Static Manifest Requirements

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Status

History

- Presented initial CCNx manifest specification at Prague (IETF 93)

- Presented overview of existing designs at interim ICNRG meeting in San Francisco (October)

Outcome

- There's a lot of disagreement about what a Manifest is and what it should do

Goal

- Define requirements for a "static Manifest"

- *Static*: some blob of finite-sized data (i.e., not data that is generated in real-time)
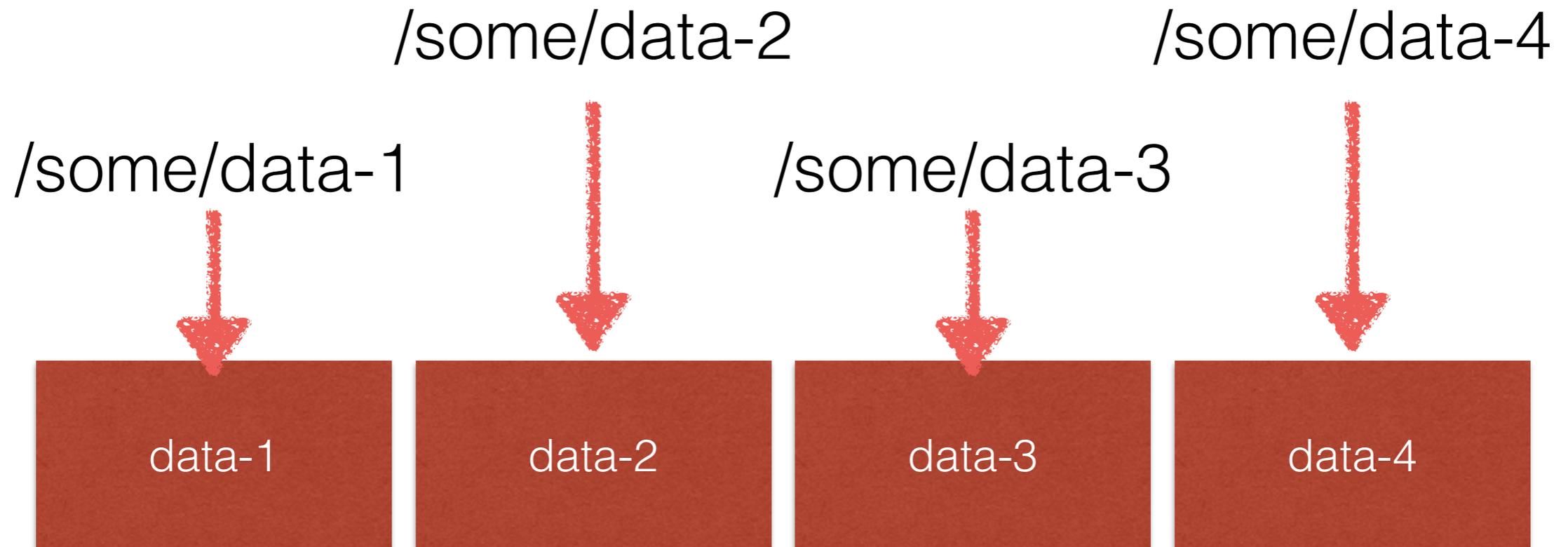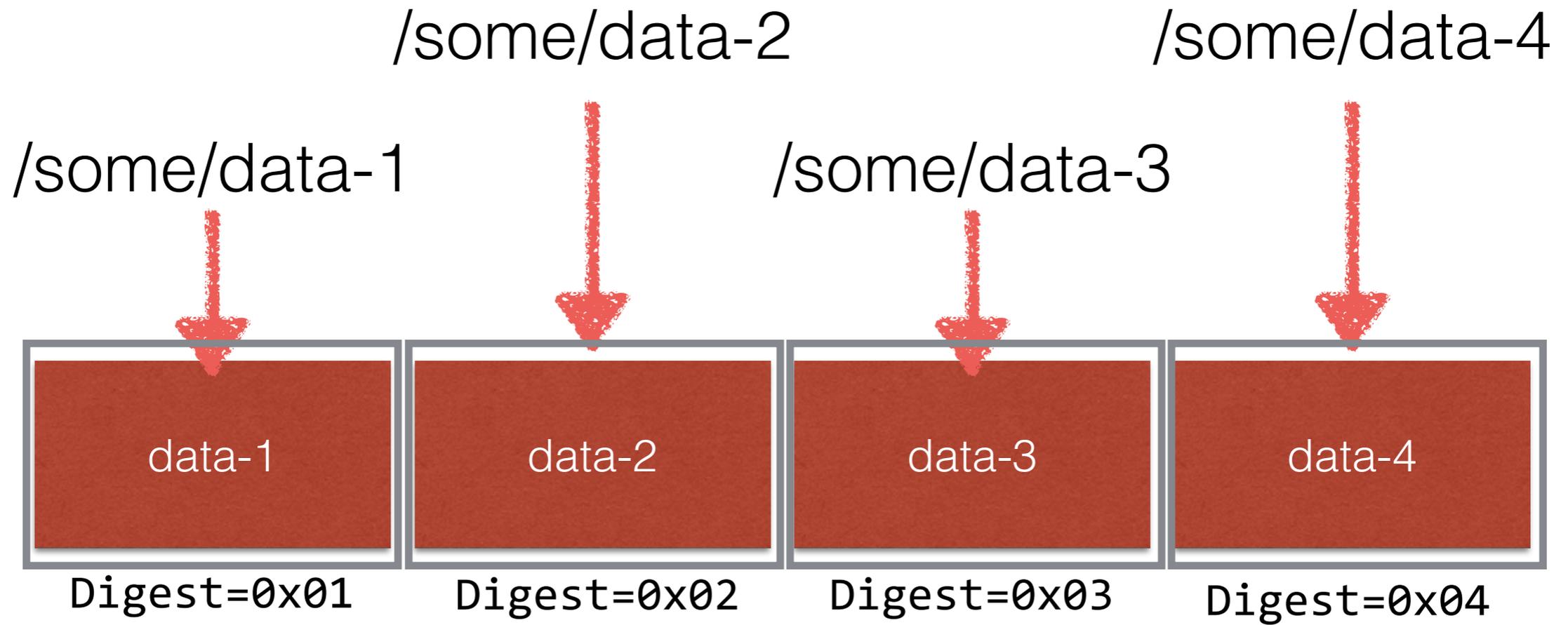
data

