

About the Presenter

- ▶ Eric Huiza Pereyra
- ▶ Working with Tridion since 2008
- ▶ SDL Tridion 2014 Community Builder Award (MVP that works for SDL)
- ▶ I can be found at <http://erichuiza.blogspot.com/>





Contextual Expressions



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Agenda

- ▶ Why expressions?
- ▶ Aspects & Properties
- ▶ Context Expression Language (CEL)
- ▶ Vocabularies
 - ▶ Static Vocabularies
 - ▶ Dynamic Vocabularies
- ▶ Integrations
 - ▶ Ambient Data Framework



Why expressions?

- ▶ Expressions allow Visitors Evidence evaluation
 - ▶ User Agent evidence
 - ▶ Device Repository evidence
 - ▶ Client side Discover evidence
 - ▶ Ambient Data Framework custom claims
- ▶ Expressions give a meaning to Contextual Data (evidence)
- ▶ Expressions allow Marketers to define rules based on Visitors Evidence
 - ▶ Target Content
 - ▶ Perform Contextual Operations
 - ▶ Calculate Values



Aspects & Properties

- ▶ Aspects group properties by meaning
- ▶ CEC provides a set of pre-defined Aspects
 - ▶ os
 - ▶ browser
 - ▶ Device
- ▶ Custom aspects can be defined and configured in the `cwd_engine_vocabulary_conf.xml`

```
<aspect name="geo">
  <properties>
    <property name="usResident" type="Boolean" expressionTrust="90"
      expression="claim['geo:country'] == 'US'"/>
    <property name="newYorkResident" type="Boolean" expressionTrust="90"
      expression="geo.usResident and claim['geo:city'] == 'NYC'"/>
  </properties>
</aspect>
```

- ▶ Properties are the Customer Evidence values
- Example: `os.model`, `device.displayWidth`, `browser.cookieSupport`
-



Context Expression Language (CEL)

▶ CEL Expressions

- ▶ Determine the value of an aspect property or a combination of them
- ▶ Expressions can contain Variables, Literals and Operators

▶ CEL Variables

- ▶ Defined as Aspects Properties or pulled from Claim translations

▶ CEL Literals

- ▶ Literal values like numbers and strings

▶ CEL Operators

- ▶ and, or, ==, !=, lt, gt, le, ge

Example:

Apple Devices: “os.model == ‘iOS’”

Retina Display: “os.model == ‘iOS’ and device.pixelRatio > 1”

