



e(fx)clipse – JavaFX Tooling and Runtime

Tom Schindl – BestSolution Systemhaus GmbH

JavaOne October 2012

(c) Tom Schindl – BestSolution Systemhaus GmbH

About Tom

- ❖ CTO BestSolution Systemhaus GmbH
- ❖ Eclipse Committer
 - ❖ e4
 - ❖ Platform UI
 - ❖ EMF
- ❖ Main developer of e(fx)clipse
- ❖ Twitter: @tomsontom



About e(fx)clipse

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- ❖ Opensource project lead by BestSolution.at

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- ❖ Commercial Support: www.bestsolution.at

Take away from talk

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- ❖ It's not only Netbeans that provides JavaFX tooling

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- ❖ JavaFX 2 is a great new technology for UI applications
- ❖ It's not only Netbeans that provides JavaFX tooling
- ❖ Most Eclipse technologies are not bound to SWT at all

2 faces of e(fx)clipse

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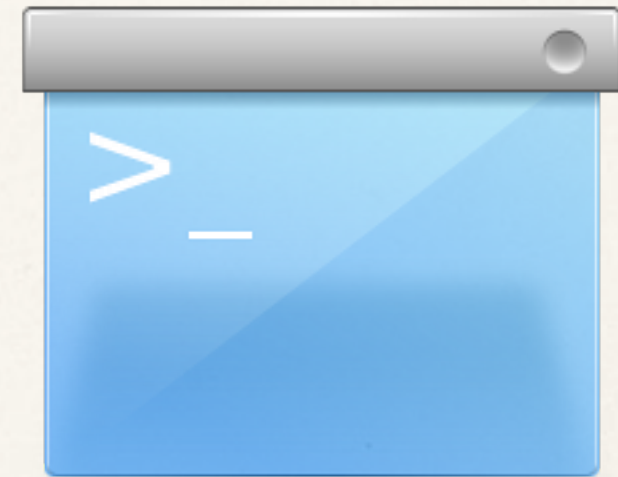


Tooling

2 faces of e(fx)clipse



Tooling



Runtime

e(fx)clipse - Tooling

Basic-Tooling



e(fx)clipse - Tooling

Basic-Tooling

- ✧ Java
 - ✧ Classpath-Container for JDT
 - ✧ Bootstrap Wizards



e(fx)clipse - Tooling

Basic-Tooling



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- ✧ CSS
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 - ✧ Customized WST-XML-Editor

e(fx)clipse - Tooling

Basic-Tooling



- * Java
 - * Classpath-Container for JDT
 - * Bootstrap Wizards
- * CSS
 - * Custom written CSS-Editor
- * FXML
 - * Customized WST-XML-Editor
- * Export
 - * Support for fx-ant tasks

e(fx)clipse - Tooling

Basic Tooling Demo

- ✧ Create application
- ✧ Create and edit FXML
- ✧ Connect to controller
- ✧ Edit CSS-Stylesheet
- ✧ Export application

About e(fx)clipse

Advanced-Tooling



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- ✧ FXGraph
 - ✧ JSON like Language that „compiles“ to FXML

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Advanced-Tooling



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 - ✧ Wizards
- ✧ SVG
 - ✧ Converter for SVG to FXML

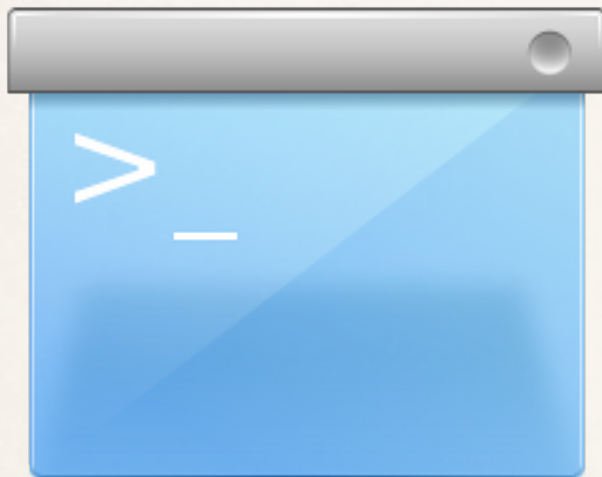
e(fx)clipse - Tooling

Advanced Tooling Demo

- ❖ Create an FXGraph-File
- ❖ Connect to a controller
- ❖ Convert a SVG-File

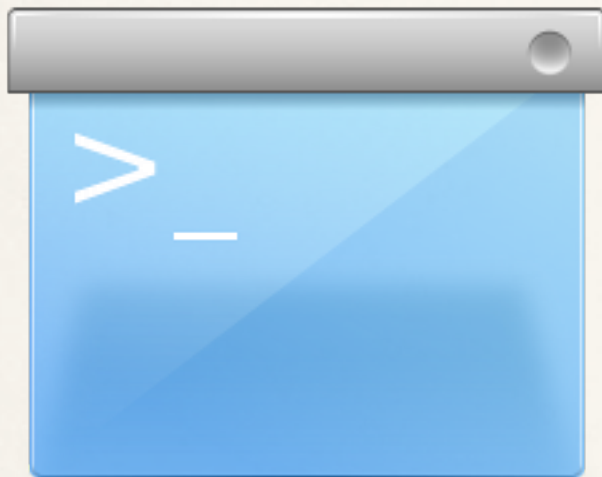
e(fx)clipse - Runtime

Basic-Runtime



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Basic-Runtime

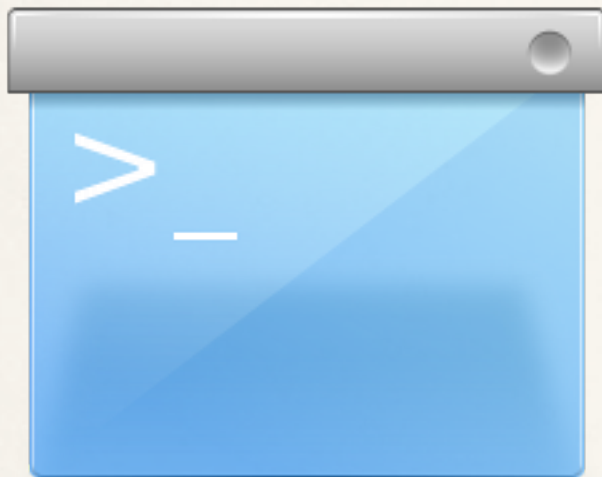


- ✧ Java

- ✧ Additional Layout-Panels (known from SWT)
- ✧ Dialogs similar those of SWT/JFace
- ✧ FXML/Guice-Injector

