draft-friel-acme-subdomains-02

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Sub-domain certificates

- ACME (RFC 8555) allows an ACME server to issue certificates for a given identifier (e.g. a subdomain) without requiring a challenge to be explicitly fulfilled against that identifier.
- An ACME server could issue a certificate for `sub.domain.com` where the ACME client has only fulfilled a challenge for `domain.com`.
- An ACME server could issue certificates for a number of sub-domain certificates and only require a single challenge to be fulfilled against the parent domain.
Sub-domains with pre-authorization

**STEP 1: Pre-Authorization of parent domain**
- POST /newAuthz "domain.com"
- 201 authorizations
- Publish DNS TXT "domain.com"
- POST /challenge
- 200 status=valid
- Delete DNS TXT "domain.com"

**STEP 2: Place order for subdomain**
- POST /newOrder "sub.domain.com"
- 201 status=ready
- POST /finalize CSR "sub.domain.com"
- 200 OK status=valid
- POST /certificate
- 200 OK PKI "sub.domain.com"
Updates since IETF106 / draft-01

1. Defines “basedomain” boolean field in authorization object to explicitly differentiate between parent or base domain authorizations and wildcard authorizations

2. Clarify that base domain authorizations may optionally be used with the pre-authorization workflow, but pre-authorization is not mandatory

3. Updated appendix to clarify that depending on the deployment use case, ACME server policy may conform to CA/Browser Forum Baselines, but subdomain certificates may be used in multiple other scenarios where CAB compliance is not required
Next steps

• Missing security considerations

• Adoption?