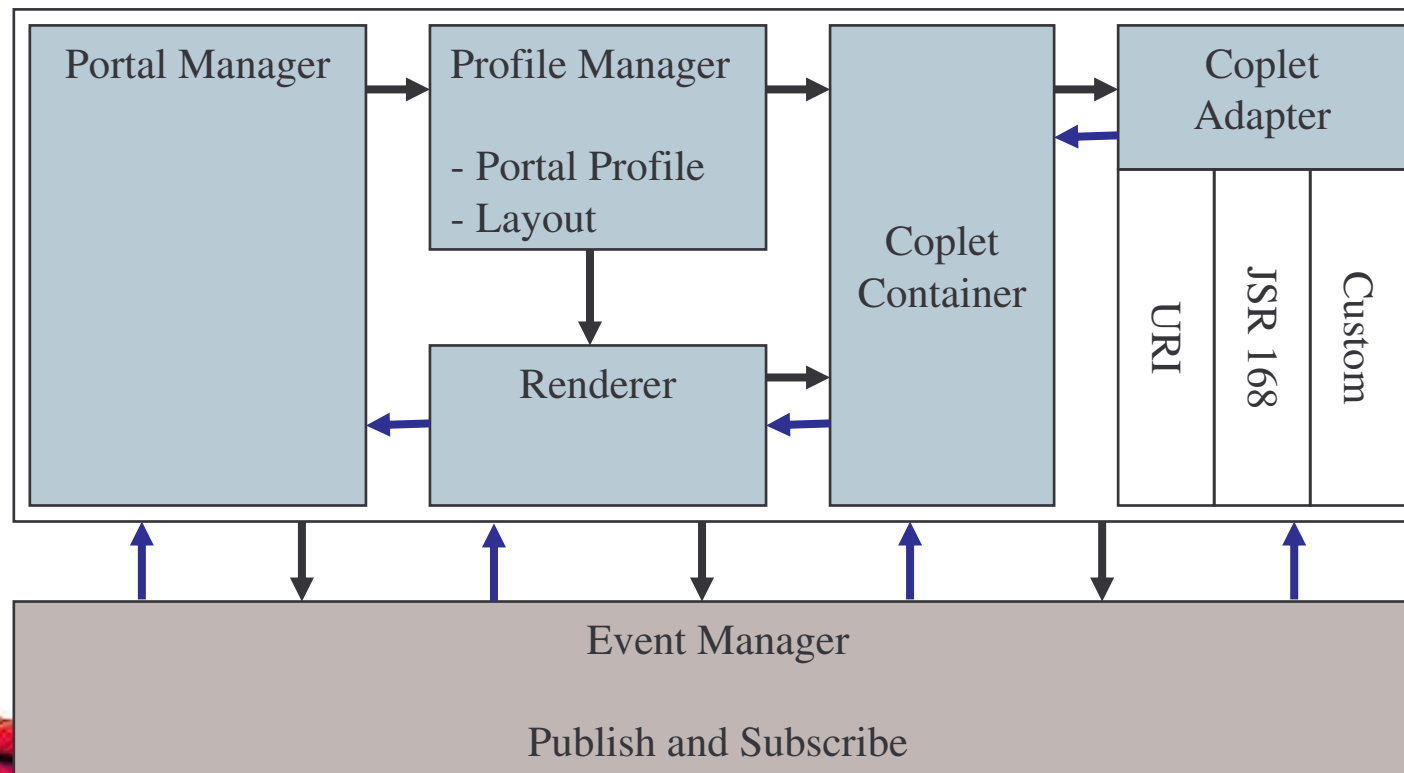
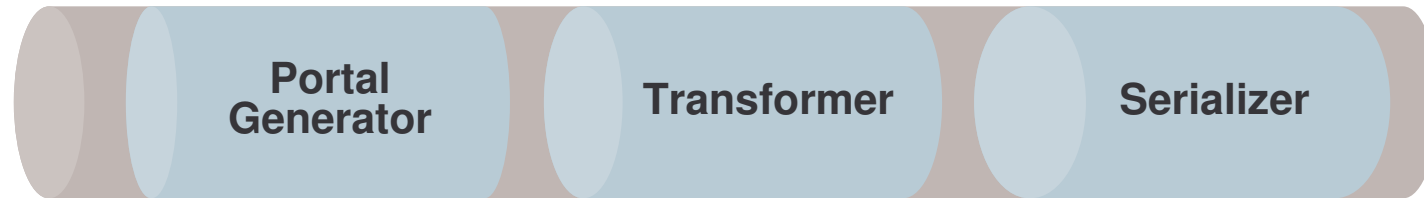