/some/data

data

/some/data

Content Object [/some/data]

data

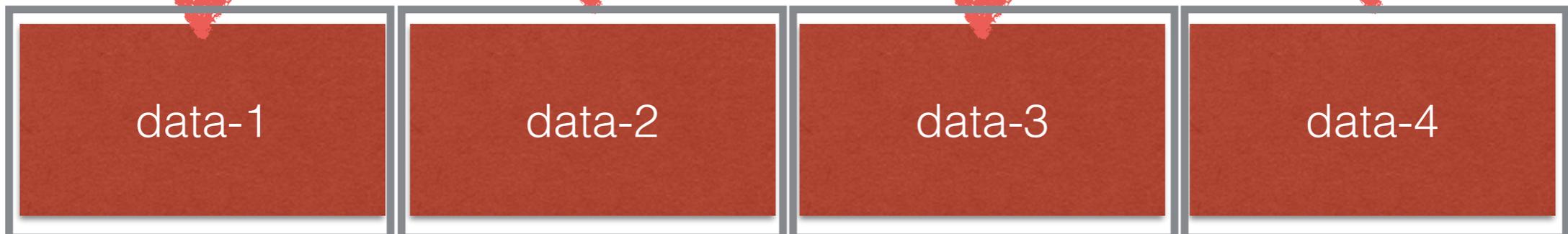/some/data-1   /some/data-2   /some/data-3   /some/data-4

data-1   data-2   data-3   data-4

/some/data-1

/some/data-2

/some/data-3

/some/data-4

data-1

data-2

data-3

data-4

Digest=0x01

Digest=0x02

Digest=0x03

Digest=0x04

Manifest [/some/data]

/some/data-1 `Digest=0x01`
/some/data-2 `Digest=0x02`
/some/data-3 `Digest=0x03`
/some/data-4 `Digest=0x04`

/some/data-1
/some/data-2
/some/data-3
/some/data-4

data-1
`Digest=0x01`

data-2
`Digest=0x02`

data-3
`Digest=0x03`

data-4
`Digest=0x04`

Manifest [/some/data]

/some/data-1 Digest=0x01
/some/data-2 Digest=0x02
/some/data-3 Digest=0x03
/some/data-4 Digest=0x04

