

# DID Document

## verificationMethod

```
"verificationMethod": [{
  "id": "did:etd:0x7c...#authentication", //the unique identifier of
  verificationMethod
  "type": "EcdsaSecp256k1VerificationKey", //the encryption type of etd
  public key
  "controller": "did:etd:0x7c...",
  "publickeyMultibase": "0x7c..." //the etd pk used for verification
}]
```

## relationships

### proxywallet

W3C DID规范没有专门规定verification relationship可以自定义，但它允许在DID文档中添加自定义属性和扩展，从而满足特定应用场景的需求。

To ensure the security of the DID and its associated assets, we assign certain transferable DIDs to corresponding contract addresses, similar to the role of a proxy wallet, in order to safeguard the security of the assets associated with the DID during asset transfers.

```
"proxywallet": [
  "did:etd:123456789abcdefghi#proxywallet",
  {
    "id": "did:etd:123456789abcdefghi#proxywallet-1",
    "type": "Ed25519VerificationKey2020",
    "controller": "did:example:123456789abcdefghi",
    "ethereumAddress": "0xF3beAC30C498D9E26865F34fCAa57dBB935b0D74"
  }
]
```

### storj

```
"authentication": [
  "did:etd:0x7...#storj",
  {
    "id": "did:etd:0x7...#storj-auth",
    "type": "Ed25519VerificationKey2020",
    "controller": "did:etd:0x7...",
    "ethereumAddress": "0xF3beAC30C498D9E26865F34fCAa57dBB935b0D74"
  }
]
```

## Example of did document

```

{
  "@context": [
    "https://www.w3.org/ns/did/v1",
    "https://w3cid.org/security/suites/secp256k1recovery-2020/v2"
  ],
  "id": "did:etd:0x7c...",
  "controller": "did:etd:0x7c...",
  "verificationMethod": [
    {
      "id": "did:etd:0x7c...#storj",
      "type": "EcdsaSecp256k1VerificationKey",
      "controller": "did:etd:0x7c...",
      "publicKeyMultibase": "0x7c..."
    }, {
      "id": "did:etd:123456789abcdefghi#proxywallet-1",
      "type": "Ed25519VerificationKey2020",
      "controller": "did:example:123456789abcdefghi",
      "ethereumAddress": "0xF3beAC30C498D9E26865F34fCAa57dBB935b0D74"
    }
  ],
  "authentication": [
    "did:etd:0x7...#storj",
    {
      "id": "did:etd:0x7...#storj-auth",
      "type": "Ed25519VerificationKey2020",
      "controller": "did:etd:0x7...",
      "publicKeyMultibase": "0x89..."
    }
  ],
  "proxywallet": [
    "did:etd:123456789abcdefghi#proxywallet",
    {
      "id": "did:etd:123456789abcdefghi#proxywallet-1",
      "type": "Ed25519VerificationKey2020",
      "controller": "did:example:123456789abcdefghi",
      "ethereumAddress": "0xF3beAC30C498D9E26865F34fCAa57dBB935b0D74"
    }
  ]
}

```

## Other

### service

- id
  - the unique identifier of service
- type
  - *SHOULD* be registered in the DID Specification Registries

6.2	Service types
6.2.1	LinkedDomains
6.2.2	DIDCommMessaging
6.2.3	CredentialRegistry

- service Endpoint

## Example

```
// the example of the service provider - storj
{
  "@context": [
    "https://www.w3.org/ns/did/v1",
    "https://w3cid.org/security/suites/secp256k1recovery-2020/v2"
  ],
  "id": "did:etd:0x69...",
  "controller": "did:etd:0x69...",
  "verificationMethod": [
    {
      "id": "did:etd:0x69...#key-1",
      "type": "EcdsaSecp256k1VerificationKey",
      "controller": "did:etd:0x69...",
      "publicKeyMultibase": "0x69..."
    }
  ],
  "service": [
    {
      "id": "did:etd:0x69...#storj",
      "type": "LinkedDomains",
      "serviceEndpoint": {
        "upload": "https://www.etd.storj.io/upload",
        ...
      }
    }
  ]
}
```