



# Creator Assertions Working Group

Content Authenticity Summit

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4 June 2025



## Topics for today

Who's who

C2PA conceptual overview

CAWG identity assertion overview

Upcoming work in CAWG

First-person credential project (Drummond)



# Who's who?



**Content  
Authenticity  
Initiative**



**Coalition for  
Content  
Provenance  
and Authenticity**



**Creator  
Assertions  
Working Group**



## Who's who?



Content  
Authenticity  
Initiative

Outreach · Advocacy · Open Source

*\* also name of Adobe's team*



C2  
PA

Coalition for  
Content  
Provenance  
and Authenticity

Technical Standards: **What / How**



Creator  
Assertions  
Working Group

Technical Standards: **Who**



## Who's who?



**Content  
Authenticity  
Initiative**

[contentauthenticity.org](https://contentauthenticity.org)



**Coalition for  
Content  
Provenance  
and Authenticity**

[c2pa.org](https://c2pa.org)



**Creator  
Assertions  
Working Group**

[cawg.io](https://cawg.io)



# Who's who?



Content  
Authenticity  
Initiative



Coalition for  
Content  
Provenance  
and Authenticity



Creator  
Assertions  
Working Group

**New:** As of  
**March 2025**, part of



Decentralized  
Identity  
Foundation



# C2PA data model



## C2PA + CAWG use case

Consider **broadcast (internet) transmission of digital media to unknown/unforeseen recipients**. A recipient might ask:

- Who produced this? Are they a reputable news source / entertainer / motion picture producer / business / government? Is that statement of source accurate and trustworthy?
- How / when / where did they produce this content?
- Has it been altered since (reputable org) produced it?
- What content did this producer incorporate?  
How did they alter/compose it?





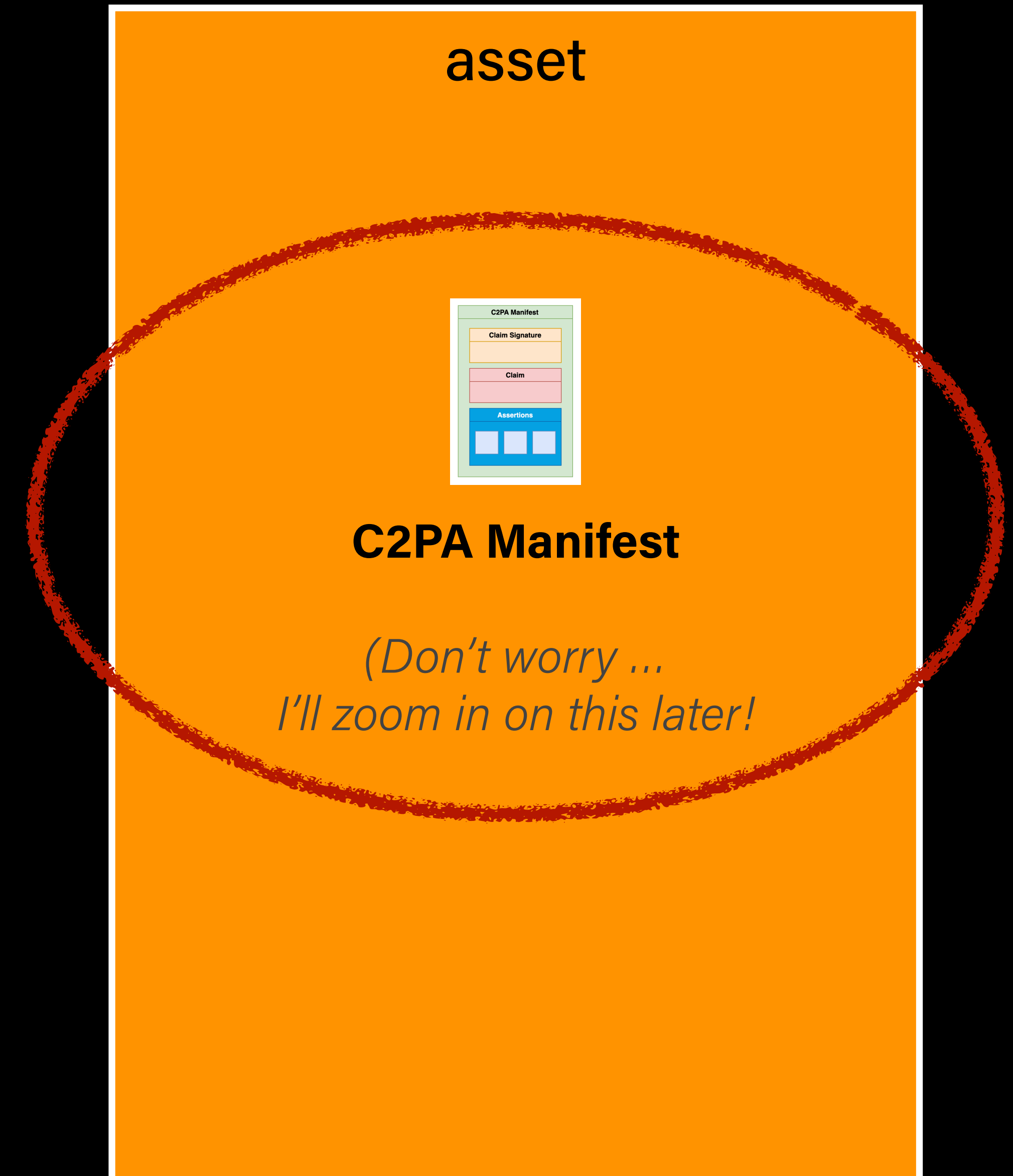
# C2PA data model

## Overview

An **asset** is any piece of digital media that we wish to describe.

Currently, we support still images, motion pictures, recorded, audio, documents (PDF), fonts, and more.

An asset is described by a **C2PA Manifest**.