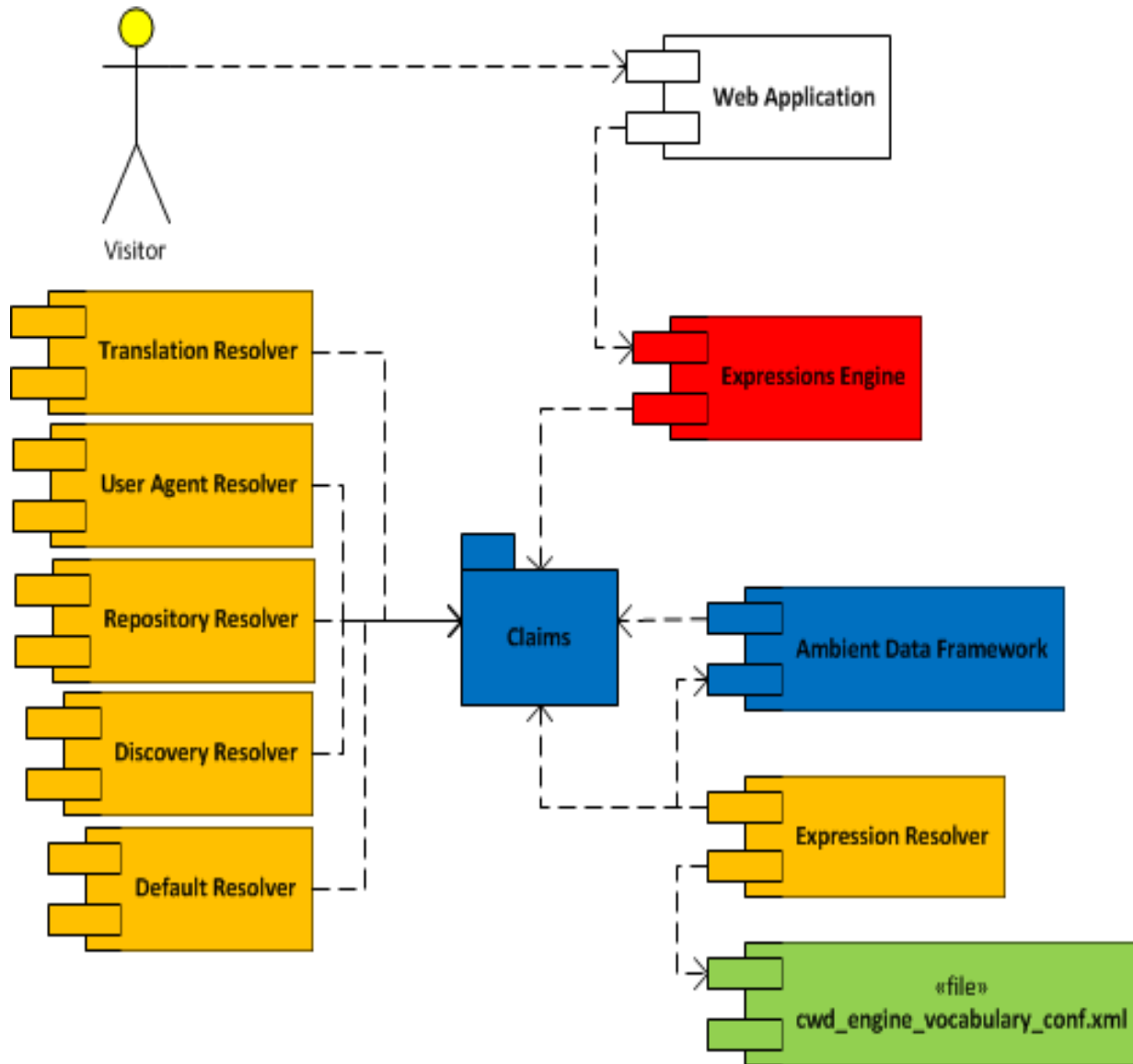


Vocabularies

- ▶ **Set of Aspects and Properties**
 - ▶ Single Aspect Properties
 - ▶ Composite Aspect Properties
- ▶ **Vocabularies are populated by Context Resolvers based on the Customer Evidence**
 - ▶ Translation Resolver
 - ▶ User Agent Resolver
 - ▶ Repository Resolver
 - ▶ Discovery Resolver
 - ▶ Expression Resolver
- ▶ **Pre-configured in an application (Static Vocabularies)**
- ▶ **Configured and defined by Marketers (Dynamic Vocabularies)**



