

CoRE: CRI

June 23rd (Wednesday), 14:00–15:30 UTC
(16:00–17:30 CEST, 07:00–08:30 PDT)

CoRE

[draft-ietf-core-href](#) defines **CRIs** and CRI references
Concise equivalent of URIs and URI references (RFC
3986)

-04

```
CRI-Reference = [  
  ((?scheme, ?authority) // discard),  
  *path-segment,  
  ? ((null, fragment)  
    //([+query-segment], ?fragment))  
]
```

-04 ("new-syntax")

- developed with Jim Schaad, since further optimized
- efficient!
- requires a number of decisions (if-statements) on ingest ("parsing")

Abstract content:

```
[ scheme, authority, discard, path, query, fragment ]
```

(path and query are arrays;
authority has address/name + optional port)

-04 ("new-syntax")

```
/          []
/a         ["a"]
/a/b       ["a", "b"]
/a/b?foo   ["a", "b", ["foo"]]
/a/b#bar    ["a", "b", null, "bar"]
/?foo      [["foo"]]
a          [1, "a"]
.          [1]n..          [2]
../a       [2, "a"]
../a?foo   [2, "a", ["foo"]]
../..      [3]
a?foo      [1, "a", ["foo"]]
?foo       [0, ["foo"]]
#bar       [0, null, "bar"]
           [0]
```

Simplify this to abstract array?

/	[]	0	[]
/a	["a"]	4	[null, null, null, ["a"]]
/a/b	["a", "b"]	4	[null, null, null, ["a", "b"]]
/a/b?foo	["a", "b", ["foo"]]	4	[null, null, null, ["a", "b"], ["foo"]]
/a/b#bar	["a", "b", null, "bar"]	4	[null, null, null, ["a", "b"], null, "bar"]]
/?foo	[["foo"]]	4	[null, null, null, null, ["foo"]]
a	[1, "a"]	3	[null, null, 1, ["a"]]
.	[1]	2	[null, null, 1]
..	[2]	2	[null, null, 2]
../a	[2, "a"]	3	[null, null, 2, ["a"]]
../a?foo	[2, "a", ["foo"]]	3	[null, null, 2, ["a"], ["foo"]]
../..	[3]	2	[null, null, 2]
a?foo	[1, "a", ["foo"]]	3	[null, null, 1, ["a"], ["foo"]]
?foo	[0, ["foo"]]	3	[null, null, 0, null, ["foo"]]
#bar	[0, null, "bar"]	3	[null, null, 0, null, null, "bar"]]
	[0]	2	[null, null, 0]

Cost of simplification: 2–4 bytes per relative CRI-reference

Tweaked array

- Leave out leading [null, null, ...] (~ relative reference)
- disambiguate discard-all: true instead of null

```
/          []          1 [true]
/a         ["a"]       2 [true, ["a"]]
/a/b      ["a", "b"]   2 [true, ["a", "b"]]
/a/b?foo  ["a", "b", ["foo"]] 2 [true, ["a", "b"], ["foo"]]
/a/b#bar  ["a", "b", null, "bar"] 2 [true, ["a", "b"], null, "bar"]
/?foo    [["foo"]]   2 [true, null, ["foo"]]
a        [1, "a"]    1 [1, ["a"]]
.        [1]        0 [1]
..       [2]        0 [2]
../a     [2, "a"]    1 [2, ["a"]]
../a?foo [2, "a", ["foo"]] 1 [2, ["a"], ["foo"]]
../..    [3]        0 [2]
a?foo    [1, "a", ["foo"]] 1 [1, ["a"], ["foo"]]
?foo     [0, ["foo"]] 1 [0, null, ["foo"]]
#bar     [0, null, "bar"] 1 [0, null, null, "bar"]
         [0]        0 [0]
```

tweaked array syntax

```
CRI-Reference = [  
  ?( scheme / null,  
    authority / null ),  
  discard / true,  
  ?( [*path-segment] / null,  
    ?( [+query-segment] / null,  
      ?( fragment / null)))  
]
```


decide

1. Stay with new-syntax and some ingestion complexity
2. Go for simple array (2–4 bytes waste)
3. 2, but do **one** tweak (0–2 bytes waste)