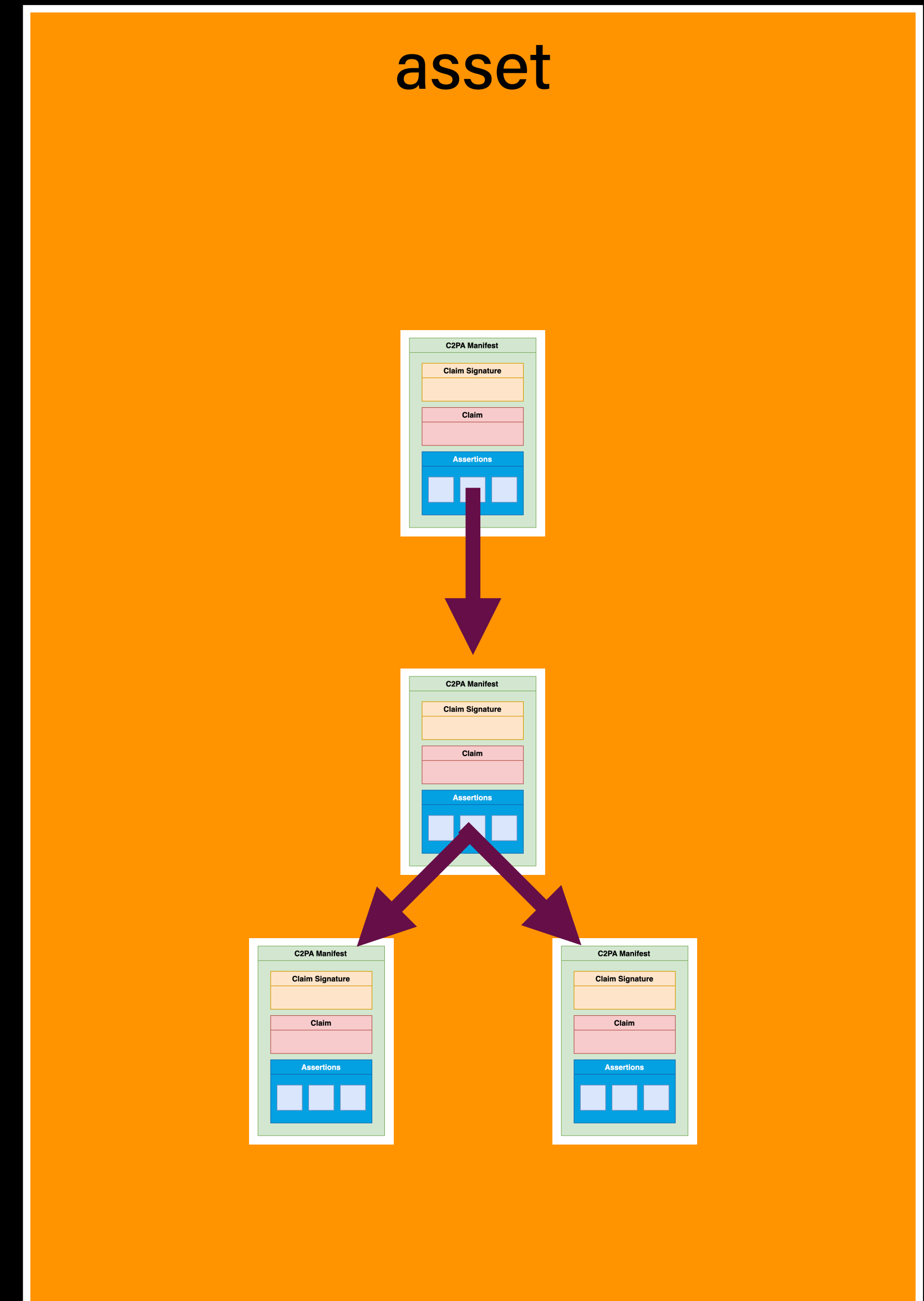




# C2PA data model

## Overview

A C2PA Manifest can refer to any number of *ingredient manifests* when earlier content is incorporated and composed into a new asset.





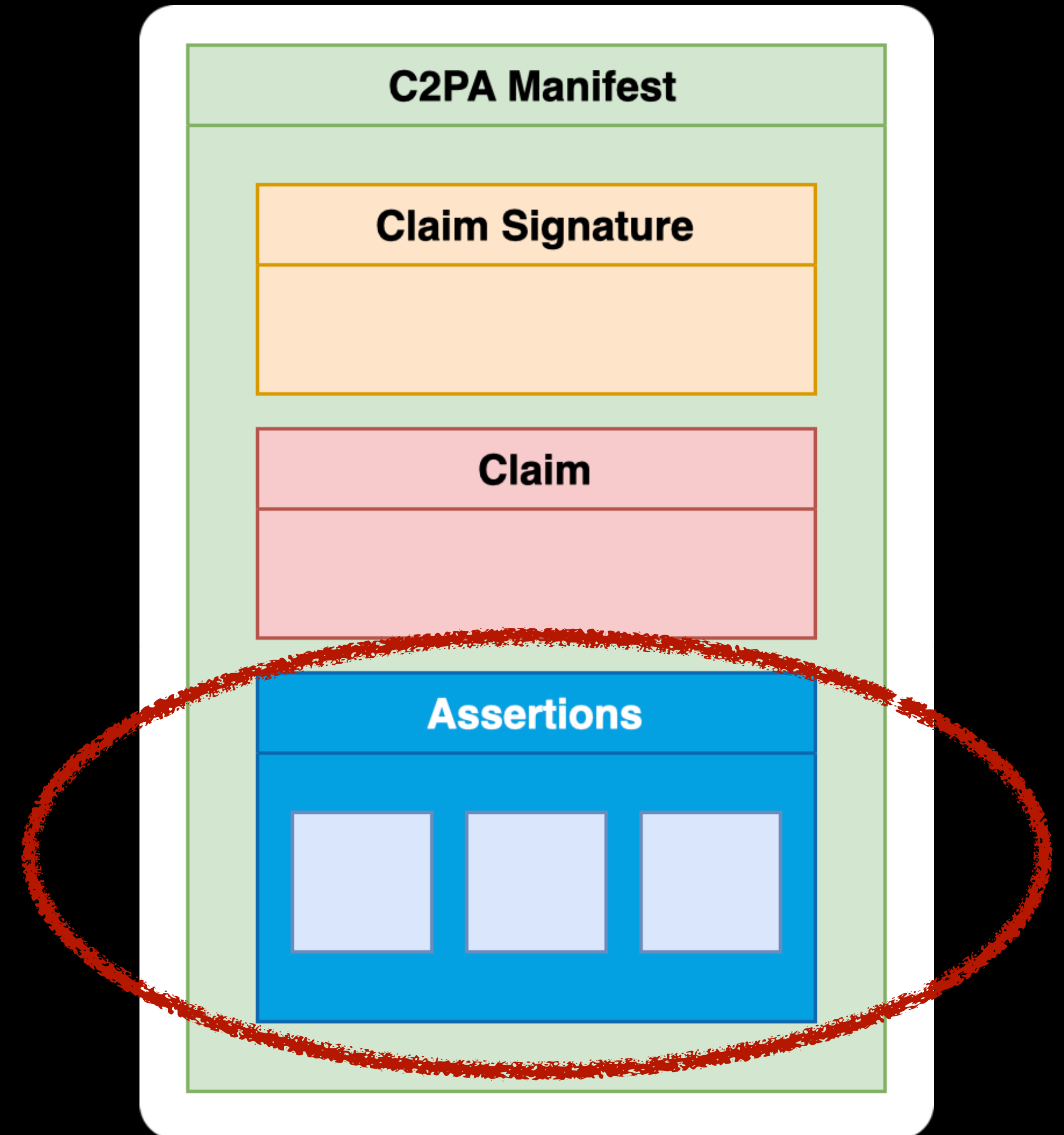
# C2PA data model

## Assertions

**Assertions** are opt-in statements that cover areas such as:

- hard binding to asset's binary content
- capture device details
- edit actions
- thumbnail of the content
- other content (ingredients) that were incorporated into this content

This mechanism is **extensible**.



