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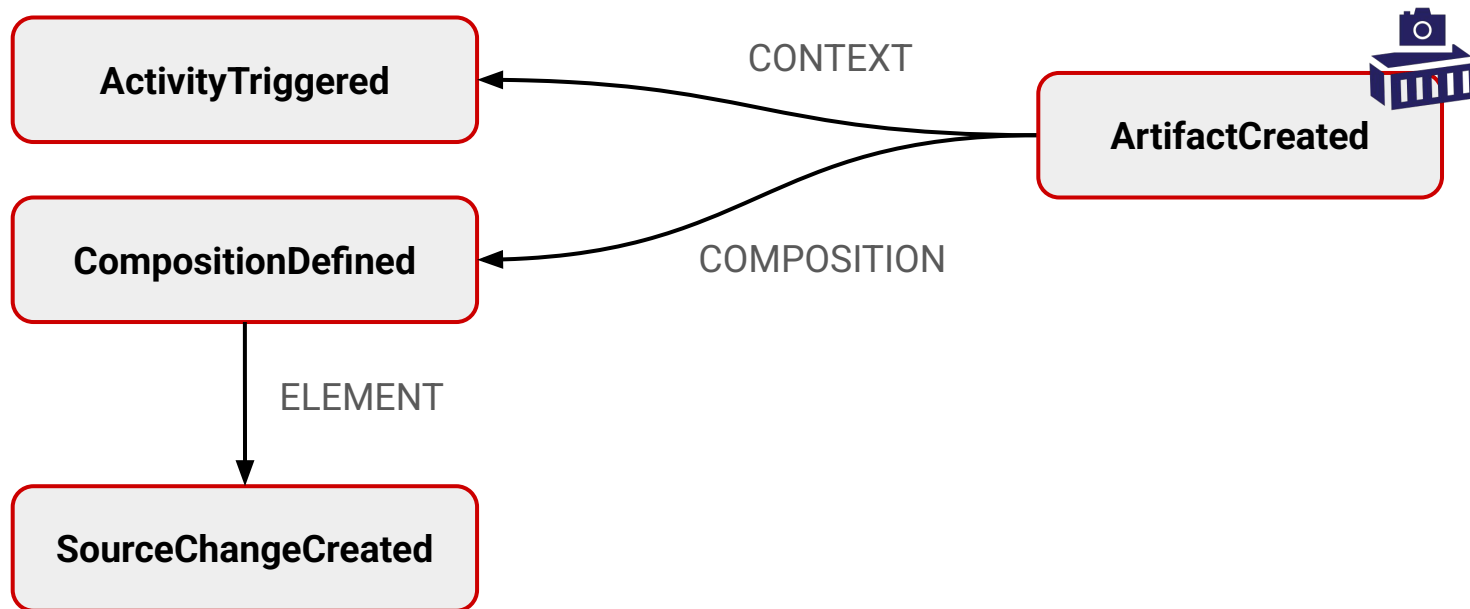
# Protocol news

Magnus Bäck, Axis Communications

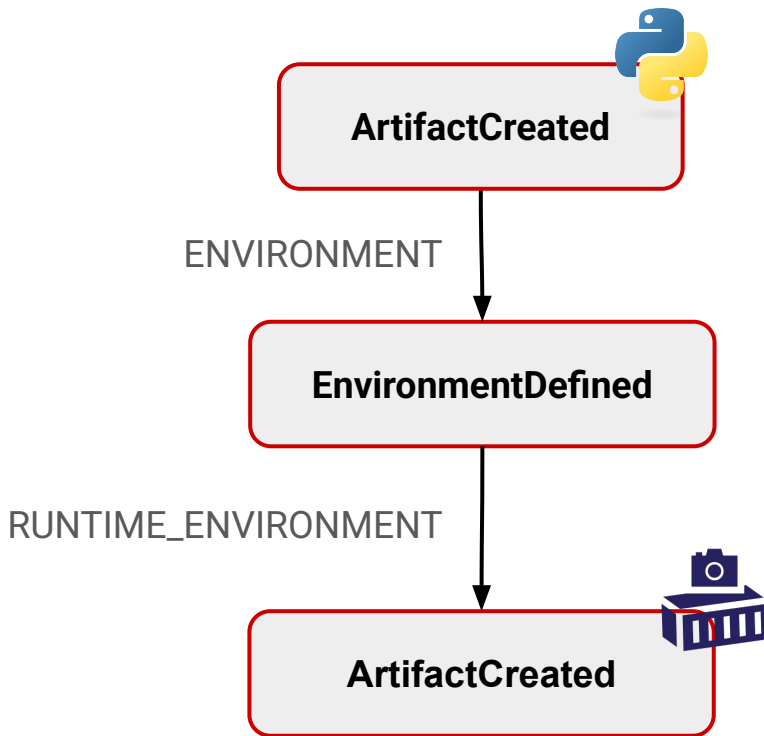
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# Modeling container images