e(fx)clipse - Runtime

Basic-Runtime



- ✧ Java

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- ✧ OSGi

- ✧ Equinox-Extension

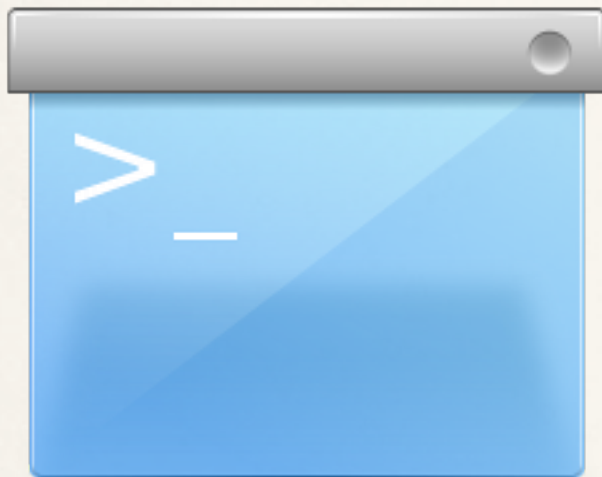
e(fx)clipse - Runtime

Basic Runtime Demo

- ❖ Create OSGi-App
- ❖ JavaIDE: Launch JDT+WebView

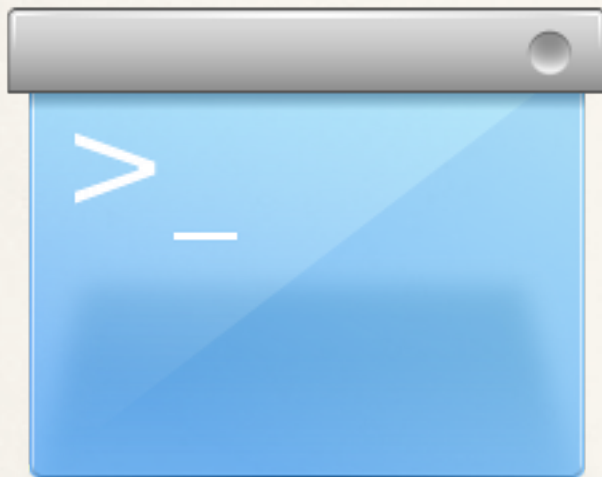
e(fx)clipse - Runtime

Advanced-Runtime



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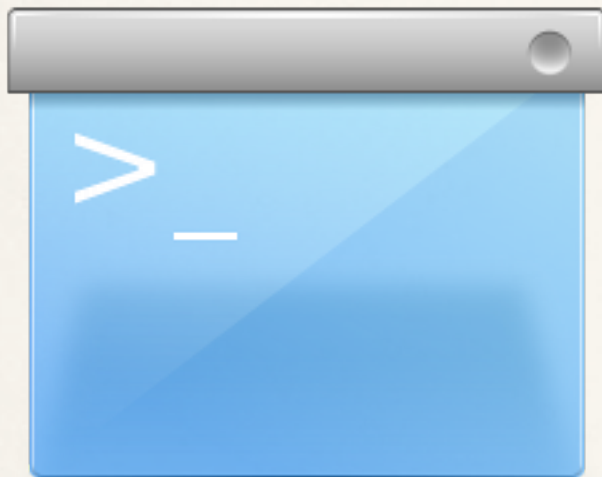
Advanced-Runtime



- * Eclipse 3.x/4.x
 - * Specialized ViewPart

e(fx)clipse - Runtime

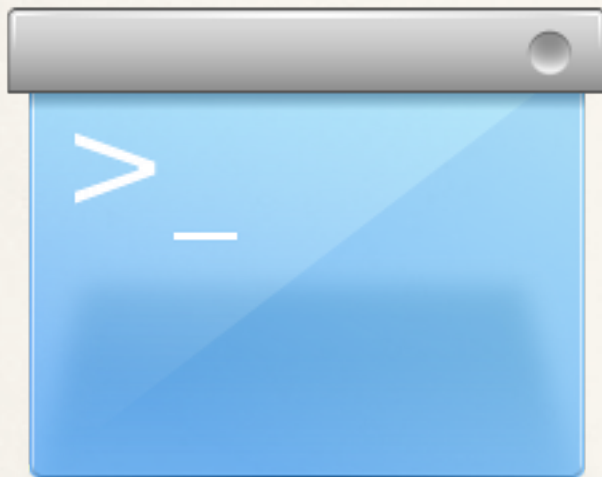
Advanced-Runtime



- ✧ Eclipse 3.x/4.x
 - ✧ Specialized ViewPart
- ✧ OSGi + FXML
 - ✧ DI support for loading

e(fx)clipse - Runtime

Advanced-Runtime



- * Eclipse 3.x/4.x
 - * Specialized ViewPart
- * OSGi + FXML
 - * DI support for loading
- * e4
 - * renderers for e4
 - * jemmy test support

e(fx)clipse – OSGI & FXML

`System.bundle` – `Object.class`, `String.class`

e(fx)clipse – OSGI & FXML

`System.bundle` – `Object.class`, `String.class`

MyApp-Bundle
(requires FX-Bundle)

