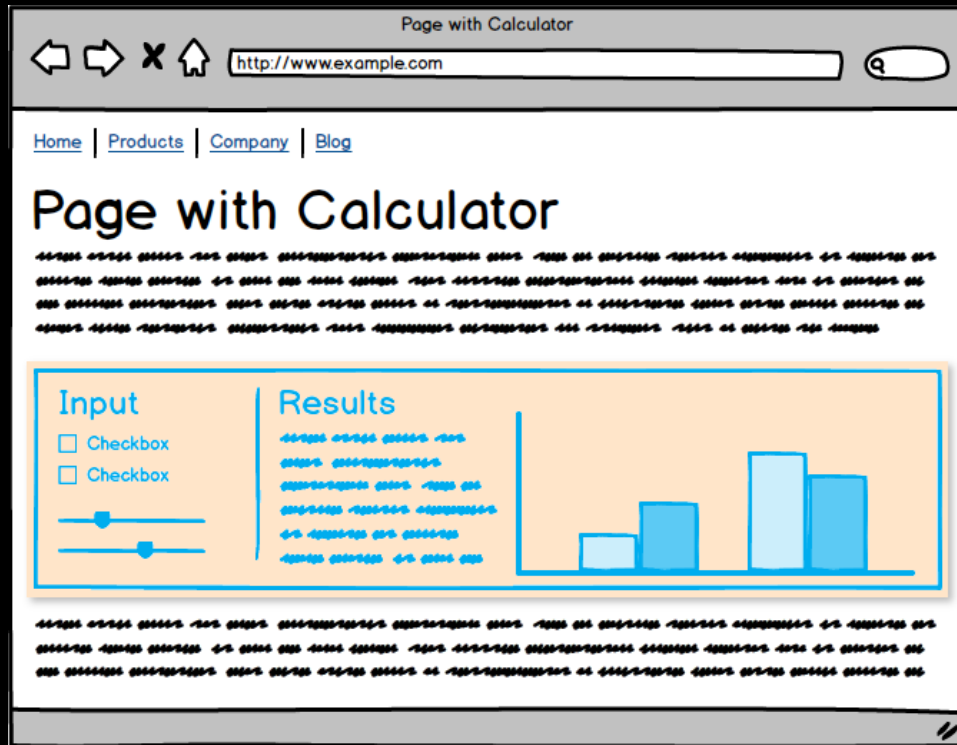APACHE SLING & FRIENDS TECH MEETUP
30 SEPTEMBER 2020

Application Integration Library
Alexander Berndt

What Applications?

Examples:

- Product configurators
- Customer self-services
- Registration forms
- Interactive user manuals

Done –
all you need is
in the ZIP-file!

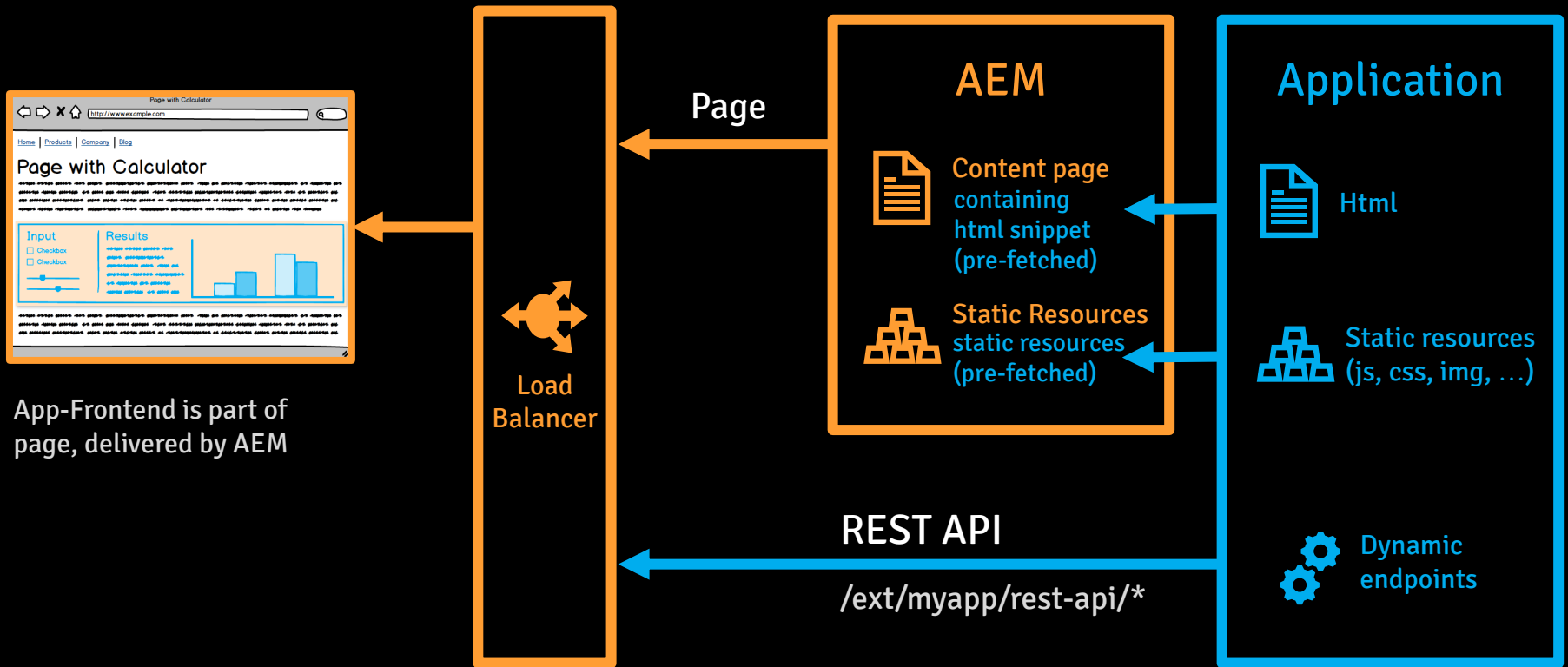| Name	
calc-mortgage-de.html	3.428b
calc-mortgage-en.html	3.375b
calc-mortgage-fr.html	3.612b
calc-loan-de.html	4.121b
calc-loan-en.html	3.986b
calc-loan-fr.html	4.145b
js	<dir>
css	<dir>
img	<dir>