▶ Static Vocabulary Deployment



Static Vocabularies

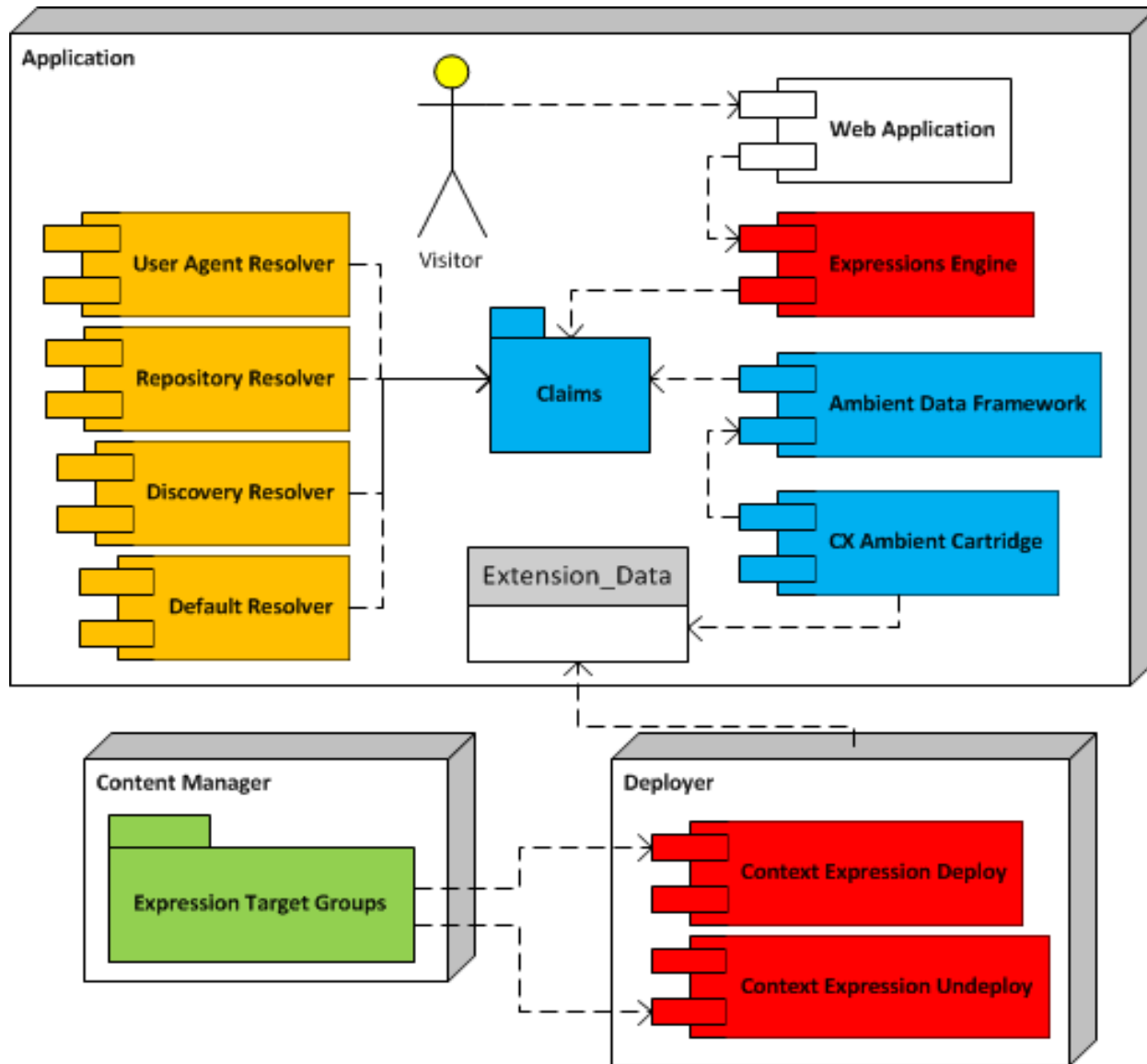
- Configured in `cwd_engine_vocabulary_conf.xml`
- Pre-configured and loaded while the application is loading
- Cannot be changed while the application is running
- Evaluated by the Expression Resolver
- Expression Resolver Evaluates claims and properties produced by other resolvers
- Expressions Engine exposes Vocabularies to the Application

Static Vocabulary

```
<vocabulary>
  <aspects>
    <aspect name="browser">
      <properties>
        <property
          name="modelAndOS"
          type="String" expressionTrust="90"
          expression="os.model + ' ' + browser.model"/>
      </properties>
    </aspect>
    <aspect name="ui">
      <properties>
        <property
          name="android"
          type="Boolean"
          expressionTrust="90"
          expression="os.model == 'Android'"/>
        <property
          name="largeBrowser"
          type="Boolean"
          expressionTrust="90"
          expression="browser.displayHeight > 600 and browser.displayWidth > 800"/>
      </properties>
    </aspect>
  </aspects>
</vocabulary>
```



► Dynamic Vocabulary Deployment



Dynamic Vocabularies

- Uses Expression Target Groups
- Expression Target Groups are published and stored in the Broker Database
- Expression Target Groups are pulled from the Broker Database using the CX Ambient Cartridge
- Dynamic Vocabularies are globally loaded
- Expressions Engine exposes Vocabularies to the Application

