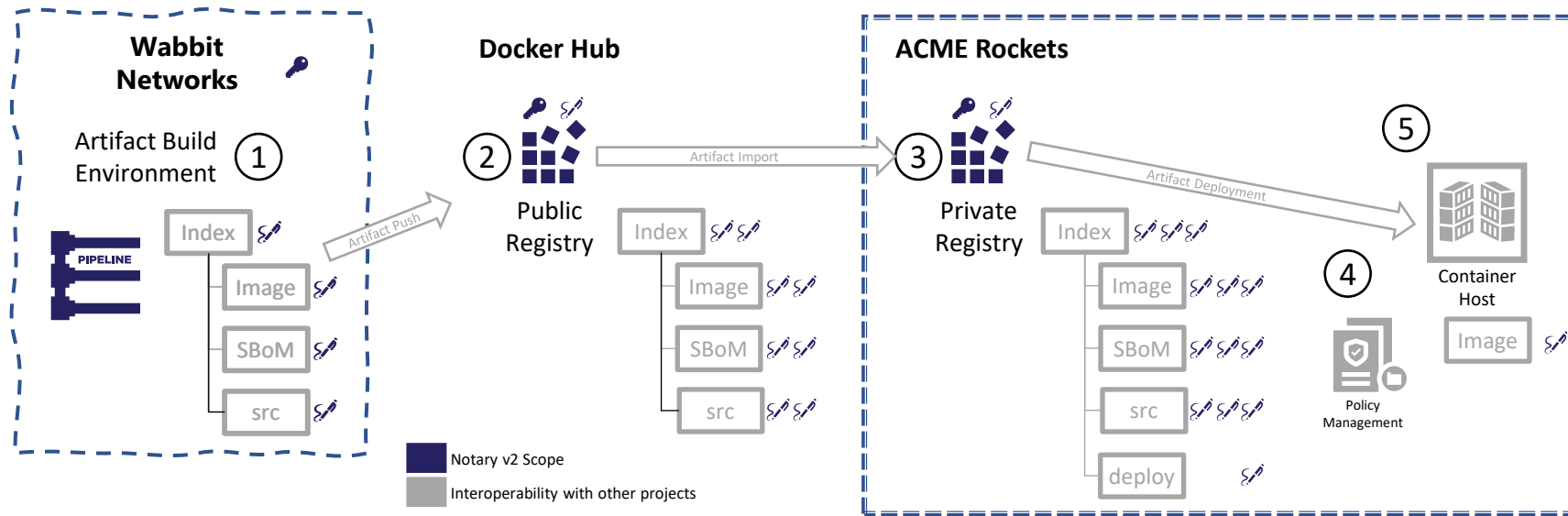


OCI Artifacts & Collections

OCI Weekly Call 9/30/2020



1. An entity authors content
 - signs their content with their key
2. Publish to a well-known location
 - May get certified by the aggregator
3. Consume the public content into an entity's private registry
 - Add a verification signature, attesting to its usage in the company
4. Policy management enforces which keys can be used for deployment, even what registries content can be pulled from
5. Only after all signatures and policies are verified can the artifact be deployed

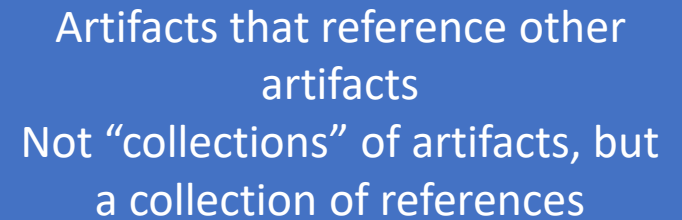
Distribution Persistence Types

Individual Types

- Container Images
- Singularity Images
- WASM modules
- Helm Charts
- Terraform
- Azure Resource Manager Templates
- AWS Cloud Formation Templates