Conflicts:

- **Knowledge**
  (Maven, Sling/AEM, Java, OSGi)

- **Test- & release-cycles**

- **24x7 Operating**

- **Global scale**

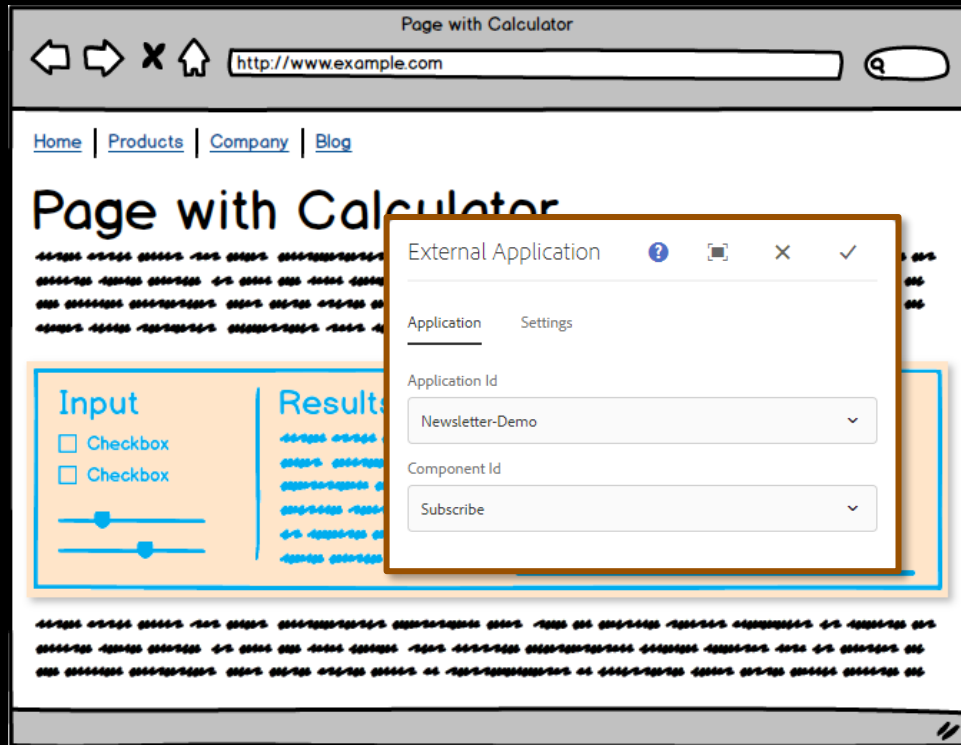# Application Integration Framework

- https://github.com/alberndt/aem-app-integration

- Still in development
- 1st release soon, please leave me mail to be notified
- Please give me feedback

How does the integration work?