`MyController.class`
`MyControl.class`
`MyApp.class`
`myscreen.fxml`

e(fx)clipse – OSGI & FXML

`System.bundle` – `Object.class`, `String.class`

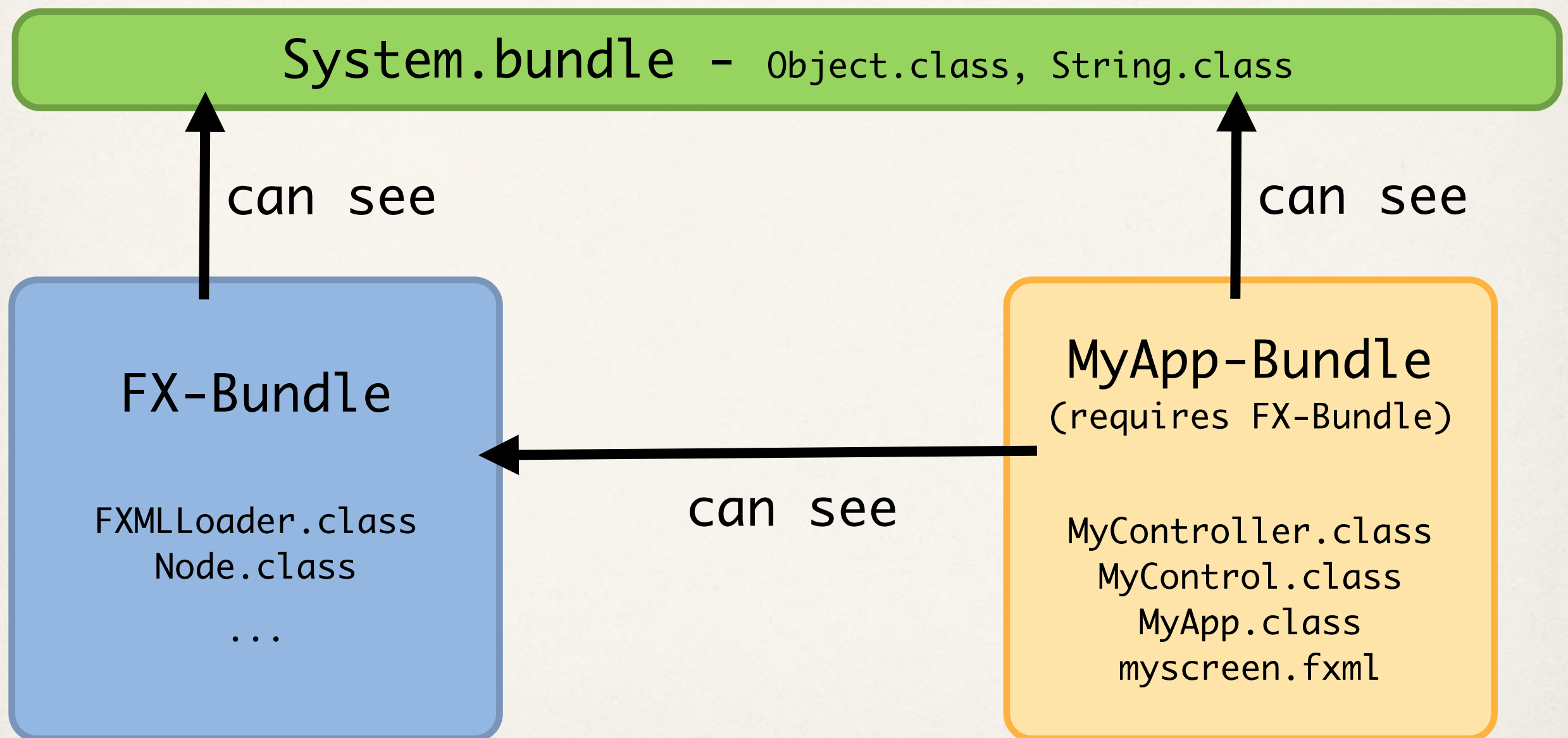
FX-Bundle

`FXMLLoader.class`
`Node.class`
...

MyApp-Bundle (requires FX-Bundle)