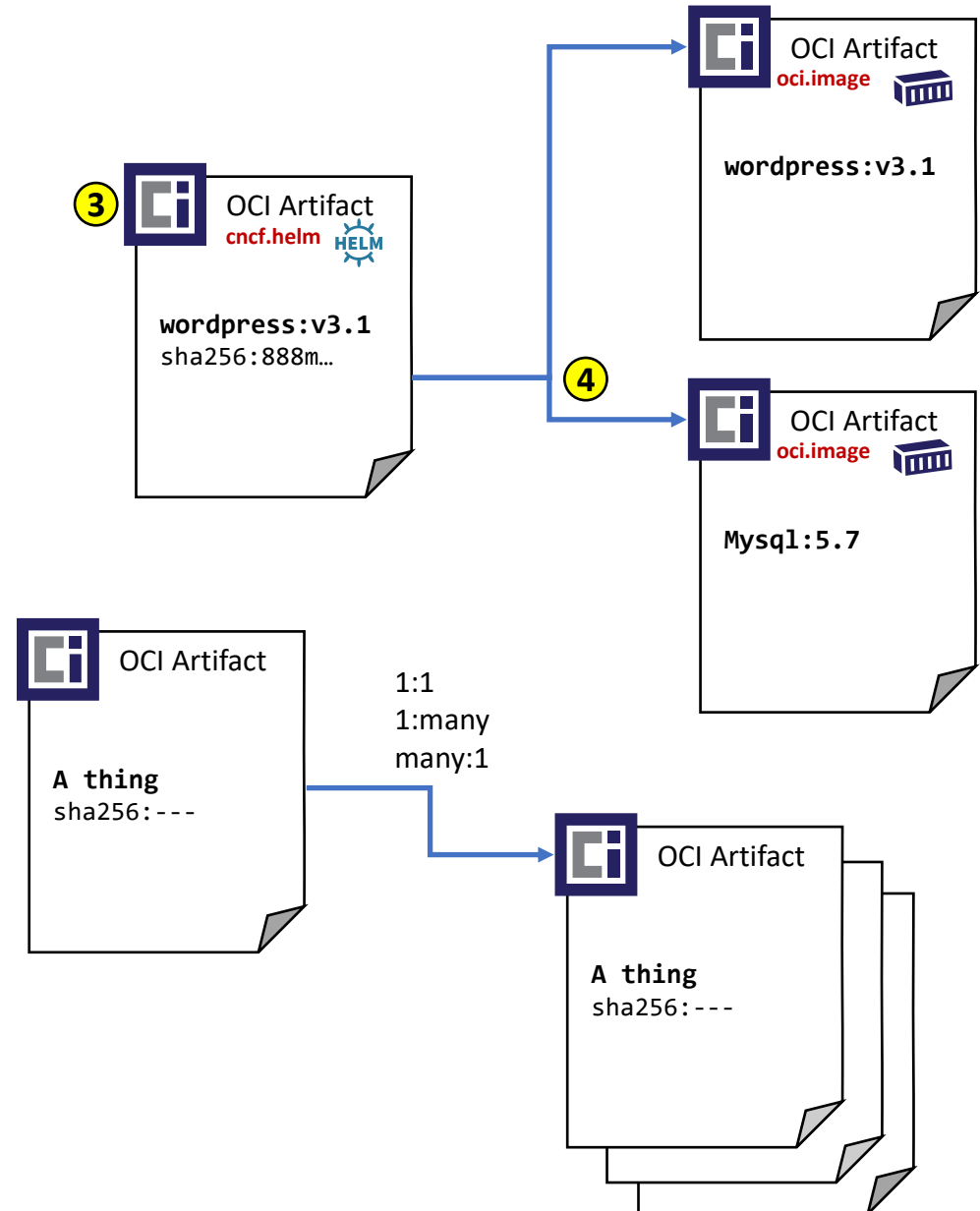