Page with Calculator

Page with Calculator

Home | Products | Company | Blog

Input | **Results**

App-Frontend is part of
page, delivered by AEM

Load Balancer

Page

AEM

Content page
containing
html snippet
(pre-fetched)

Static Resources
static resources
(pre-fetched)

Application

Html

Static resources
(js, css, img, …)

REST API

/ext/myapp/rest-api/*

Dynamic
endpoints

Demo

How is the app put on a page?

Application Component:

- **Application ID** (dialog)

- **Properties** (dialog)

- **Context** (implicitly calculated via content path/resource)

- **CMS Content*** (images, any rendered html)

* Not yet supported by the framework

Application OSGi Config

```json
{
 "applicationId": "registration-demo",
  "applicationInfoUrl":
     "https://www.....com/simple-app2/application-info.json",
  "contextProviderNames": [
    "locale",
    "sling-tenant",
    "properties"
  ],
  "globalProperties": [],
  "processingPipelineName": "default",
  "resourceLoaderName": "http"
}
```
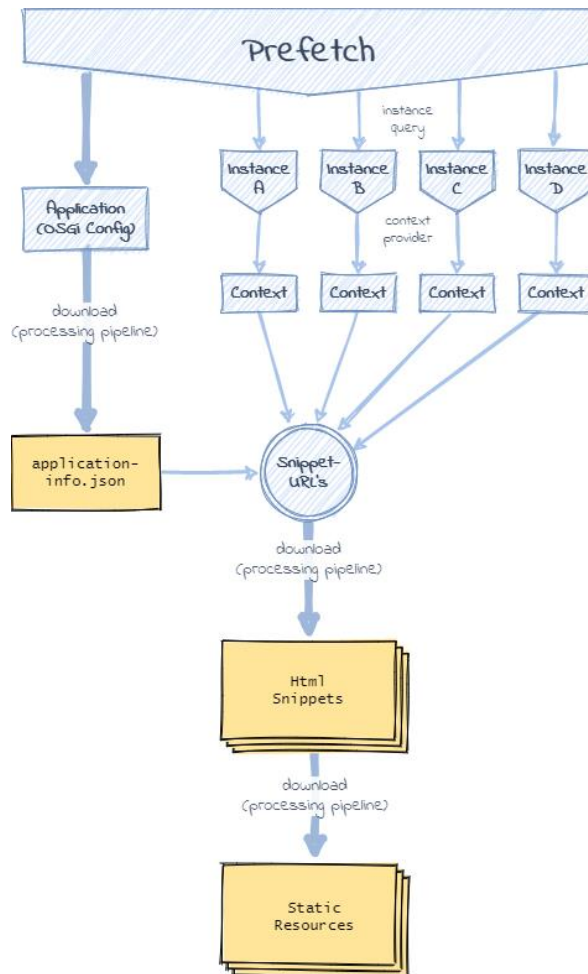
```json
{
    "name": "Event Registration",
    "version": "1.0.0",
    "components": {
        "register": {
            "name": "Register",
            "url": "register.php?event=${event}&lang=${language}"
        },
        "list": {
            "name": "Attendee List",
            "url": "list.php?event=${event}"
        }
    }
}
```

Application Integration Framework

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Backup

Backend Integration

Load HTML → Load Static Resources → Post-Processing

- Query Instances
- Evaluate Context
- Load HTML Page
- Verify HTML
- Extract Html Snippet
- Extract Static Resources

```html
<html lang="en" manifest="cache.manifest">
<head>
    <title>Sample Calculator Test Page</title>
    <meta name="keywords" content="Sample, Calculator, adaptTo()">
    <link rel="stylesheet" href="css/style.css" data-webapp="export">
</head>
<body>
    <h1>Sample Calculator Test Page</h1>
    <div class="sample-calculator" data-webapp="export">
        <!-- here is the calculator html! -->
    </div>
    <script src="js/jquery.min.js"></script>
    <script src="js/calculator-ui.js" data-webapp="export"></script>
</body></html>
```

Backend Integration

Load HTML → Load Static Resources → Post-Processing →

- Load Cache Manifest
- Load Static Resources
- Extract References
- Verify

Cache Manifest

```
# Files, to be cached = static resources
CACHE:
css/style.css
js/calculator-ui.js
img/background.png

# Only online
NETWORK:
rest-api/sendOffer

FALLBACK:
static.html
```

Backend Integration

Load HTML → Load Static Resources → Post-Processing →

- A/B Switch
- Clear Dispatcher Cache
- Calculate Overall Status
- Next Run