

URI-Path abbreviation in CoAP

`ietf-core-uri-path-abbrev-02`

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Why?

GET /.well-known/core has 17 bytes of Uri-Path.

EDHOC was unhappy.

cBRSKI is unhappy.

IETFers are jealous of other SDOs¹

¹LwM2M's /rd is a BCP190 no-go

Solution

Numeric Uri-Path-Abbrev option.

Abbreviated	Expanded
Uri-Path: 0	Uri-Path: ".well-known", "core"
d0 00	bb . w e l l - k n o w n 04 c o r e
2	17

Critical. Safe-to-forward².

Uri-Host (3), Uri-Port (7), **Uri-Path-Abbrev (13)**, Uri-Query (15).

²even though Uri-Path is not

History

~2012 considered but not prioritized – too early.

2021 more generic precursor suggested³ – too broad.

IETF123 EST considerses workaround; quick -00.

... Simplified into WG -02:

- Single uint value.
- Mutually exclusive with Uri-Path.

³interim meeting, 2021-05-12, “Common option compression”

Applications

EDHOC first 3 message total: -30 byte down to 122⁴ (-20%).

Negligible over lifetime. Significant during mass onboarding
([ietf-lake-reqs](#), straddles AKE-for-6TiSCH fragmentation boundary).

EST/cBRSKI Eases management of .well-known coordination with HTTP.
-responses “If you queried me for /.well-known/core?a=b, you’d get \${payload}”

Ideally: Server MUST implement (in [ietf-ace-edhoc-oscore-profile](#), incoming in cBRSKI)

⁴CoAP data: 3×5 (CoAP structure) + 2×2 Uri-Path-Abbrev + 2×1 C_I / true + 101 from RFC 9528

Status

Implemented.

Ready.

Open issues

- Explain use cases – open for more examples #15
- Proliferation of well-known vs. discovery? #29
- Reap benefits from corr-clar if possible in time #28
 - ▶ If one proxy does an odd thing, another must fix it. cc#51
 - ▶ Failover: handle 5.02 Bad GW due to 4.02 Bad Option NON-issues. cc#52
- Does anyone need what was removed since -00? #23

Next steps

Dependents are approaching WGLC.

Can we keep the pace?