`MyController.class`
`MyControl.class`
`MyApp.class`
`myscreen.fxml`

e(fx)clipse - OSGI & FXML



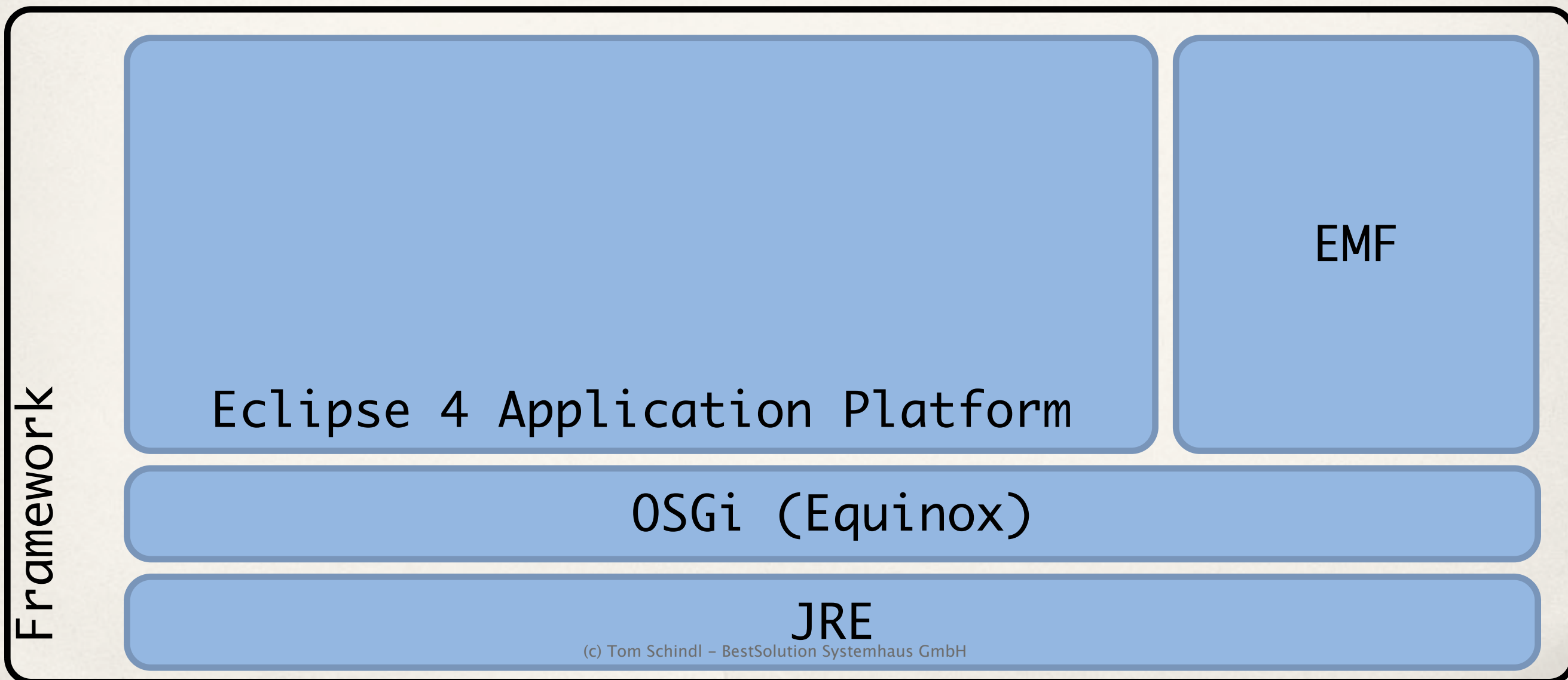
e(fx)clipse - Runtime

DI Runtime Demo

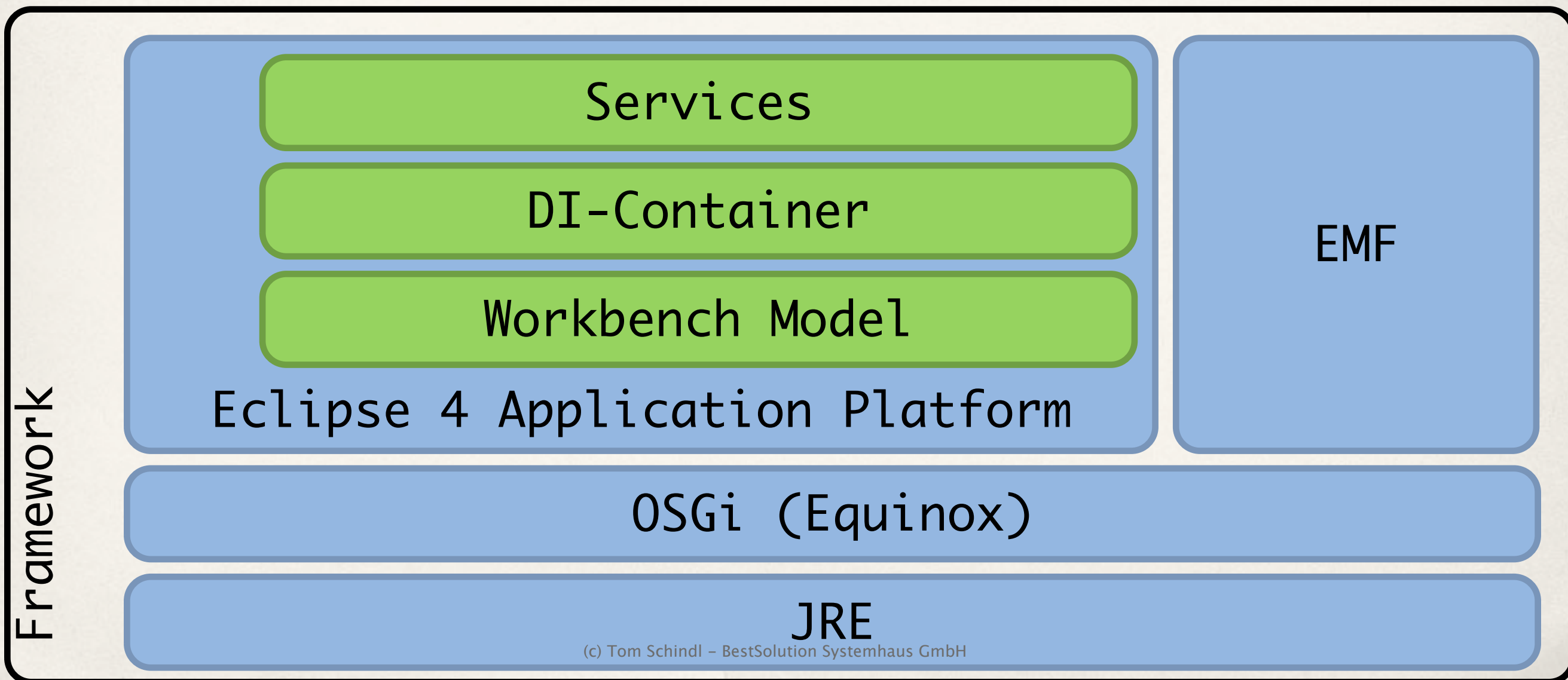
- ✧ Use DI for JavaFX
 - ✧ @FXMLLoader

e(fx)clipse – EAP

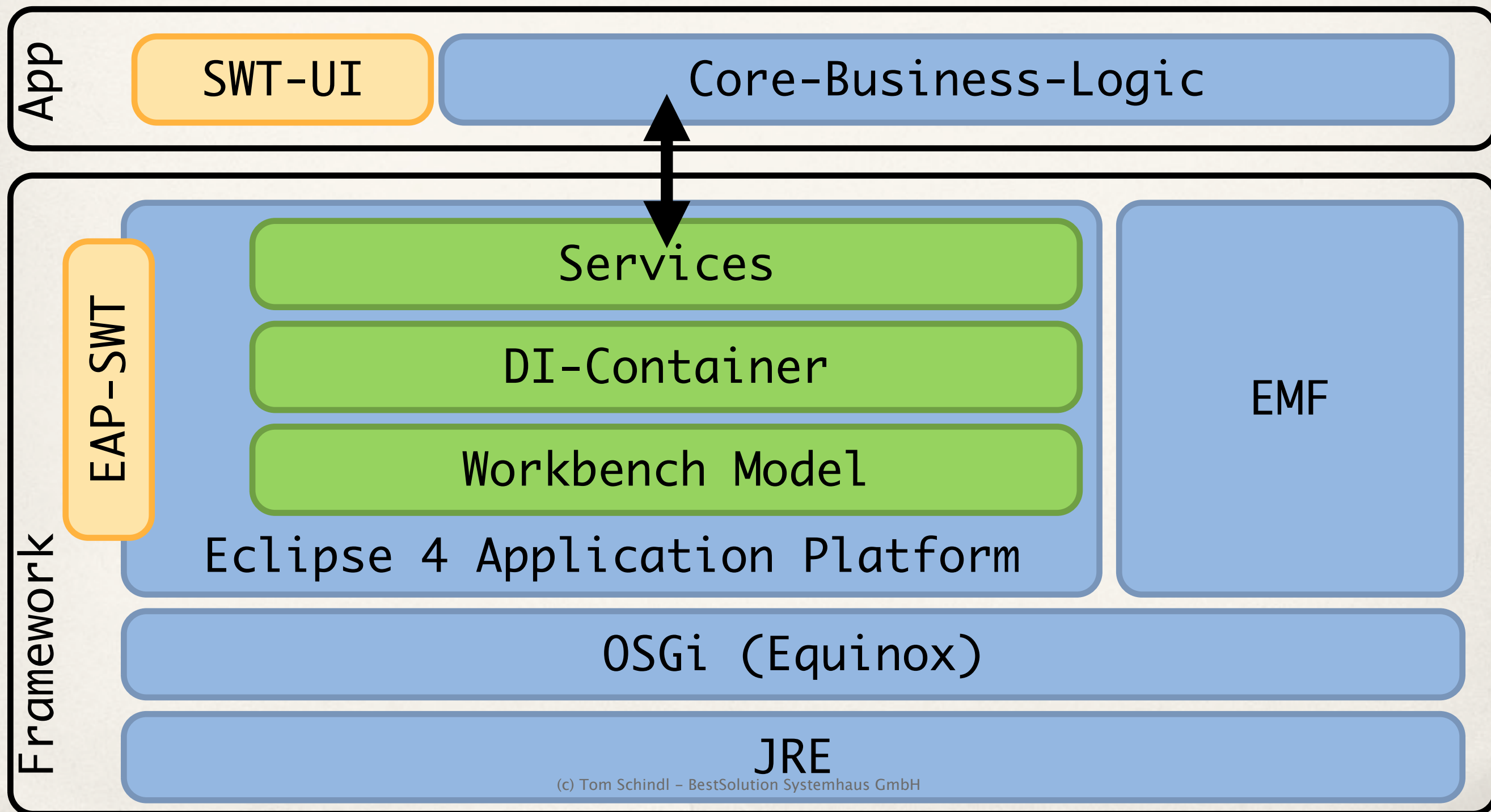
e(fx)clipse - EAP



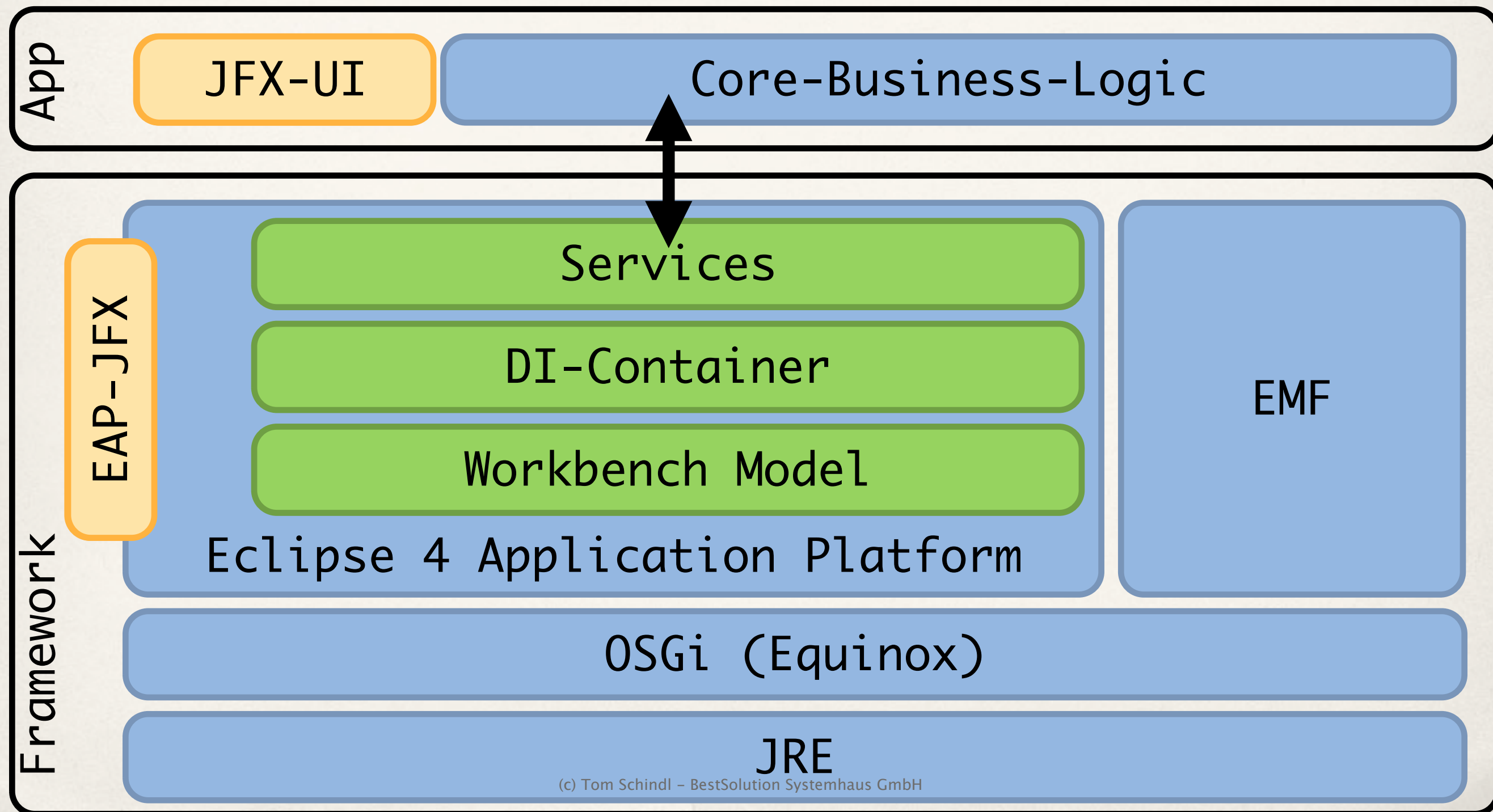
e(fx)clipse – EAP



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e(fx)clipse - EAP



e(fx)clipse - Runtime

e4 Runtime Demo

- ✧ Create e4 app
- ✧ Create Jemmy Test case

e(fx)clipse – Real Apps TESIS Dynaware

TESIS DYNAware simulation software in use at Audi, BMW, Ford, MAGNA, MAN, VW and others.

(c) TESIS – Dynaware

e(fx)clipse – Real Apps

TESIS Dynaware

- ✧ A client-server application for vehicle dynamics simulation , data management and animation in the automotive industry.