Links *could* also contain the KeyId

/some/data-1

/some/data-2

/some/data-3

/some/data-4

data-1

data-2
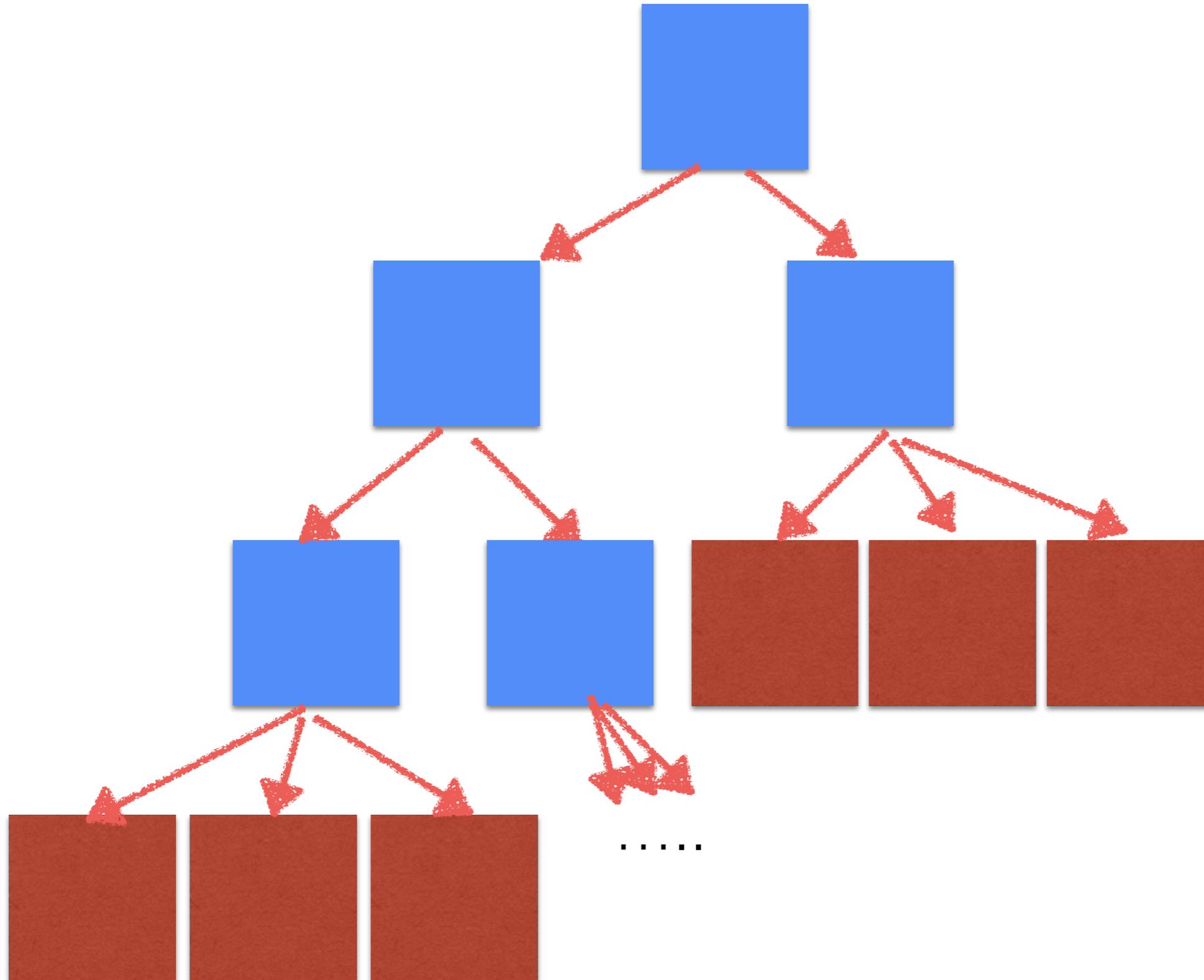
data-3

data-4

Digest=0x01

Digest=0x02

Digest=0x03

Digest=0x04

root

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Proposed Requirements

1. A static Manifest shall be its own type of CCNx Message, in addition to Content Object and Interest.

2. A static Manifest shall represent static data.

3. A static Manifest shall contain pointers to other CCNx Messages (i.e., Manifests or Content Objects).

4. For each pointer in a static Manifest, the type of CCNx Message to which the pointer refers shall be readily identifiable.

Open Questions

1. Should a static Manifest be able to carry sibling or parent pointers?

2. Should loop freedom be a requirement or something that is enforced?

3. Should the static Manifest lifetime be bounded? Should pointers be able to refer to content that no longer exists?

4. If a receiver detects an error in a static Manifest (e.g., a 404 or loop), what should it do?

5. A static Manifest represents a single piece of data. Should we consider a collection of names as a useful, but different use of the same structure?

Proposal: Two Manifests

Why?

- Static Manifests are restrictive—they require the data to exist.

- …Manifests should be able to be generated before the data exists (i.e., a Manifest that points to data that will *eventually* exist).

Two designs and specifications are in order:

1. Static Manifests (described here, updated spec in progress, to be submitted by IETF 95)

2. "General" Manifests (alluded to here, a topic of future work)