

[Network Extension](#) / DNS proxy provider

API Collection

DNS proxy provider

Create an on-device DNS proxy using a custom protocol.

Overview

A DNS proxy provider is an app extension that implements DNS proxying. You should create a DNS proxy provider if you want to take responsibility for resolving all DNS queries on the system. Typically this involves forwarding the queries in a way that improves performance, reliability or security. For example, a DNS proxy provider might:

- Forward DNS queries to a well-known Internet-wide DNS server
- Talk to a DNS proxying service using DNS over HTTPS (DoH) or DNS over TLS (DoT)
- Implement a completely custom DNS proxying protocol

For detailed information about DNS proxy provider deployment options, see [TN3134: Network Extension provider deployment](#).

Topics

Essentials

Network Extensions Entitlement

The APIs an app can use to customize networking features.

Provider

`class NEDNSProxyProvider`

The principal class for a DNS proxy provider app extension.

`class NEDNSSettings`

The DNS resolver settings of a network tunnel or a system-wide configuration.

Handling flows

`class NEAppProxyTCPFlow`

An object for reading and writing data to and from a TCP connection being proxied by the provider.

`class NEAppProxyUDPFlow`

An object for reading and writing data to and from a UDP conversation being proxied by the provider.

`class NEAppProxyFlow`

An abstract base class shared by `NEAppProxyTCPFlow` and `NEAppProxyUDPFlow`.

Configuration

`class NEDNSProxyManager`

An object to create and manage an DNS proxy provider's configuration.

`class NEDNSProxyProviderProtocol`

Configuration parameters for a DNS proxy.

See Also

DNS configurations

 [DNS settings](#)

Create and manage a system-wide DNS configuration that uses built-in encrypted DNS protocols.