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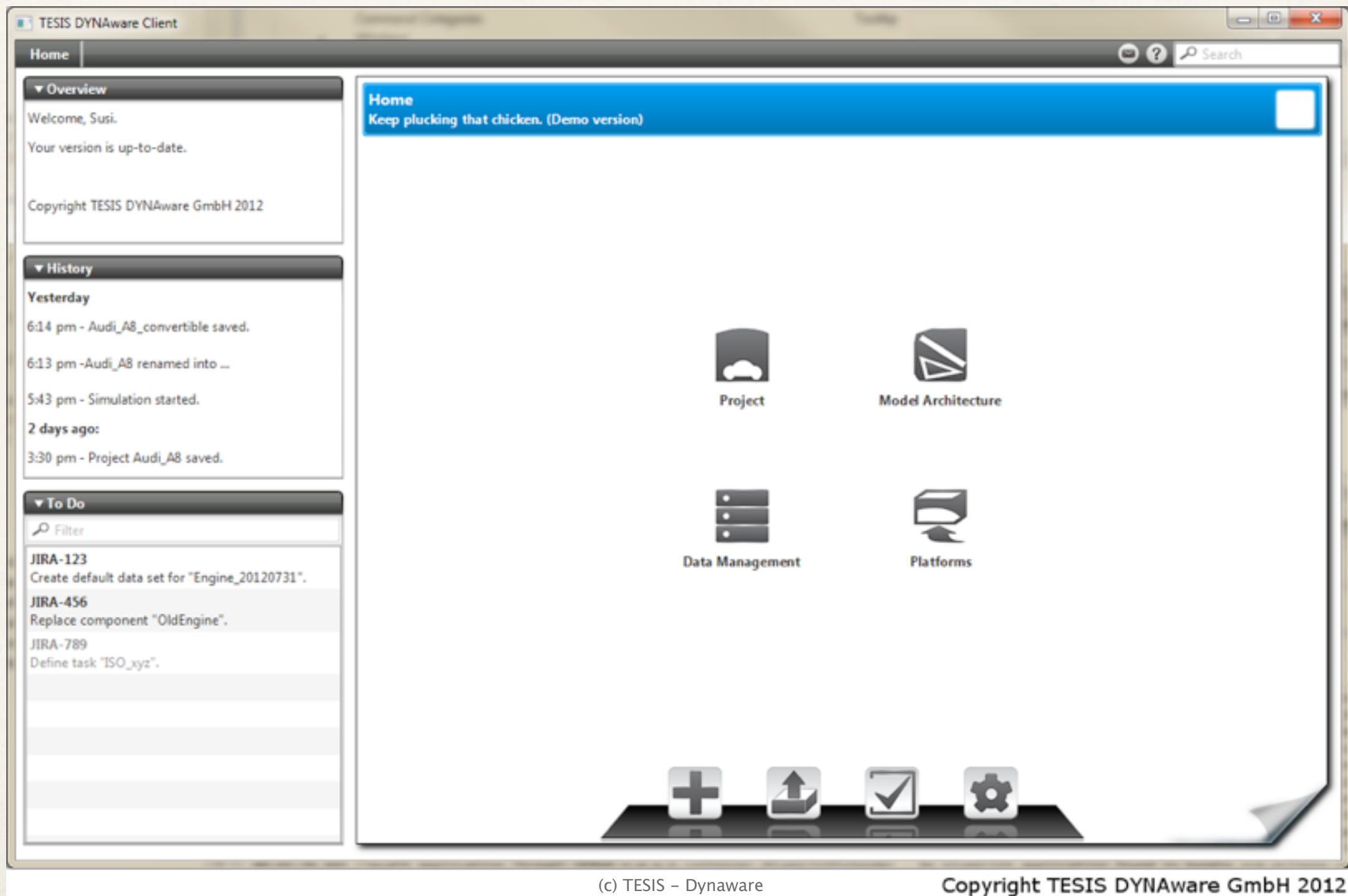
e(fx)clipse – Real Apps

TESIS Dynaware

- ❖ A client-server application for vehicle dynamics simulation , data management and animation in the automotive industry.
- ❖ State-of-the-art technology: OSGi-based application using e(fx)clipse to combine E4 and JavaFX.
- ❖ Makes heavy use of JavaFX's styling and data binding capabilities

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e(fx)clipse - Real Apps TESIS Dynaware