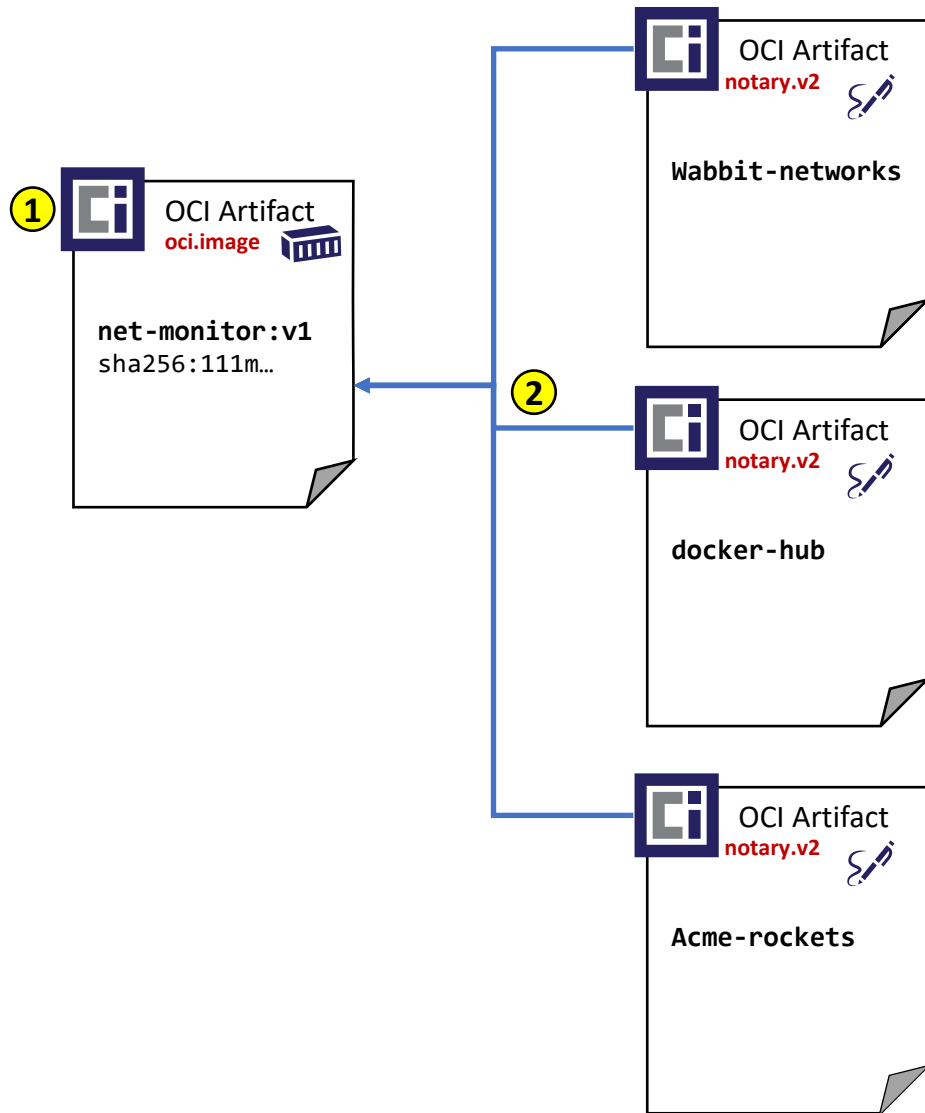
Collection Types

