

Technical Documentation

I2P Technical Overview

Intro and Threat Analysis

Overview of the network and its capabilities

Specifications and Protocol Stack

Network architecture

Roadmap and Proposals

Development roadmaps

I2P Application Layer



App Development Overview and Guide

Tagline here

App Layer API and Protocols

High-level, easy to use APIs for applications written in any language to send and receive data

End-to-End Transport API and Protocols

The end-to-end protocols used by clients for reliable and unreliable communication.

Client-to-Router Interface API and Protocol

The end-to-end protocols used by clients for reliable and unreliable communication



I2P Network Protocol Documentation

End-to-End Encryption

How client messages are end-to-end encrypted by the router

Network Database

Distributed storage and retrieval of information about routers and clients

Router Message Protocol

I2P is a message-oriented router. The messages sent between routers are defined by the I2NP protocol.

Transport Layer

The protocols for direct (point-to-point) router to router communication

Tunnels

Selecting peers, requesting tunnels through peers, encrypting and routing messages through these tunnels.

Other Router Topics

Tagline here



[Docs](#) > [Intro and Threat Analysis](#)

[Technical Introduction](#) >

[Threat Model and Analysis](#) >

[Docs](#) > [Specifications and Protocol Stack](#)

[Specifications](#) >

[Protocol Stack Chart](#) >

[Docs](#) > [Roadmap and Proposals](#)

[Development Roadmaps](#)



[Docs](#) > **Application Development Overview and Guide**

- [Application Development Overview and Guide](#) >

- [Naming and Address Book](#) >

- [Address Book Subscription Feed Commands](#) >

- [Plug-ins Overview](#) >

- [Plug-in Specification](#) >

- [Managed Clients](#) >

- [Embedding the Router in Your Application](#) >

- [BitTorrent over I2P](#) >

- [I2PControl Plugin API](#) >

- [hostsdb.blockfile Format](#) >

- [Configuration File Format](#) >

[Docs](#) > **Application Layer API and Protocols**

- [Application Development Overview and Guide](#) >

- [I2PTunnel](#) >

- [I2PTunnel Configuration](#) >

- [SOCKS Proxy](#) >

- [HTTP Proxy](#) >

- [CONNECT Proxy](#) >

- [IRC Proxy](#) >

- [SOCKS IRC Proxy](#) >

- [Streamr Proxy](#) >

- [HTTP Bidir Proxy](#) >

- [SAM Protocol](#) >

- [SAMv2 Protocol](#) >

- [SAMv3 Protocol](#) >

- [BOB Protocol](#) >

[Docs](#) > **End-to-End Transport API and Protocols**

[Streaming Library](#) >

[Streaming Protocol Specification](#) >

[Streaming Javadoc](#) >

[Datagrams](#) >

[Datagram Javadoc](#) >

[Docs](#) > **Client-to-Router Interface API and Protocols**

[I2CP - I2P Control Protocol / API Overview](#) >

[I2CP Specification](#) >

[I2CP API Javadoc](#) >

[Common Data Structures Specification](#) >

[Data Structures Javadoc](#) >

[Docs](#) > **End-to-End Encryption**

[ECIES-X25519-AEAD-Ratchet Encryption for Destinations](#) >

[ECIES-X25519 Encryption for Routers](#) >

[ElGamal/AES+SessionTag Encryption](#) >

[ElGamal and AES Cryptography Details](#) >

[Docs](#) > **Network Database**

[Network Database Overview, Details, and Threat Analysis](#) >

[Cryptographic Hashes](#) >

[Cryptographic Signatures](#) >

[Red25519 Signatures](#) >

[Router Reseed Specification](#) >

[Base32 Addresses for Encrypted Leasesets](#) >

[Docs](#) > **Router Message Protocol**

[I2NP - I2P Network Protocol Overview](#) >

[I2NP Specification](#) >

[I2NP Javadoc](#) >

[Common Data Structures Specification](#) >

[Encrypted Leaseset Specification](#) >

[Data Structures Javadoc](#) >

[Docs](#) > [Transport Layer](#)

[Transport Layer Overview](#) >

[NTCP TCP-based Transport Overview and Specification](#) >

[NTCP2 Specification](#) >

[SSU UDP-based Transport Overview](#) >

[SSU Specification](#) >

[NTCP Transport Encryption](#) >

[SSU Transport Encryption](#) >

[Transport Javadoc](#) >

[NTCP Javadoc](#) >

[SSU Javadoc](#) >

[Docs](#) > [Tunnels](#)

- [Peer Profiling and Selection](#) >

- [Tunnel Routing Overview](#) >

- [Garlic Routing and "Garlic" Terminology](#) >

- [Tunnel Building and Encryption](#) >

- [ElGamal/AES for Build Request Encryption](#) >

- [ElGamal and AES Cryptography Details](#) >

- [Tunnel Building Specification \(ElGamal\)](#) >

- [Tunnel Building Specification \(ECIES-X25519\)](#) >

- [Low-Level Tunnel Message Specification](#) >

- [Unidirectional Tunnels](#) >

- [Peer Profiling and Selection in the I2P Anonymous Network](#) >

- [2009 Paper \(pdf\), not current but still generally accurate](#) >

[Docs](#) > **Other Router Topics**

[Router Software Updates](#) >

[Router Reseed Specification](#) >

[Native BigInteger Library](#) >

[Time Synchronization and NTP](#) >

[Performance](#) >

[Configuration File Format](#) >

[GeoIP File Format](#) >