More Portal goodies

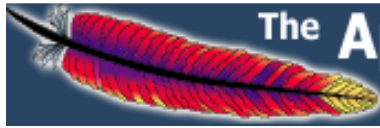
- Profile can be changed at runtime
 - Using events
 - Example: "Important" coplet changes position
- Layout engine can be used without additional Portal functionality
- Existing Cocoon applications can be integrated with no change
- Portals Bridges (JSF/Struts portlets)



Technology Roundup



ApacheCon



The Apache Cocoon Project

<http://cocoon.apache.org/>

COCOOON

Real Life II



US 2006

Portal Example at RZB/RIZ

- Raiffeisen Zentralbank Österreich (RZB)
- Raiffeisen Informatik Zentrum (RIZ)
- Worked jointly with S&N AG, BASF-IT Services to design and build the new Cocoon Portal version
- Cocoon Portal is the core of a new concept for employee workspace



Portal Example at RZB/RIZ

- Employee Workspace
 - Single view on existing Web applications with unified look and feel
 - Integration of additional utility applications (e.g. Google)
 - Integration of application navigation into portal
 - No changes to the underlying applications
 - Allow access to the same application in parallel – while maintaining state (e.g. Customer care application)

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Integration Applications

Distant Application directly

RISF Documentation - Raiffeisen Services Framework Dokumentation - Microsoft Internet Explorer

Address: <http://rzbax14.risfdocumentation.html>

RIZ IT 4 U
Raiffeisen Informatik Zentrum GmbH

Last published: 09 October 2003

Overview

- Home
- Setup
- Problems
- Documentation
- Test Director
- Maven Goals

Java Projects

- RSF
- RSFPresentation
- RSFJMS
- RSFSecurity
- RSFWSIFProvider
- RSFWorkflow
- RSFTest

Project Documentation

- Front Page
- Project Info
- Project Reports
- Development Process

Raiffeisen Services Framework Dokumentation

Module	Type	Document .doc
Spezifikation	Konzept	RSF_Spezifikation.htm
Gesamtdokument	technical Documentation	RSFGesamtdokument.htm

Basisservices

Name	tech. Doku	xsd	wsdl	Konfig. in
Authentication Service	MS_Word HTML	.xsd	.wsdl	rsfconfig.xml
Authorisation Service	MS_Word HTML	.xsd	.wsdl	rsfconfig.xml
Caching Service	MS_Word HTML	n/a	n/a	rsfconfig.xml bei zu cachendem Service
Logging Service	MS_Word HTML	n/a	n/a	n/a
Mailing Service	MS_Word HTML	.xsd	.wsdl	rsfconfig.xml
Resource Service	MS_Word HTML	.xsd (config)	.wsdl	rsfconfig.xml
Storage Service				rsfconfig.xml



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Integrating Applications

Integrated Applications: Schreibbisch | RSF | Baupapieren | RVWeb | Elba | Google | IBAN

Raiffeisen Services Framework Dokumentation Gesamtkonzept

Module	Type	Document html	Document doc
Spezifikation	Konzept	RSF_Spezifikation.htm	RSF_Spezifikation.doc
Gesamtdokument	technical Dokumentation	RSFGesamtdokument.htm	RSFGesamtdokument.doc