- Multi-arch index
- CNAB
- Signatures?



Artifacts that reference other artifacts
Not “collections” of artifacts, but
a collection of references

Reference Types



Distribution Persistence Types

Individual Types

- Container Images
- Singularity Images
- WASM modules

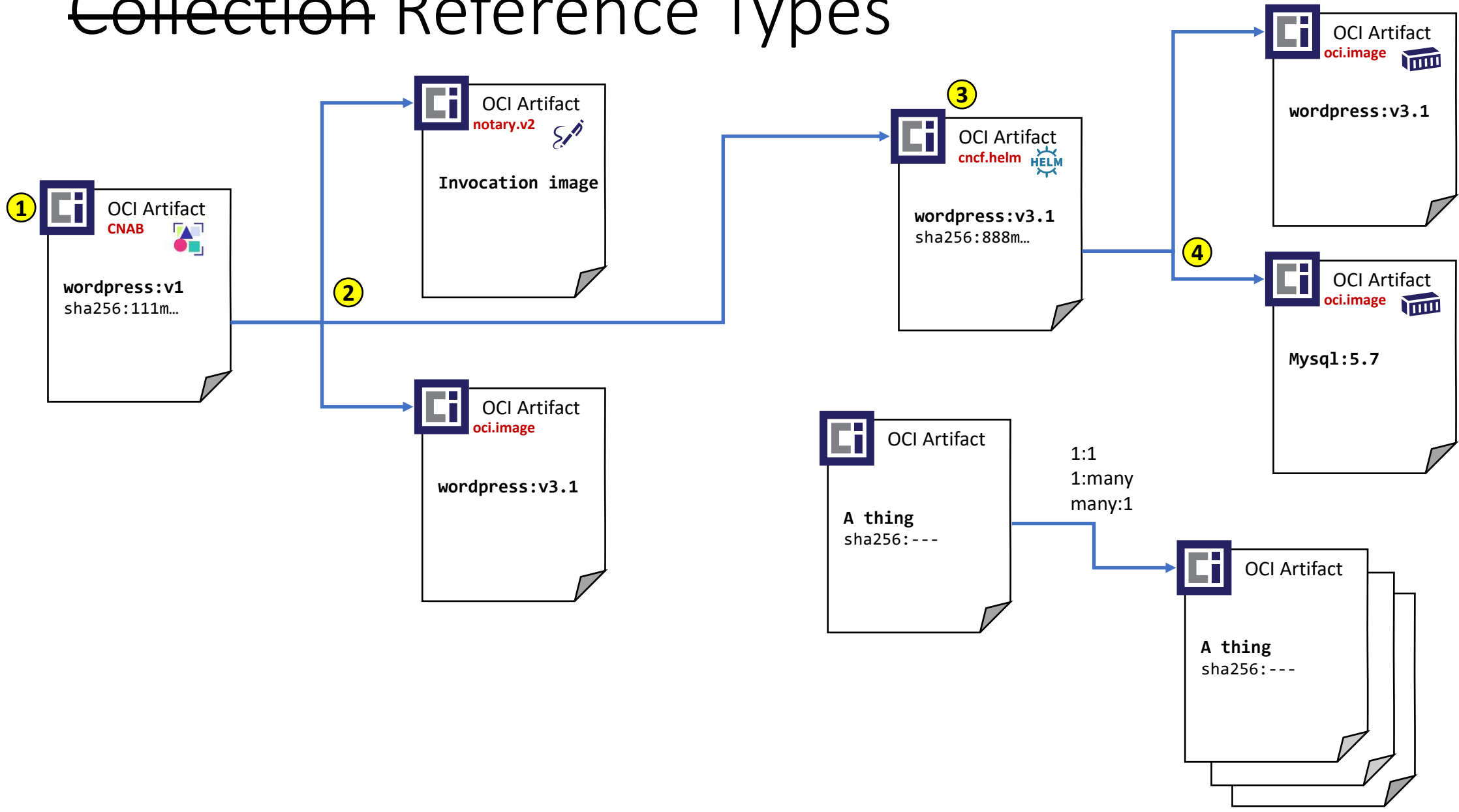
Reference Types

- Signatures
- Helm Charts
- Terraform Templates
- Azure Resource Manager Templates
- AWS Cloud Formation Templates

Collection Types

- Multi-arch index
- CNAB

Collection Reference Types



Distribution Persistence Types

Individual Types

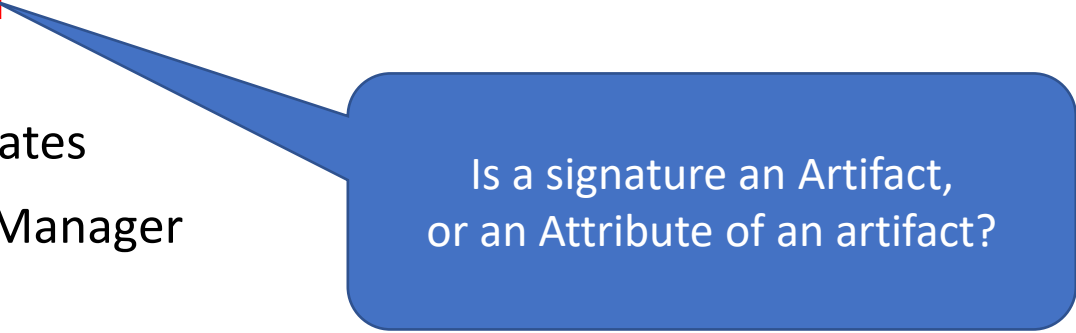
- Container Images
- Singularity Images
- WASM modules

Reference Types

- Signatures*
- Helm Charts
- Terraform Templates
- Azure Resource Manager Templates
- AWS Cloud Formation Templates
- CNAB

Collection Types

- Multi-arch index



Is a signature an Artifact,
or an Attribute of an artifact?

What should be seen?