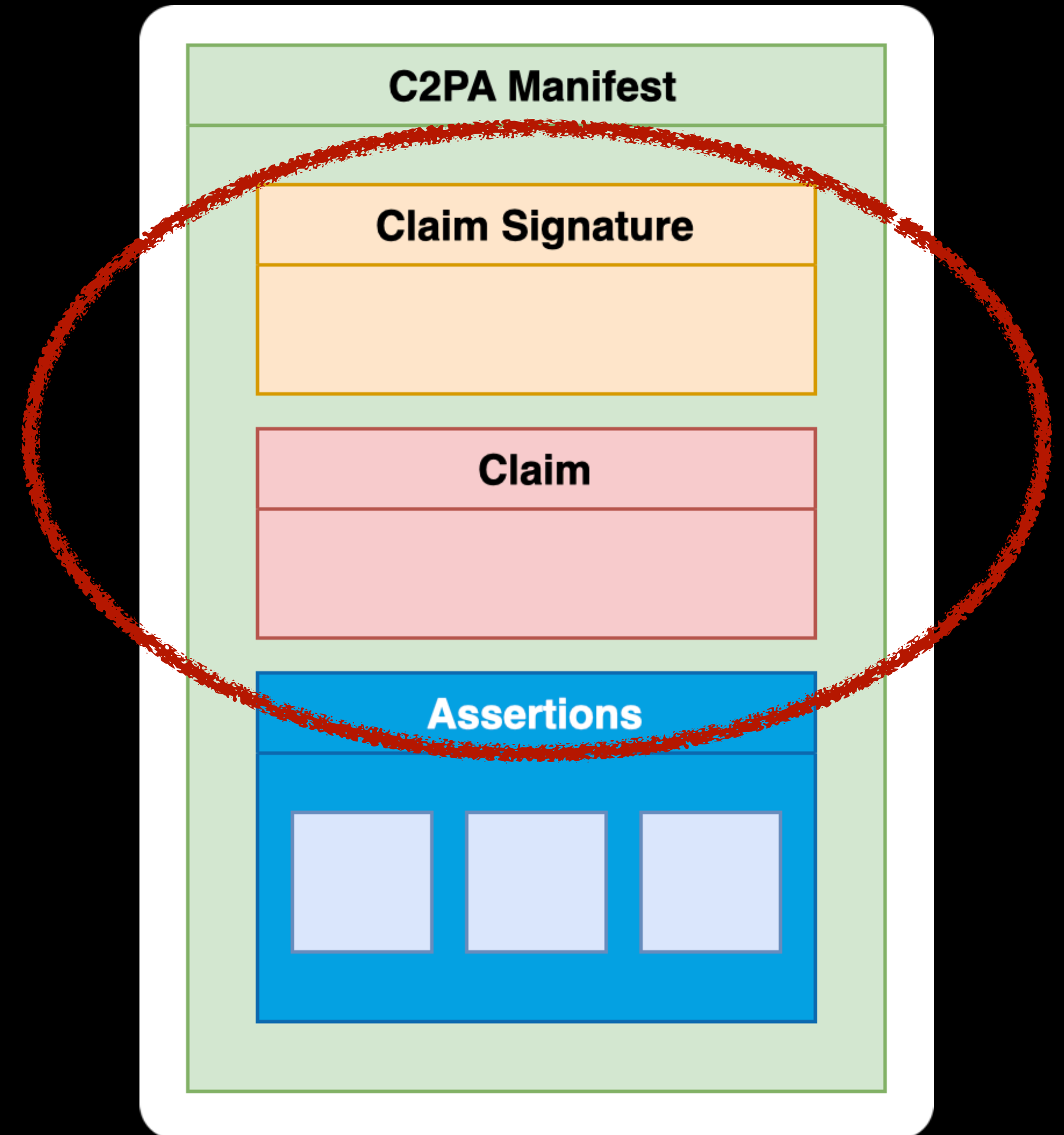


# C2PA data model

## Claim

Every C2PA Manifest has exactly one **claim**, which lists the assertions and describes the claim generator (tool that built the Manifest).

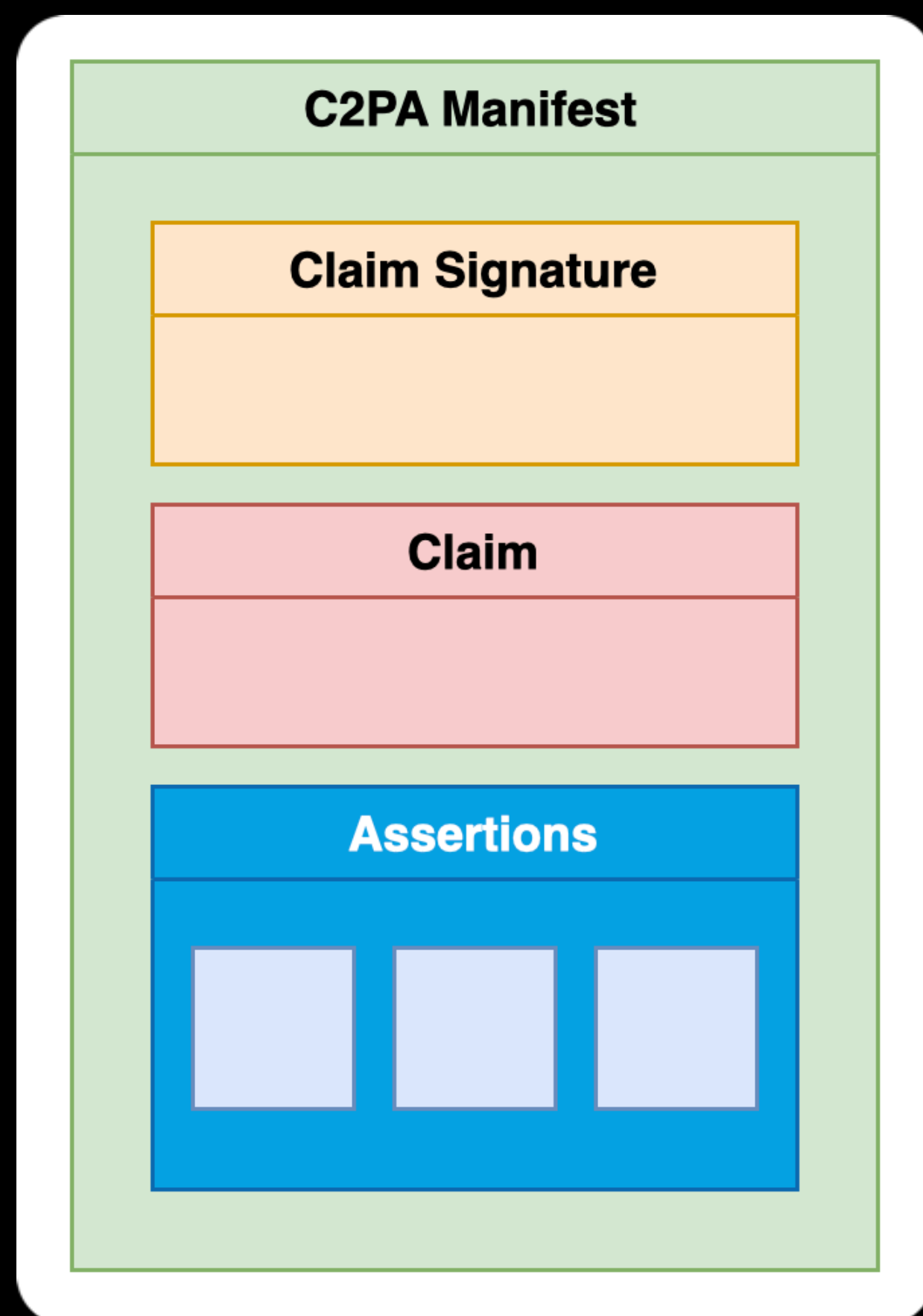
This claim is signed using an X.509 certificate, which provides evidence of who signed it and provides tamper evidence if a third party attempts to change the claim after the fact.






# C2PA data model

How we display it



[contentauthenticity.adobe.com/inspect](https://contentauthenticity.adobe.com/inspect)

20241127-162852-R-es-4703-039.jpg  
Recorded by Adobe Inc.



**Contributor details** ▾  
Information shared by people involved in making this content.

Behance [ericscouten1](#)  
 LinkedIn [Eric Scouten](#)

I request that generative AI models not train on or use my content

**Content details** ▾  
Information about this content and how it was made.

**App or device used**  
 Adobe Content Authenticity

**Recorded by**  
 Adobe Inc. on Jun 3, 2025 ⓘ

**Actions**

**Opened**  
Opened a pre-existing file

**Watermarked**  
Applied an invisible watermark to improve this Content Credential's durability

**Ingredients**

20241127-162852-R-es-4703-039.j...  
No Content Credentials

**claim generator** (C2PA)

**thumbnail assertion** (C2PA)

**identity assertion** (CAWG)

**training + data mining assertion** (CAWG)

**claim generator** (C2PA)

**actions assertion** (C2PA)

**ingredients assertion** (C2PA)



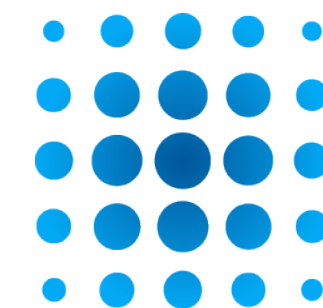


# Introducing CAWG

CAWG (Creator Assertions Working Group)

was created in early 2024 to create technical standards to house metadata sourced from individual and organizational content creators.

CAWG became a working group within DIF in March 2025.