## Use case: Model the creation of a container image



## Use case: Model when an image forms the environment of other builds



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## Seemingly obvious

pkg:docker/debian@trixie

pkg:docker/debian@trixie-20251001

pkg:docker/debian@sha256:c2880112cc5c61e1200c26f106e41236...

# Container image lifecycles vs. Eiffel events

```
docker build -t docker.example.com/myapp:latest .
```



**ArtifactCreated**

```
docker push docker.example.com/myapp:latest
```



**ArtifactPublished**

---

## But what's the URI of a container image?

`docker.example.com/myapp:stable`



`https://docker.example.com/v2/myapp/manifests/stable`

(As per the Open Container Initiative Distribution Specification.)

## Now we can model the aliasing

### ArtifactCreated

data.identity: pkg:docker/myapp@sha256:c28801...

### ArtifactPublished

data.locations.uri: https://docker.example.com/v2/myapp/manifests/stable

### ArtifactPublished

data.locations.uri: https://docker.example.com/v2/myapp/manifests/latest



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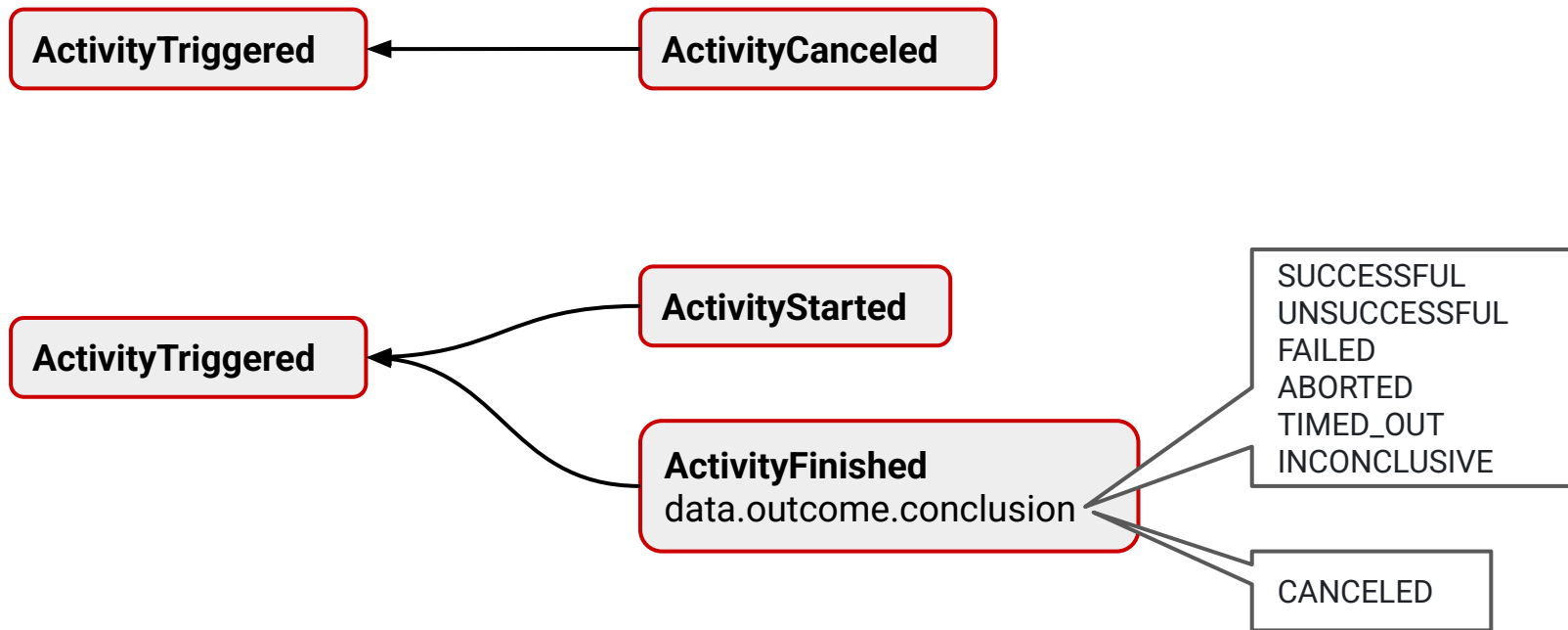
## Proposed changes