The screenshot displays the Microsoft Azure portal interface. On the left is a dark sidebar with navigation links for 'Microsoft Azure', 'Create a resource', 'Home', 'Dashboard', 'All services', 'FAVORITES', 'Resource groups', 'Recent', 'All resources', 'Kubernetes services', 'Container registries', 'Container instances', 'App Services', 'Images', 'Storage accounts', 'Azure Active Directory', 'Subscriptions', 'Event Grid Subscriptions', 'Key vaults', 'SQL servers', 'SQL databases', 'Virtual machines', 'Virtual machines (classic)', 'Virtual machine scale sets', 'Security Center', and 'Security Baselines'. The main area is divided into two panels. The left panel shows the 'demo42 | Repositories' page with a search bar and a list of settings and services, including 'Overview', 'Activity log', 'Access control (IAM)', 'Tags', 'Quick start', 'Settings', 'Access keys', 'Encryption', 'Identity', 'Networking', 'Security', 'Locks', 'Services', 'Repositories', 'Webhooks', 'Replications', 'Tasks', 'Repository permissions', 'Tokens (Preview)', 'Scope maps (Preview)', 'Policies', and 'Content trust'. The right panel shows the 'helloworld' repository details. It includes a 'Refresh' button, a 'Delete' button, and a section titled 'Essentials' with the following information: 'Repository : helloworld', 'Tag count : 14', 'Last updated date : 11/2/2019, 10:19 AM PDT', and 'Manifest count : 12'. Below this is a search bar labeled 'Search to filter tags ...' and a list of tags with icons for each tag, including 'latest', 'latest-signature', 'latest-signature-acme-rockets', 'latest-signature-wabbit-networks', 'ca4nd', 'ca4ne-signature', 'ca4ng-signature-acme-rockets', 'ca4ng-signature-wabbit-networks', 'ca4nb', 'ca4nb-signature', 'ca4nb-signature-acme-rockets', and 'ca4nb-wabbit-networks'.

Microsoft Azure

Home > demo42

demo42 | Repositories

Container registry

Search (Ctrl+/)

Overview

Activity log

Access control (IAM)

Tags

Quick start

Settings

Access keys

Encryption

Identity

Networking

Security

Locks

Services

Repositories

Webhooks

Replications

Tasks

Repository permissions

Tokens (Preview)

Scope maps (Preview)

Policies

Content trust

helloworld

Repository

Refresh Delete

Essentials

Repository : helloworld

Tag count : 14

Last updated date : 11/2/2019, 10:19 AM PDT

Manifest count : 12

Search to filter tags ...

Tags ↑↓

- latest
- latest-signature
- latest-signature-acme-rockets
- latest-signature-wabbit-networks
- ca4nd
- ca4ne-signature
- ca4ng-signature-acme-rockets
- ca4ng-signature-wabbit-networks
- ca4nb
- ca4nb-signature
- ca4nb-signature-acme-rockets
- ca4nb-wabbit-networks

Distribution Persistence – Meta-data Services

Artifacts

- Container Images
- Singularity Images
- WASM modules
- Helm Charts
- Terraform Templates
- Azure Resource Manager Templates
- AWS Cloud Formation Templates
- CNAB

Meta-data

- Signatures
- SBoMs
- Vulnerability Summaries
- Hub –esque Docs/Descriptions
- LastTag
- TagHistory
- PullCount
- LastPullDate
- ExpirationDate
- DeployedTo



Distribution-spec
Implemented as a Registry

Artifacts-spec

Uses manifest and index* to define multiple artifacts



```
{  
  "manifests": [  
    {  
      "mediaType": ,  
      "platform": {  
        "architecture": ,  
        "os": ,  
        "variant": ,  
        "os.features": [ ]  
      }  
    }  
  ]  
}
```

Image Index



```
{  
  "config": {  
    "mediaType": ,  
    ...  
  },  
  "layers": [ ]  
}
```

Image Manifest



```
{  
  "config": {  
    "mediaType": ,  
    ...  
  },  
  "blobs": [ ]  
  "refs": [ ]  
}
```

Artifact Manifest



Image-spec
: typeOf Artifact
(Index & Manifest)



CNAB
: typeOf Artifact
(Index & Manifest)



Helm
: typeOf Artifact
(Manifest)



Singularity
: typeOf Artifact
(Manifest)



WASM
: typeOf Artifact
(Manifest)



SBOM