Decentralized  
Identity  
Foundation



## What does CAWG do?

Four assertion standards, building on C2PA technical spec:

- **Endorsement** ► Forward permission for CDN-style renditions on C2PA assets
- **Identity** ► Binding digital identity credentials to C2PA assets
- **Metadata** ► Associate user-generated metadata with C2PA assets
- **Training and Data Mining** ► Express permissions regarding AI training and data mining usage



## What does CAWG do?

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# Identity assertion

is a framework

The actor\* described by ...  *$\{credential\}$*

using a credential issued by ...  *$\{issuer\}$*

produced the content described by ...  *$\{signer\_payload\}$*

---

Signed by ...  *$\{credential\_holder\}$*

\*actor can be human, non-human, or organization of humans



# Identity assertion

## in the C2PA data model

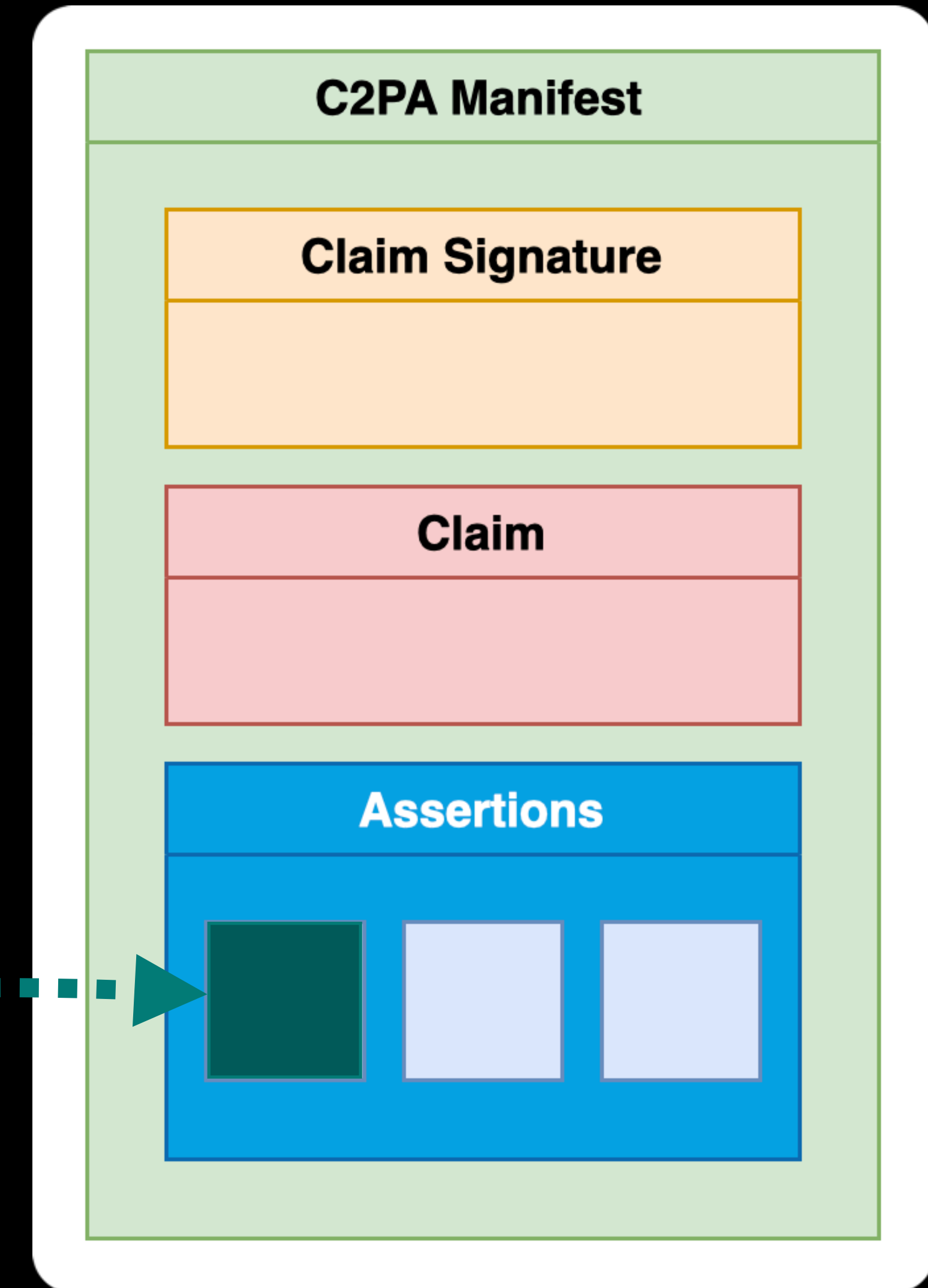
A **CAWG identity assertion** is typically meant to indicate subject's **authorization of** or **active participation in** production of the asset.

It provides a **tamper-evident binding** between a digital credential and the asset described by the C2PA Manifest *and* potentially other assertions in the same C2PA Manifest.

The actor\* described by ... `${credential}`  
using a credential issued by ... `${issuer}`  
produced the content described by ... `${signer_payload}`