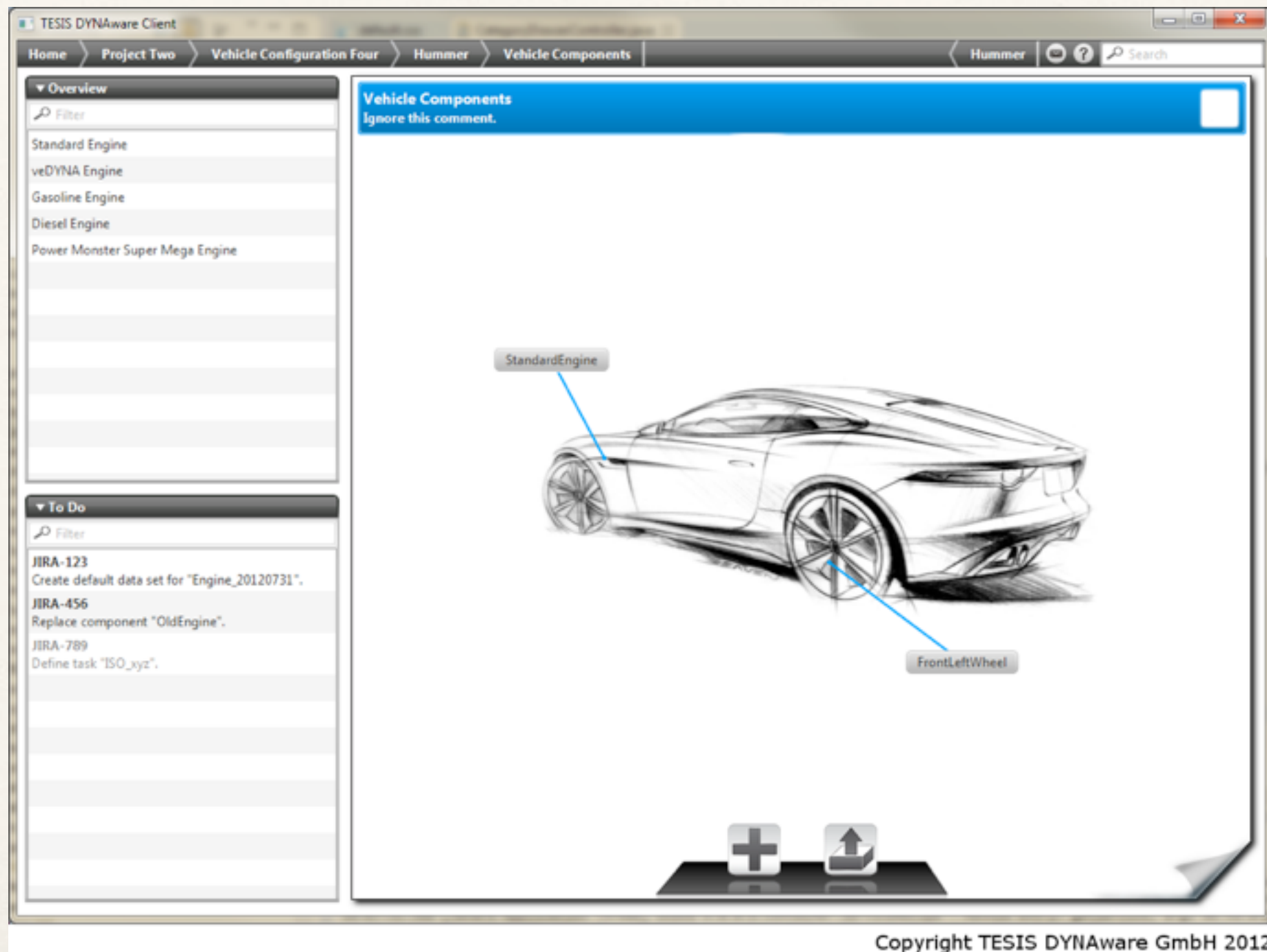


(c) TESIS – Dynaware

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e(fx)clipse - Real Apps

TESIS Dynaware



(c) TESIS - Dynaware

e(fx)clipse - Real Apps TESIS Dynaware

TESIS DYNaware Client

Home > Project Two > Vehicle Configuration Three > TESIS Truck > Vehicle Components > Data Item One > Vehicle Components

Items

Filter

- Data Item One
- Data Item Two
- Data Item Three
- Data Item Four
- Data Item Five

To Do

Filter

- JIRA-123
Create default data set for "Engine_20120731".
- JIRA-456
Replace component "OldEngine".
- JIRA-789
Define task "ISO_xyz".

Data Item One
Ignore this comment.

Here's a table of vehicle data...

First Column	Two Column	Third Column
First 0	Second 0	Third 0
First 1	Second 1	Third 1
First 2	Second 2	Third 2
First 3	Second 3	Third 3
First 4	Second 4	Third 4
First 5	Second 5	Third 5
First 6	Second 6	Third 6
First 7	Second 7	Third 7
First 8	Second 8	Third 8
First 9	Second 9	Third 9

ARGON Help

All items in the item bar on the left are draggable. Grab as many as you want and drop them in the center area.

If you like this demo version, do not hesitate to buy your software engineer a drink.

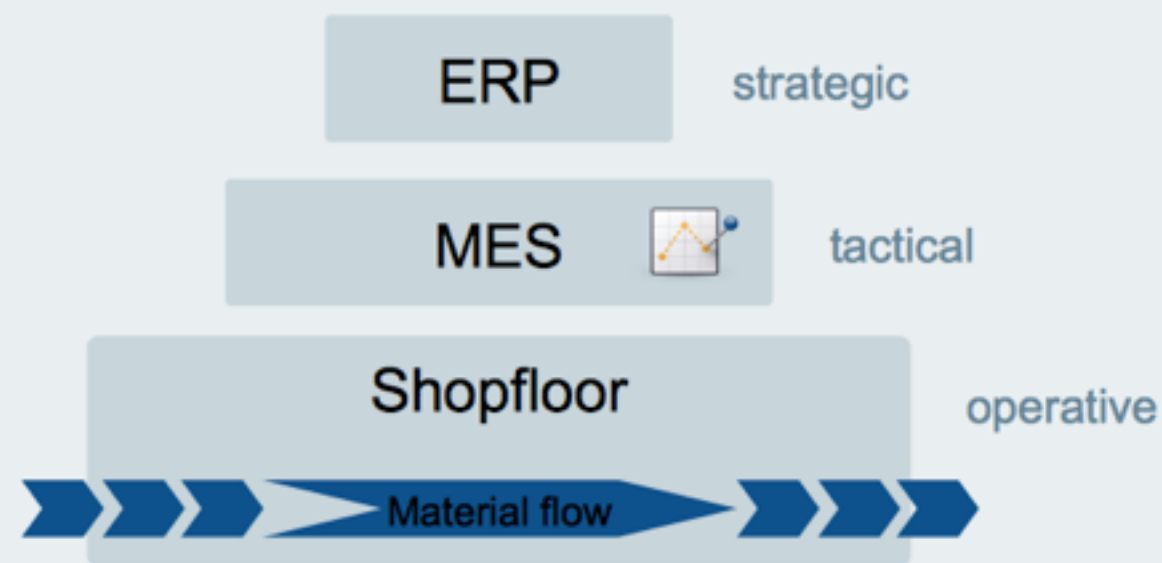
The dock in the bottom area provides you with actions on the objects of the current page.

Take a look into the PDF manual for further help.

e(fx)clipse – Real Apps xetics MES

Flexible and Scalable Manufacturing Execution System (MES)

MES in a factory environment



- ❖ Collection of machine and process data
- ❖ Life Monitoring of material flow
- ❖ Control of machine execution
- ❖ Optimization of material flow and machine settings
- ❖ Reporting

(c) Ralf Muckenhirn – xetics.com

e(fx)clipse - Real Apps xetics MES

Client/Server Architecture

- ❖ JEE 6 based Application Server
- ❖ Client: Eclipse4 RCP with JavaFX rendering
- ❖ Client and Server are extendable by Apps
- ❖ App represents a production (MES) feature
- ❖ Apps can be installed by user



e(fx)clipse - Real Apps xetics MES

Sample-App: FabView



e(fx)clipse - Real Apps xetics MES

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- * This App is a life monitoring system



e(fx)clipse - Real Apps xetics MES

Sample-App: FabView

- ✧ This App is a life monitoring system
- ✧ The whole factory or parts of the factory can be shown



e(fx)clipse - Real Apps xetics MES

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- ✧ This App is a life monitoring system
- ✧ The whole factory or parts of the factory can be shown
- ✧ SVG of the factory can be imported and animated