- Add OCI\_MANIFEST as a valid location type for the URI in ArtifactPublished.
- For some events that currently allow links to ArtifactCreated, also allow ArtifactPublished target events.

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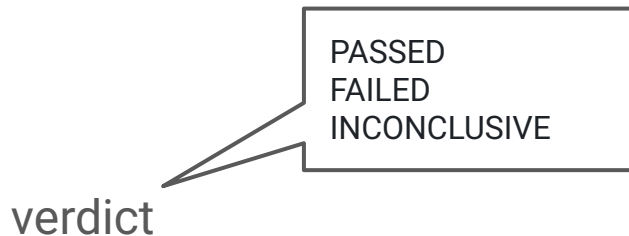
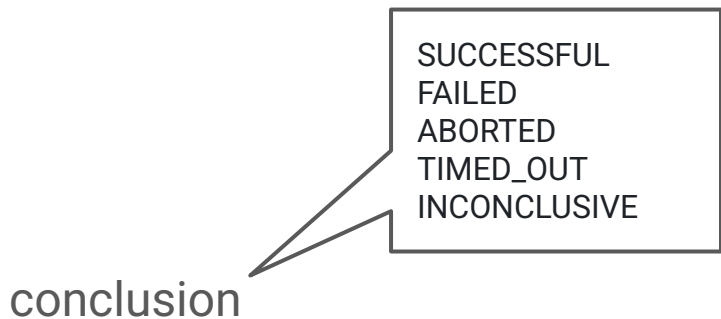
Break

# Activity lifecycles



## Discussion

- Equivalent event types in CDEvents have “cancel” as a valid outcome.
- Should TestCaseFinished also have a CANCELED or SKIPPED outcome?
- TestCaseFinished contains a conclusion and a verdict. Is that something we should mirror in ActivityFinished?



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## New version of the JSON meta-schema

All event schemas upgraded from draft-06 to 2020-12.

This enables various new validation possibilities.

So far, limited link validation has been implemented.

# Log URIs can contain digests of the log contents

This can help detect log tampering.

Applies to ActF, TCF, and TSF.

```
{
  "meta": { ... },
  "data": {
    "outcome": { ... },
    "persistentLogs": [
      {
        "name": "Activity log",
        "uri": "https://example...",
        "integrityProtection": {
          "alg": "SHA-256",
          "digest": "0e9059d8ba4cc..."
        }
      }
    ]
  },
  "links": [...]
}
```

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## Confidence level changes can express what the decision was based on

A new optional CONFIDENCE\_BASIS link type for the CLM event type allows you to describe the tests whose results were input to the confidence decision.

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## Miscellaneous

- Improved documentation of how public keys and signature are represented.



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Questions?