---

Signed by ... `${credential holder}`



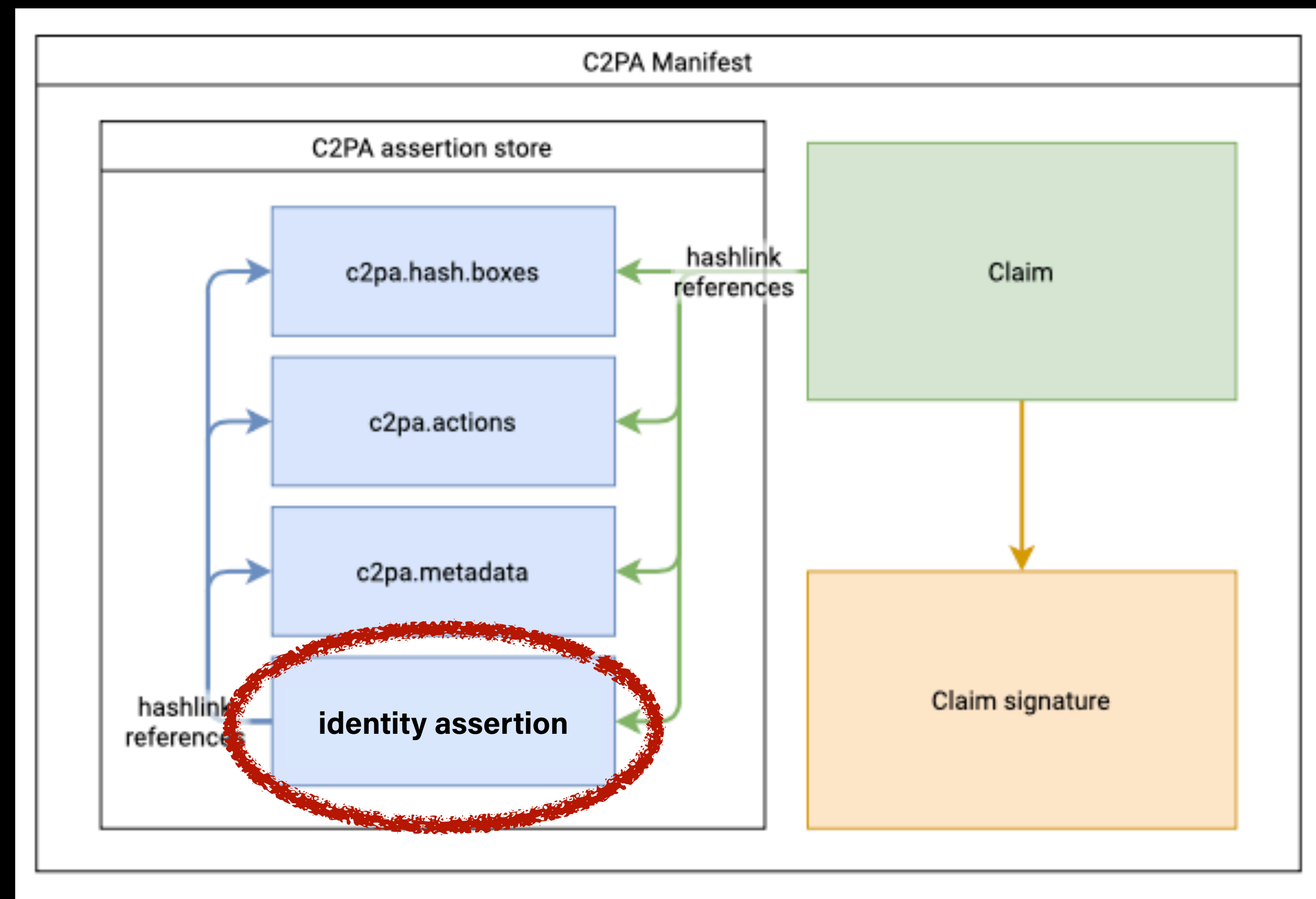


# Identity assertion

## Overview

Identity assertion allows a credential holder to sign a **signer payload** data structure which contains tamper-evident references to one or more other assertions in the same C2PA Manifest (including hard-binding assertion).

New trust signal separate from C2PA claim generator.





# Identity assertion

Two flavors (so far)

- **X.509 certificate**

*Typically used for institutional content creators such as news media. (More discussion in breakout part 2.)*

- **Identity claims aggregation**

*Targeted for individual content creators; contains links to social media, web site, etc.*

- **Extensible**

*Are there other credential formats we should consider?*



# Identity assertion

Individual content creators

- Instagram
- Twitter
- Other social media
- Web site
- Identity document (mDL or physical drivers license, etc.)

**Problem:** These credentials can generally be *observed* or *gathered* temporarily, but they generally don't have autonomous signing capability.



# Identity assertion

Individual content creators

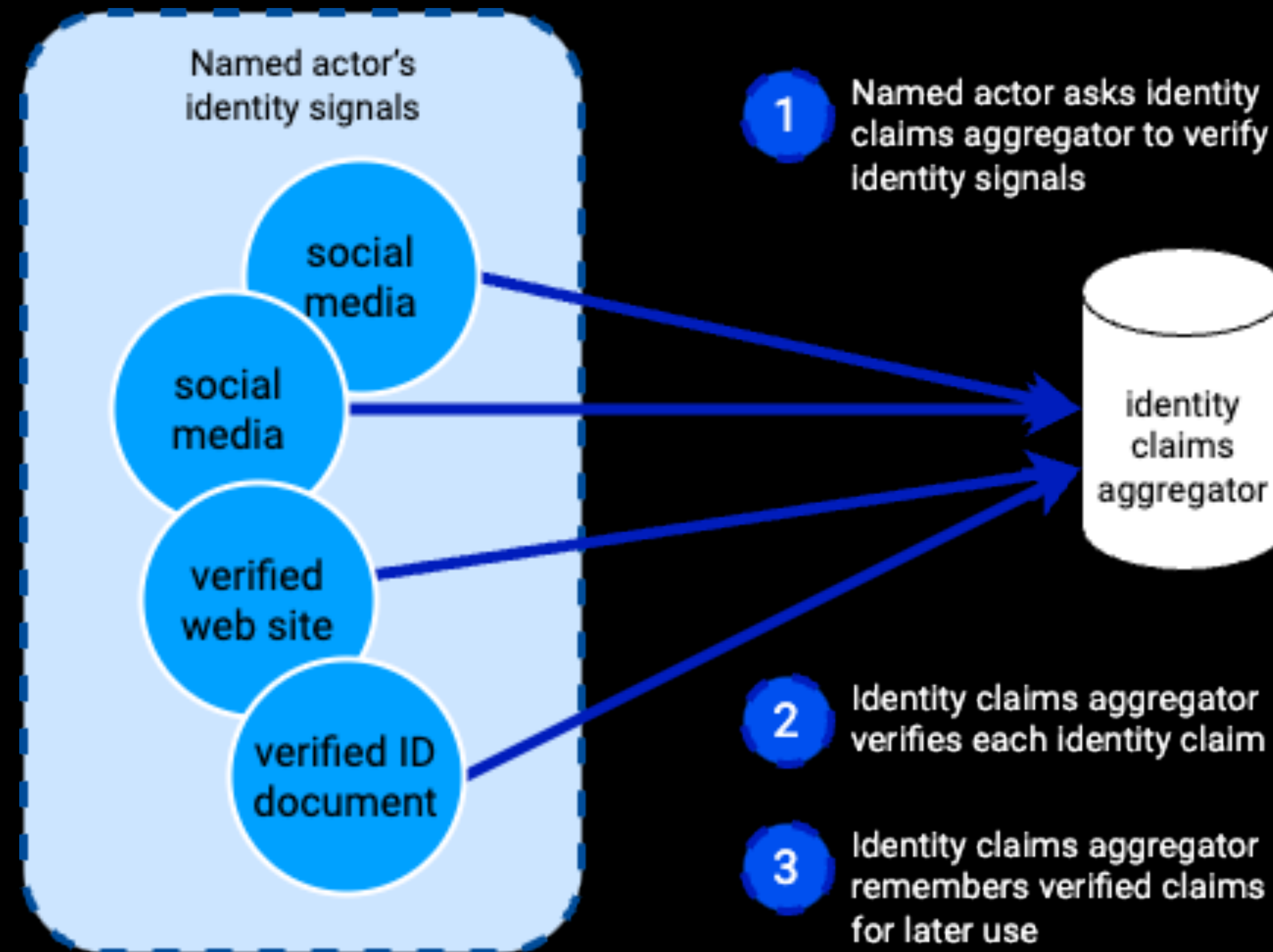
- Instagram
- Twitter
- Other social media
- Web site
- Identity document (mDL or physical drivers license, etc.)

**Solution:** Describe how a platform vendor can *aggregate* these identity signals and attest to them on behalf of their customer.