Basisservices

Name	tech. Doku	xsd	wsdl	Konfig. in
Authentication Service	MS_Word HTML	.xsd	.wsdl	rsfconfig.xml
Authorisation Service	MS_Word HTML	.xsd	.wsdl	rsfconfig.xml
Caching Service	MS_Word HTML	n/a	n/a	rsfconfig.xml bei zu cachendem Service
Logging Service	MS_Word HTML	n/a	n/a	n/a
Mailing Service	MS_Word HTML	.xsd	.wsdl	rsfconfig.xml
Resource Service	MS_Word HTML	.xsd .xsd (confia)	.wsdl	rsfconfig.xml

Integrating Applications

RIZ IT4U
Raiffeisen Informationssysteme GmbH

Stand published: 09. Oktober 2003

Navigation

- Home
- Setup
- Probleme
- Documentation
- Test Director
- News Desk

Java Projects

- ASF
- RSPresentation
- RSPMS
- RSPSecurity
- RSPWSPProvider
- RSPWorkFlow
- RSPTest

Project Documentation

- Home Page
- Project Info
- Project Reports
- Development Process

Module	Type	Document.html	Document.doc
Spezifikation	Konzept	RSE_Spezifikation.htm	RSE_Spezifikation.doc
Gesamtdokument	technical Documentation	RSE_Gesamtdokument.htm	RSE_Gesamtdokument.doc

Name	tech. Doku	xsd	wscdl	Konfig. in
Authentication Service	MS Word HTML	xsd	wscdl	rsrkrndg.xml
Authorization Service	MS Word HTML	xsd	wscdl	rsrkrndg.xml
Caching Service	MS Word HTML	n/a	n/a	rsrkrndg.xml
Logging Service	MS Word HTML	n/a	n/a	rsrkrndg.xml
Mailing Service	MS Word HTML	xsd	wscdl	rsrkrndg.xml
Resource Service	MS Word HTML	xsd	xsd Konfig.	rsrkrndg.xml
Storage Service	MS Word HTML	xsd	wscdl	rsrkrndg.xml

integrated applications

aggregated menu

RZB Demo Portal

Integrated Applications: [RZB Demo Portal](#) | [RSP](#) | [RSPresentation](#) | [RSPMS](#) | [RSPSecurity](#) | [RSPWSPProvider](#) | [RSPWorkFlow](#) | [RSPTest](#)

Raiffeisen Services Framework Dokumentation

Gesamtkonzept

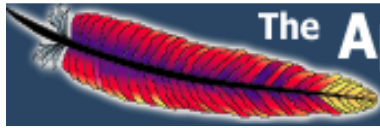
Module	Type	Document.html	Document.doc
Spezifikation	Konzept	RSE_Spezifikation.htm	RSE_Spezifikation.doc
Gesamtdokument	technical Documentation	RSE_Gesamtdokument.htm	RSE_Gesamtdokument.doc

Basisservices

Name	tech. Doku	xsd	wscdl	Konfig. in
Authentication Service	MS Word HTML	xsd	wscdl	rsrkrndg.xml
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Mailing Service	MS Word HTML	xsd	wscdl	rsrkrndg.xml
Resource Service	MS Word HTML	xsd	xsd Konfig.	rsrkrndg.xml
Storage Service	MS Word HTML	xsd	wscdl	rsrkrndg.xml