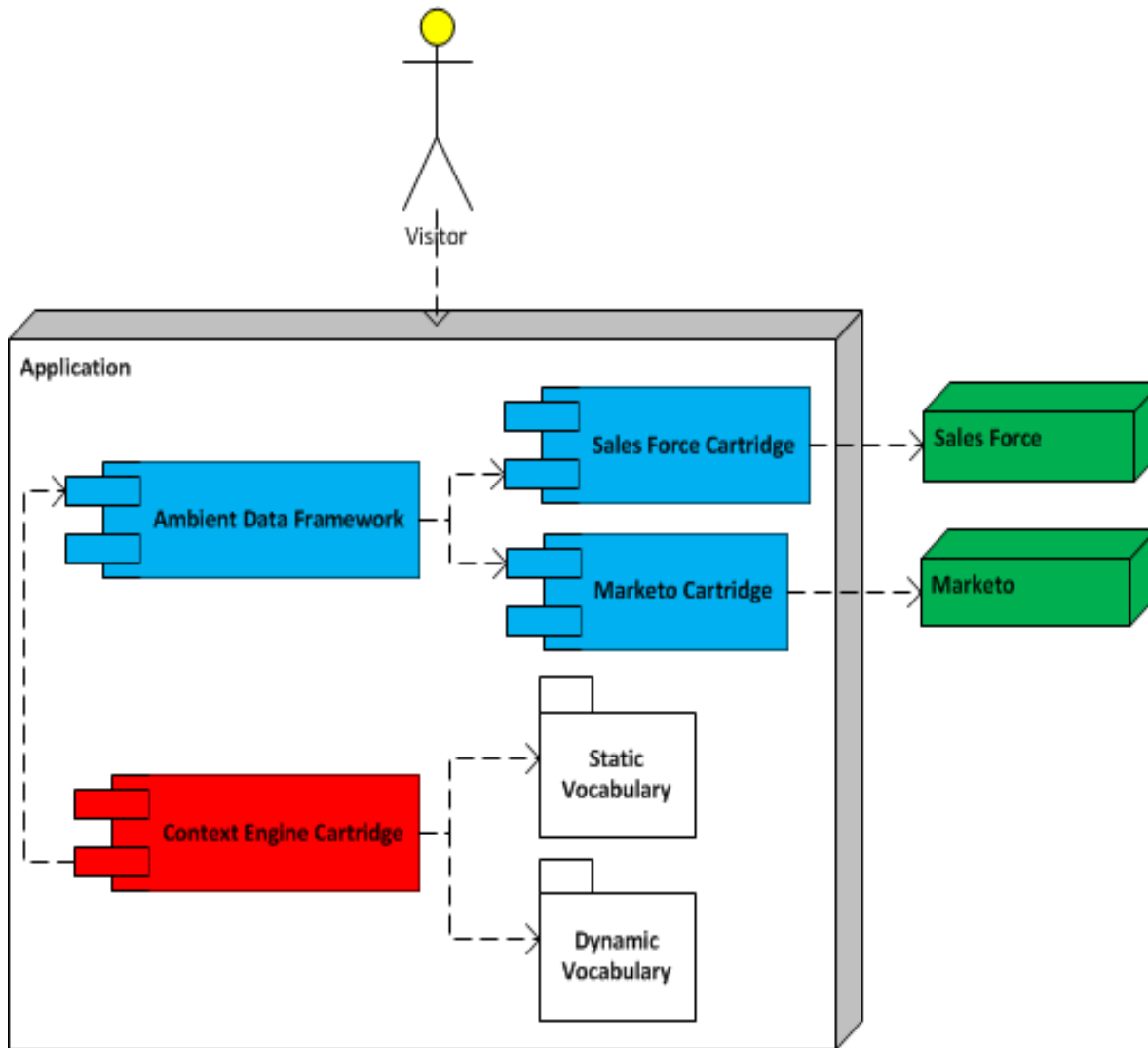
Dynamic Vocabulary

▶ References

- ▶ <http://erichuiza.blogspot.com/2014/02/context-expression-extension.html>
- ▶ <http://erichuiza.blogspot.com/2014/10/adding-expression-target-groups-support.html>



▶ Example:



Integrations

- Integrations are done via Ambient Data Framework
 - Custom Cartridges to be developed
- Custom Aspects that holds properties populated by the Custom Cartridges claims
- Example:

Subscribed:

“marketo.emailSubscribed and salesforce.hasProfile”