# Identity assertion

Individual content creators: Verifying identity attestations

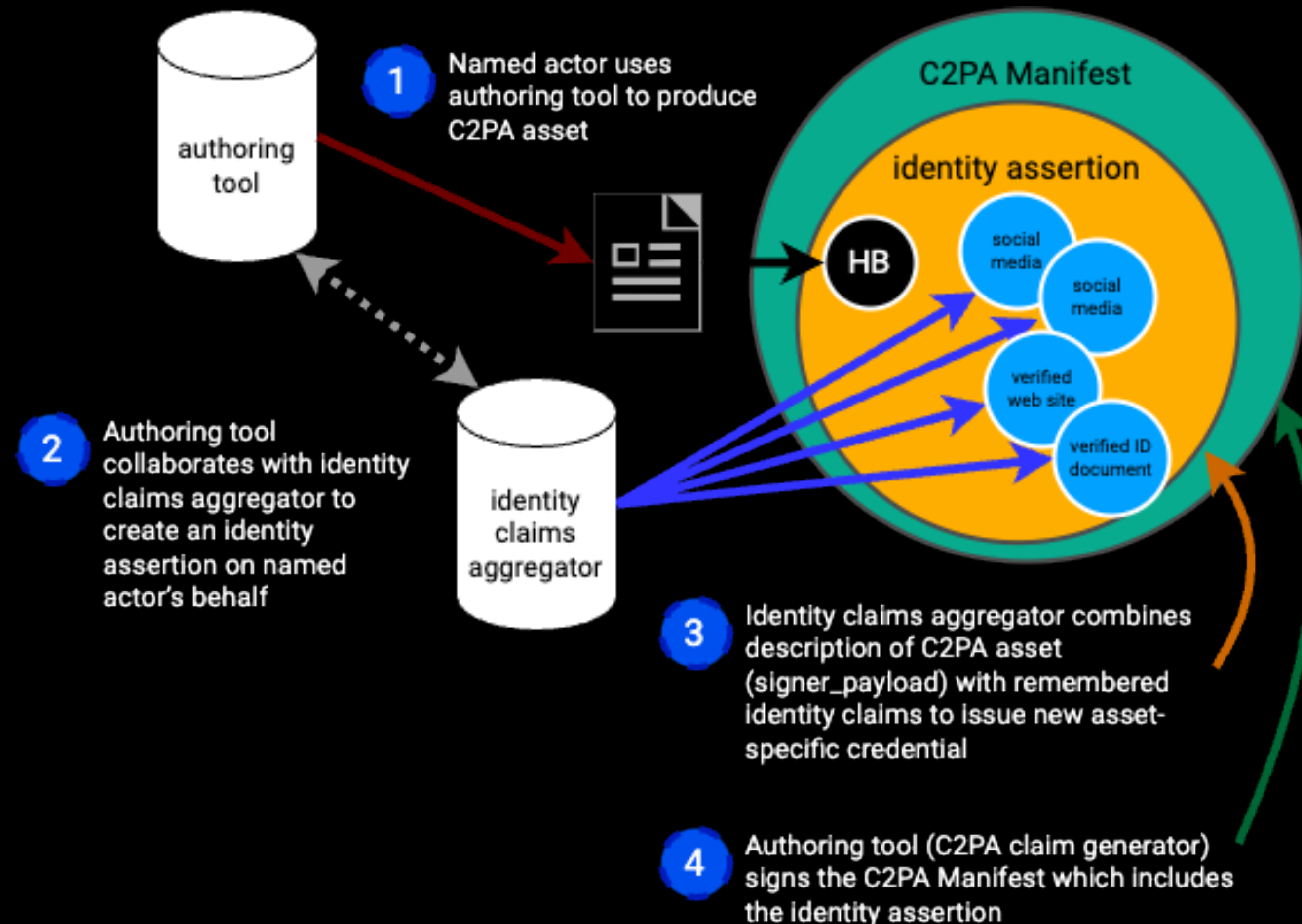






# Identity assertion

Individual content creators: Creating content







# Adobe Content Authenticity

## UX for CAWG identity claims aggregation

[contentauthenticity.adobe.com/preferences](https://contentauthenticity.adobe.com/preferences)

### Preferences

Manage information to include in Content Credentials from Adobe Content Authenticity (Beta).

#### Social media accounts

Behance

[ericscouten1](#)

...

Instagram

Connect

...

LinkedIn

[Eric Scouten](#)

...

X (Twitter)

Connect

...

Add social media accounts to your Content Credentials by logging in to prove that they're yours.

[contentauthenticity.adobe.com/inspect](https://contentauthenticity.adobe.com/inspect)

#### Contributor details

Name

[Jane Smith](#)

Verified by LinkedIn

Behance

[Julie Smith](#)

Instagram

[juliesmith](#)

I request that generative AI models not train on or use my content.

#### Content details

Data sourced from  
CAWG identity  
assertion



# Identity assertion

Individual content creators

The actor described by ... VC with aggregated ID signals

using a credential issued by ... identity claims aggregator

produced the content described by ... `${signer_payload}`

---

Signed by ... identity claims aggregator



## Caution

Identity claims aggregation is *one way* to provide information about a content creator.

It's useful as a bridge between the identity signals mentioned before and current credential technology, but it is *not* fundamental to the identity assertion.