ApacheCon



The Apache Cocoon Project

<http://cocoon.apache.org/>

COCOOON

Let's get portalized with Cocoon



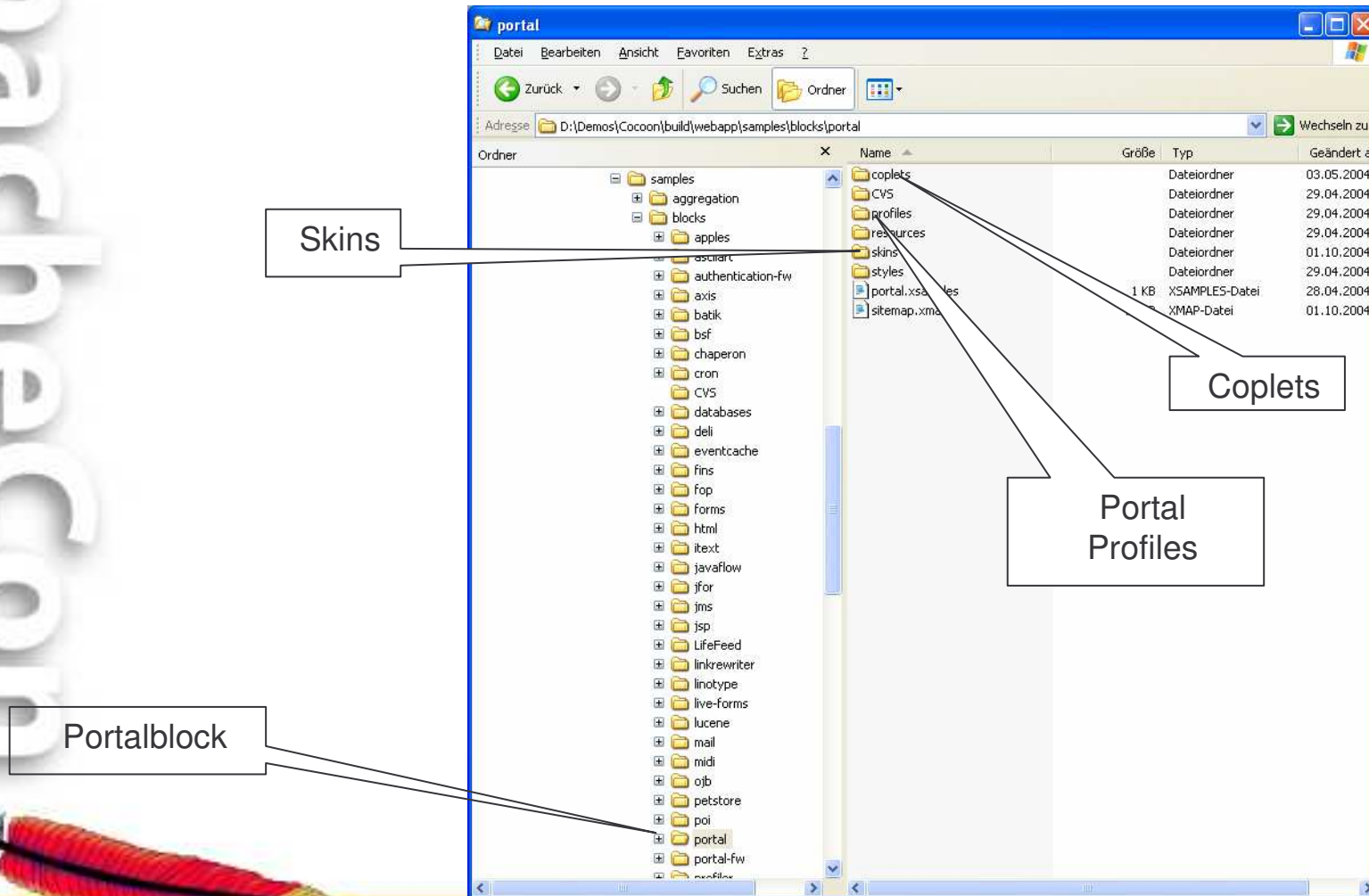
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Let's get Portalized

- Get Cocoon 2.2 with the portal block
 - cocoon.apache.org
- Complete portal solution **demo** contained in the “blocks”



Let's get Portalized - files

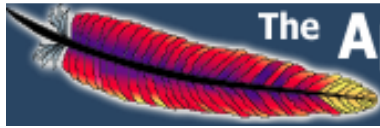


The Future

- The Cocoon Portal is still growing (in 2.2)
 - WSRP consumer support has been added
 - Portals Bridges support has been added
 - New additional components
 - Hot (un)deployment of portlets has been added
 - AJAX support has started
 - Offline-mode support has started
 - Simplified Configuration
 - Spring Integration
 - Better exchange with other Apache portals project
 - There will be even more with Cocoon 2.2 ☺



ApacheCon



The Apache Cocoon Project

<http://cocoon.apache.org/>

COCOOON

Thanks for your attention!



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