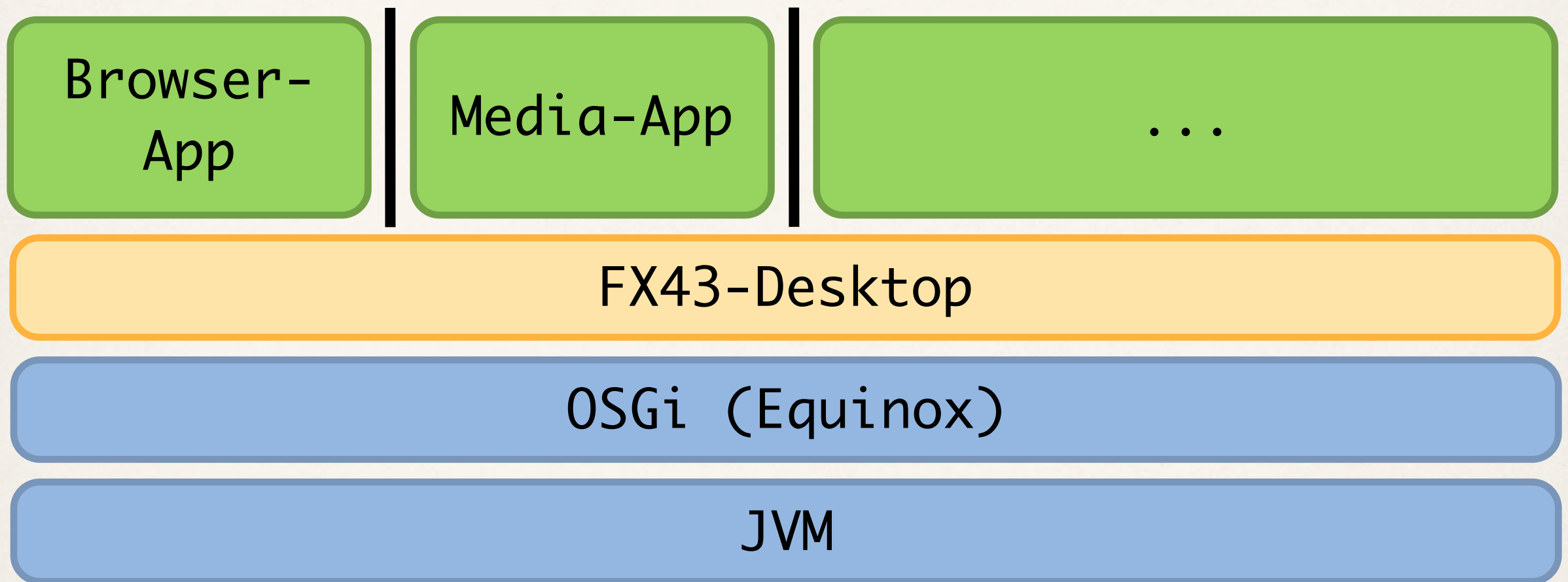
e(fx)clipse - Real Apps xetics MES

Sample-App: FabView

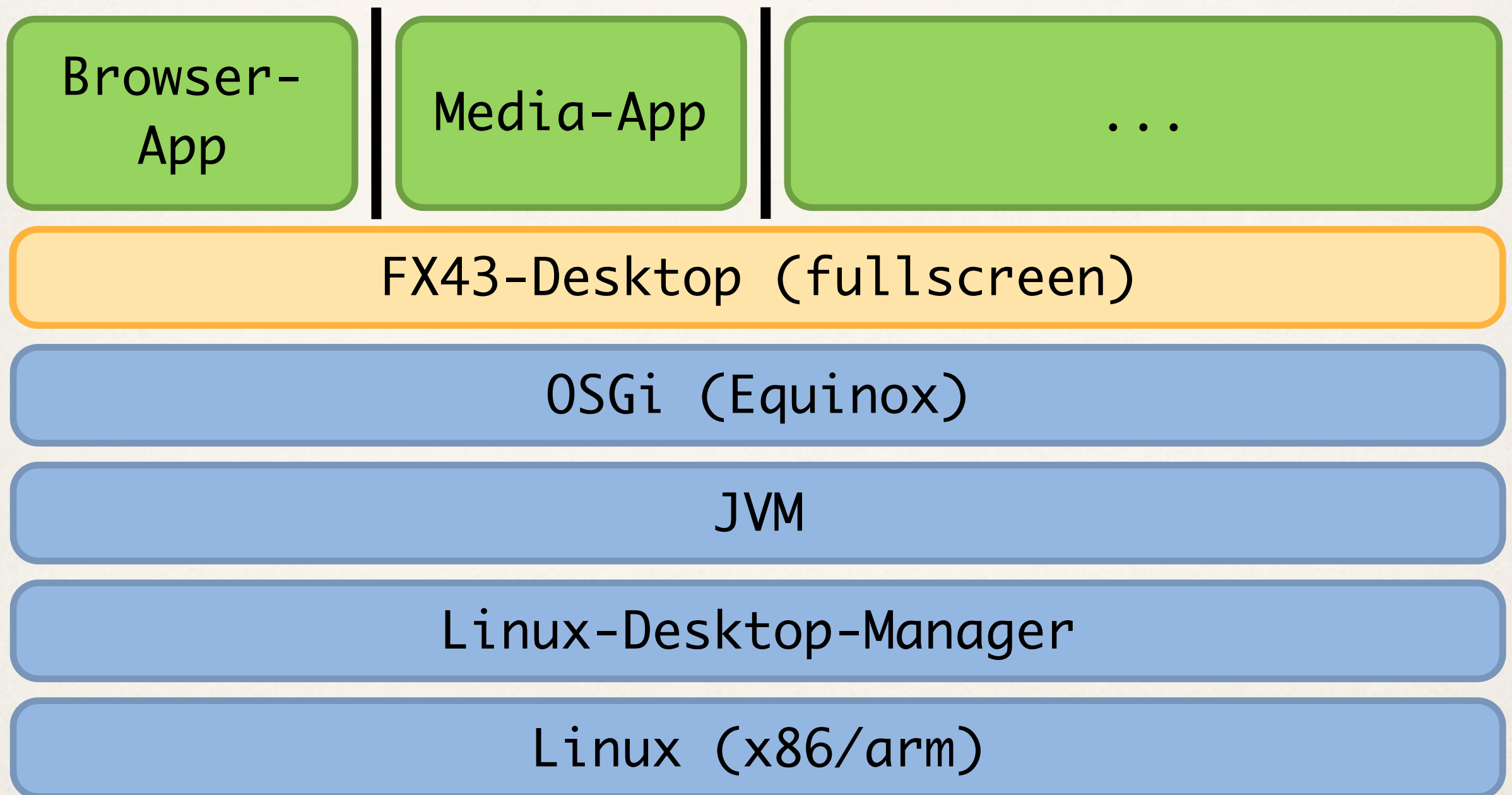
- ✧ This App is a life monitoring system
- ✧ The whole factory or parts of the factory can be shown
- ✧ SVG of the factory can be imported and animated
- ✧ Animation is based on messages coming from server



e(fx)clipse - FX43



e(fx)clipse - FX43



e(fx)clipse - Runtime

fx43 sample

- ✧ Launch application
- ✧ Dynamically Install new app

e(fx)clipse – Runtime

- ✧ Credits:
 - ✧ Oxygene Icons from KDE (LGPL)
 - ✧ TESIS Dynaware
 - ✧ xetics.com
- ✧ Resources
 - ✧ www.efxclipse.org
 - ✧ www.bestsolution.at
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