# Identity assertion

Organizational identity via CAWG X.509

The actor described by ... X.509 certificate

using a credential issued by ... certificate authority

produced the content described by ... \${signer\_payload}

---

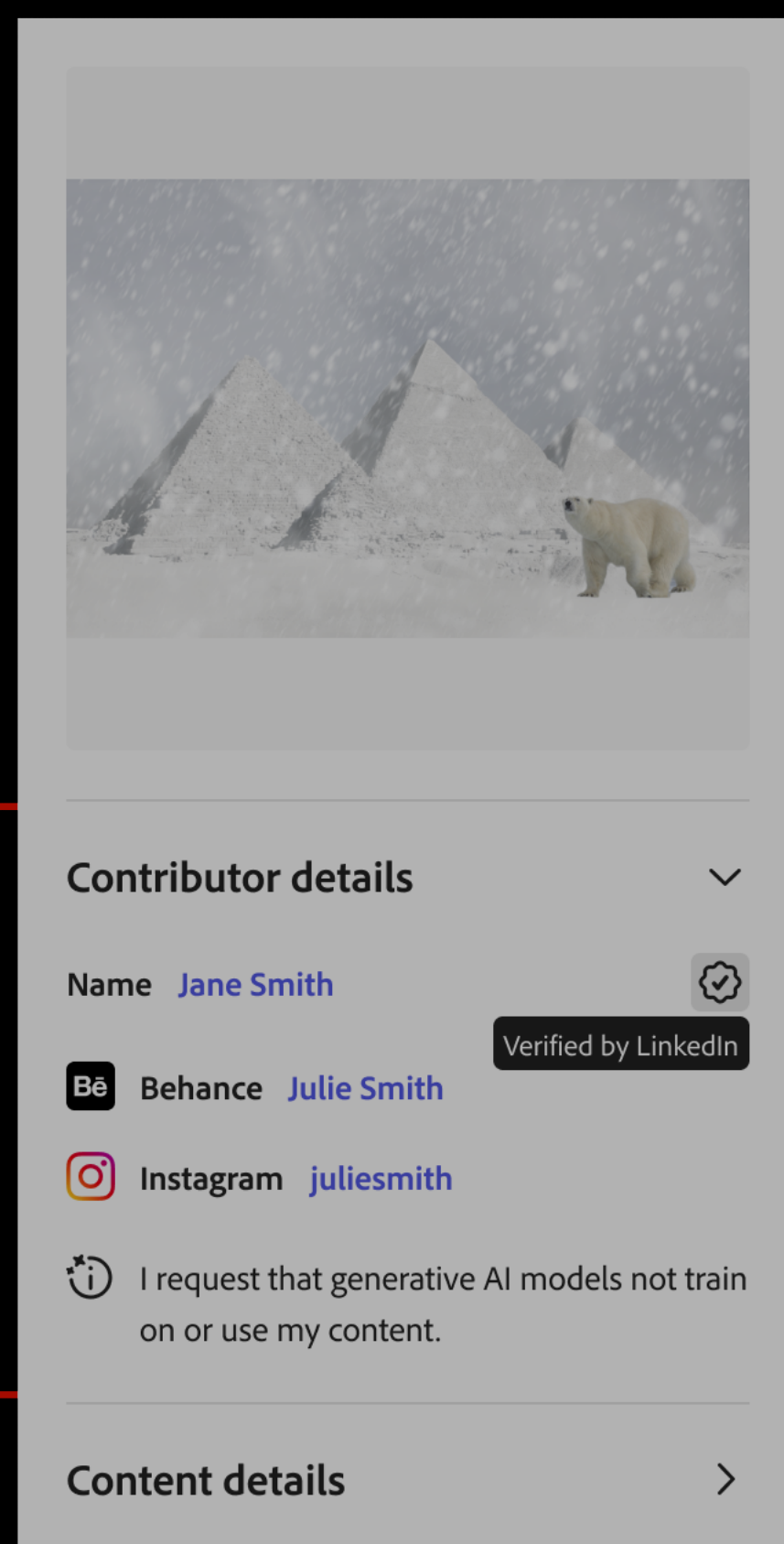
Signed by ... X.509 credential holder



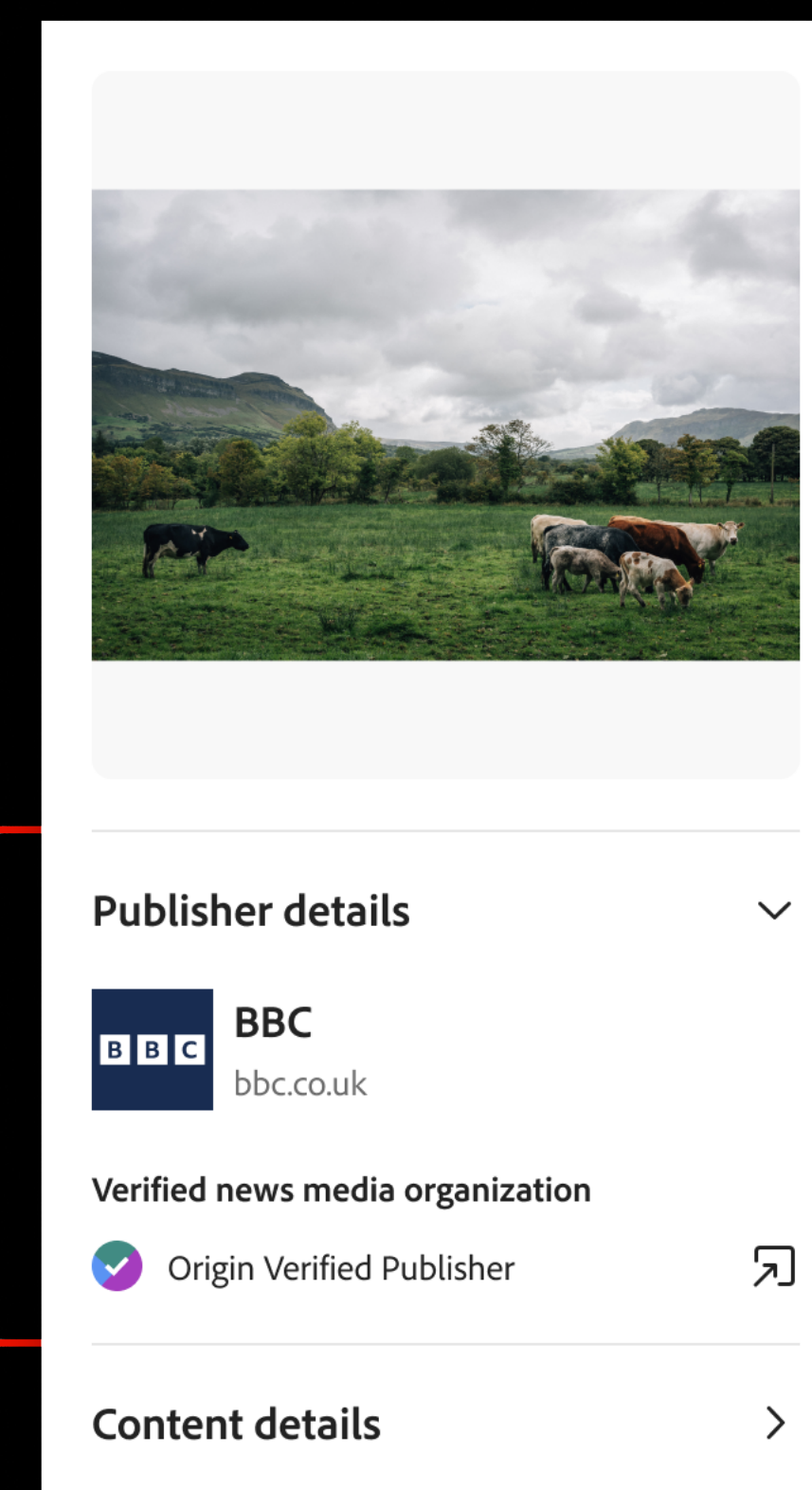
# Adobe Content Authenticity

## Proposed UX for Origin verified publisher content

contentauthenticity.adobe.com/inspect  
(for individual-created content)



contentauthenticity.adobe.com/inspect  
(for news media content)




Data sourced from  
**CAWG identity**  
assertion






# Adobe Content Authenticity



Publisher provides additional metadata



**Publisher details** ▾


 **BBC**  
bbc.co.uk

Verified news media organization


 Origin Verified Publisher 

**Content details** >

Data sourced from  
**CAWG metadata**  
assertion



**Publisher details** ▾

 **BBC**  
bbc.co.uk



**Title**  
Cattle Grazing Beneath Stormy Skies in County Sligo

**Description**  
A group of cows graze in a green pasture surrounded by rolling hills and cloudy skies in a rural landscape, likely in a temperate region.

**Credit**  
Photo by Jane McConnell / Reuters

**Published on** September 15, 2012

**Verified news media organization**

 Origin Verified Publisher 

**Content details** >



# Upcoming work

Identity and metadata 1.2



## **Identity assertion 1.2**

Proposed goals – still under discussion

- Identity evolution
- Self-control of identity signals
- Privacy preservation





## Identity assertion 1.2

Proposed goals – **identity evolution**

- Name changes
- New social media / web site / contact

Allow content creators to provide new information – or remove existing information – about their identity for existing C2PA assets, *even if no information was provided at time of asset creation.*



## Identity assertion 1.2

Proposed goals – **self-control**

- Allow content creators to control their own identity signals.
- Allow content creators to use the same identity signals across authoring tools.
- Allow content creators the ability to choose when/if to disclose aspects of their identity.



## Identity assertion 1.2

Proposed goals – **privacy preservation**

- Allow content creators to control whether identity signals among C2PA assets are correlatable.
- Avoid unintended identity signals through unintended correlation between identity assertions.
- Allow content creators the ability to choose when/if to disclose aspects of their identity. *(repeat)*



## Identity assertion 1.2 – media identifiers TF

Problem space 1 of 2

There are many media industry identifiers commonly associated with various individual talent professionals (musicians, actors, directors, etc.) and organizations that should be associated with content that they are involved in producing.

Examples: EIDR, HAND, ISNI



## **Identity assertion 1.2 – media identifiers TF**

Problem space 2 of 2

Most of the individuals and organizations which need to be identified are not typically involved in the content distribution workflow, so it's not feasible to have them contribute individual signatures.

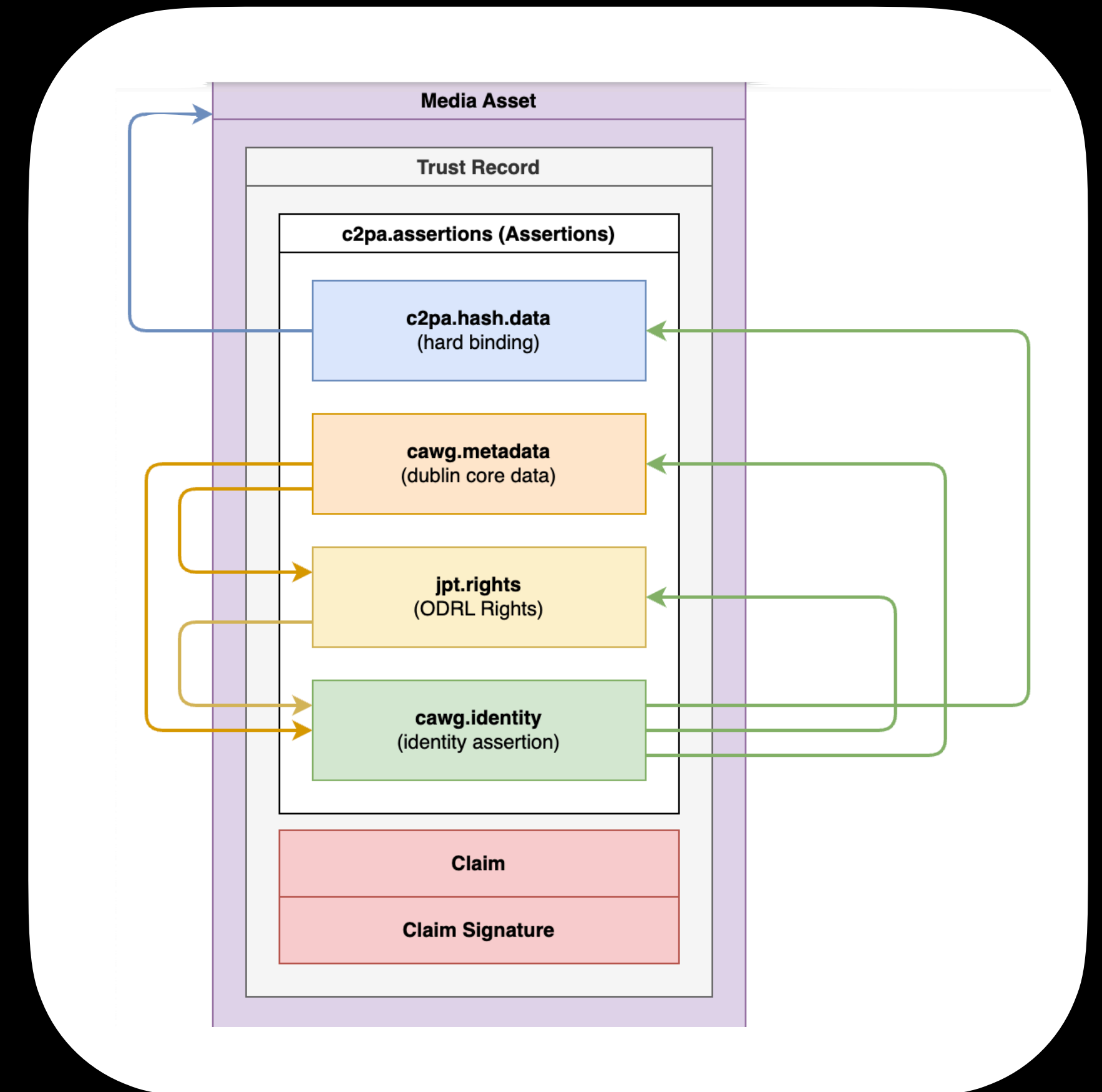


# Identity assertion 1.2 – media identifiers TF

Proposed solution

Use a CAWG metadata assertion to house industry-specific identifiers.

Use a CAWG identity assertion signed by trusted industry organization to sign the metadata and thus vouch for validity of ID assignments.



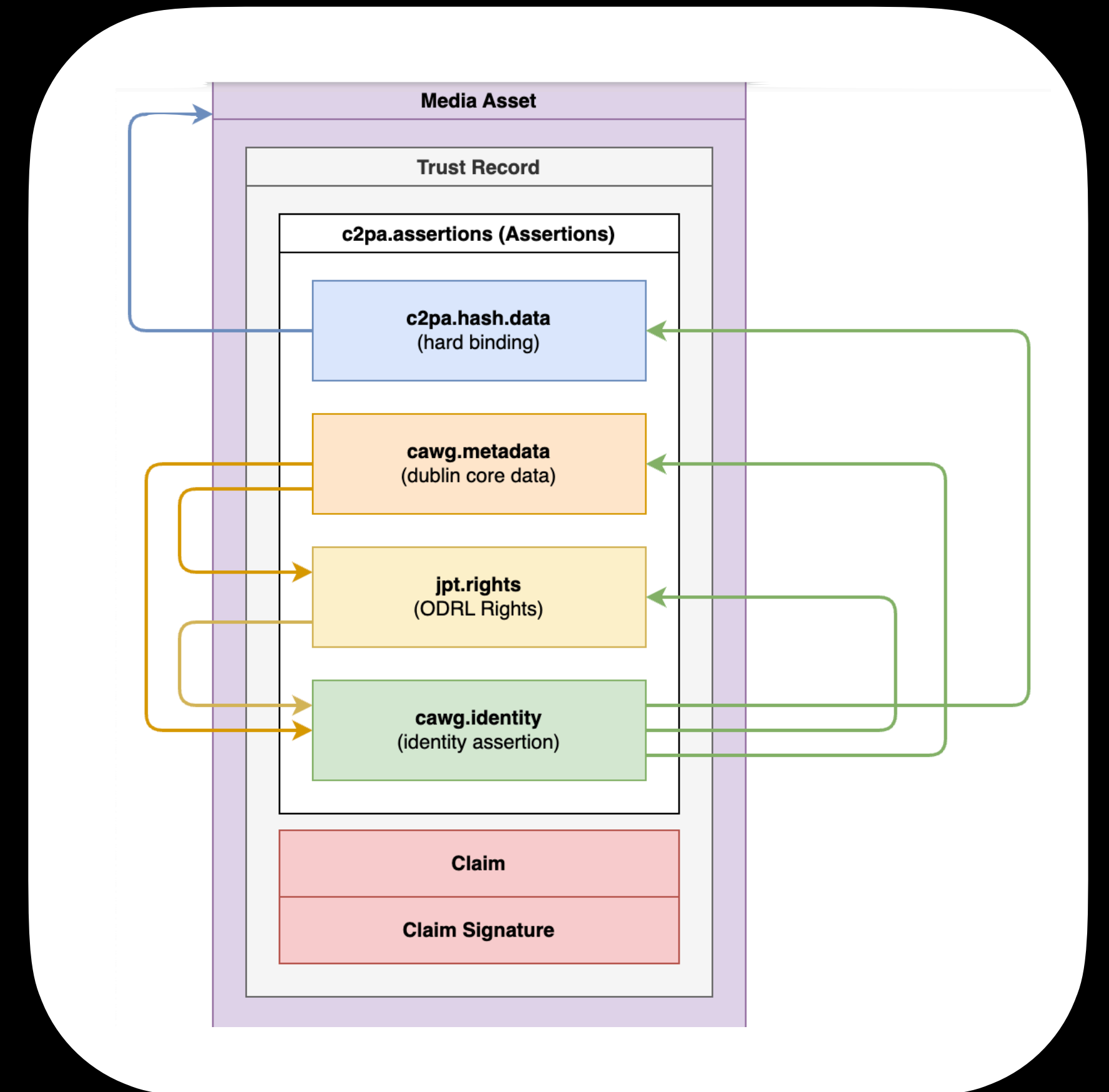


# Identity assertion 1.2 – media identifiers TF

Status report: Early days

Just now organizing this group and creating initial drafts.

Comments welcome, of course!





## **Identity assertion 1.2**

Proposed technical approaches – still under discussion

- Identity hooks
- First-person credentials





## Identity assertion 1.2

Proposed technical approaches – **identity hooks**

Core idea: **Automatically create an “identity hook” (a public-private key pair or DID) for every C2PA asset created and privately remember the association between private key and asset.**

This allows the content creator to subsequently release information that is associated with that specific asset of the form: “I can prove that I created the specific asset in question and I would now like you to know \_\_\_\_.”

... without inadvertently proving that you created any *other* C2PA asset.

More info: [github.com/decentralized-identity/cawg-identity-assertion/issues/216](https://github.com/decentralized-identity/cawg-identity-assertion/issues/216)



## Identity assertion 1.2

Proposed technical approaches – **first-person credentials**

Core idea: **Establish a self-controlled credential that is based on verifiable relationships.**

Allow content creators to associate reputation-based credentials with the content they create.

More info coming in a moment (Drummond).



**Come help us bind content provenance with identity!**

CAWG is part of  **DIF**

Meetings are every other Monday at:

- NA/EU: 0800 Pacific / 1100 Eastern / 1500 UTC
- APAC: 1800 Pacific / 0100\* UTC / 1100\* Sydney

Next meeting: 16 June\*

\* APAC times are in the following Tuesday



## Discussion / Q&A (after Drummond's talk)

- Who are the **next wave** of content creators?
- **What credentials** will support their authenticity?

Contact info: [scouten@adobe.com](mailto:scouten@adobe.com) · [cawg.io](http://cawg.io)



# **First-person credential project**

**Drummond Reed, FPP project lead**